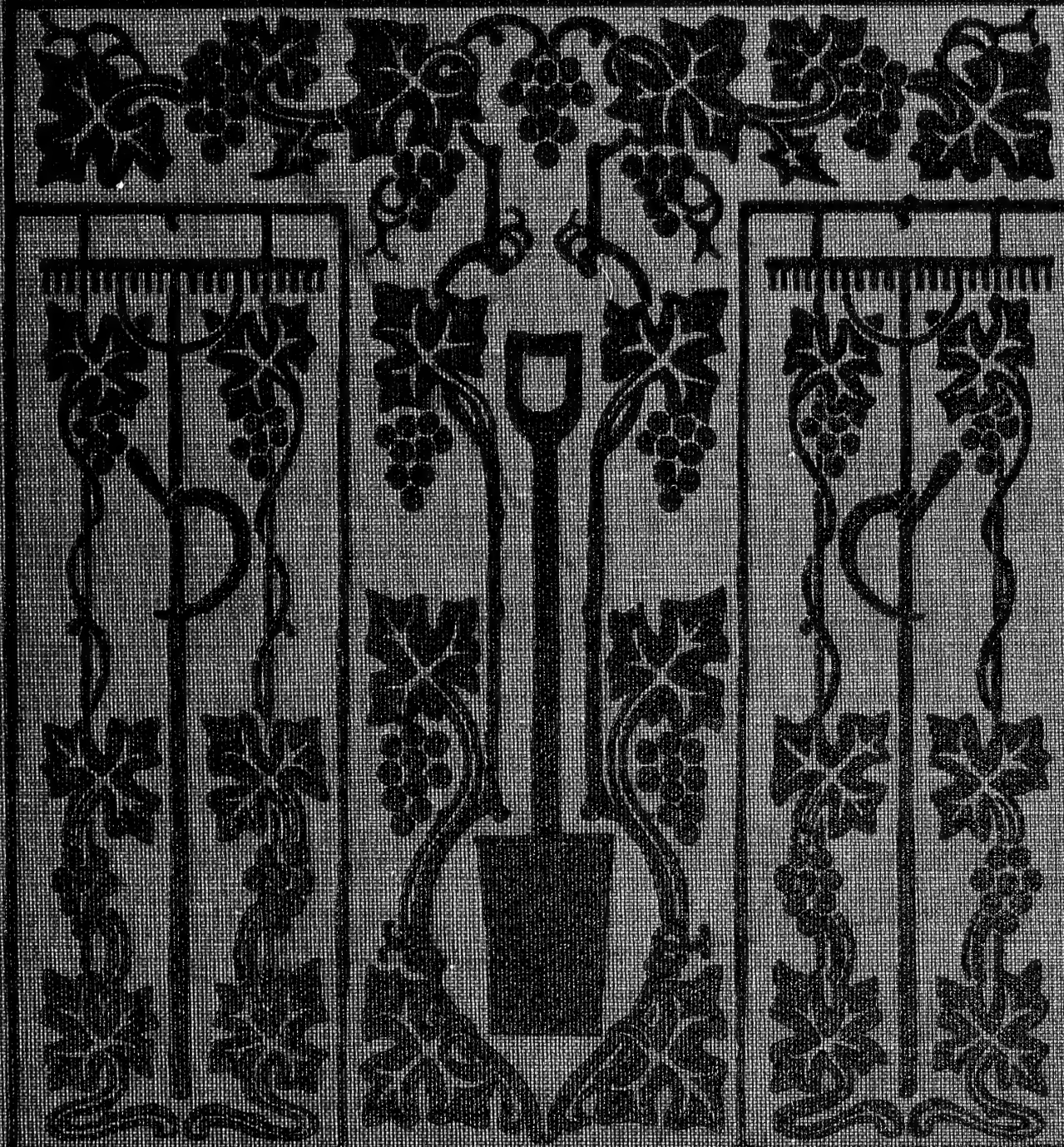


THE GARDEN MAGAZINE



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THE GARDEN MAGAZINE

*Devoted to Planting and Managing the Grounds About the Home
and to the Cultivation of Fruits, Vegetables and Flowers*

Volume V
February, 1907, to July, 1907



NEW YORK
DOUBLEDAY, PAGE & COMPANY
1907

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1907

Vol. V. No. 1.

Planning the Home Garden

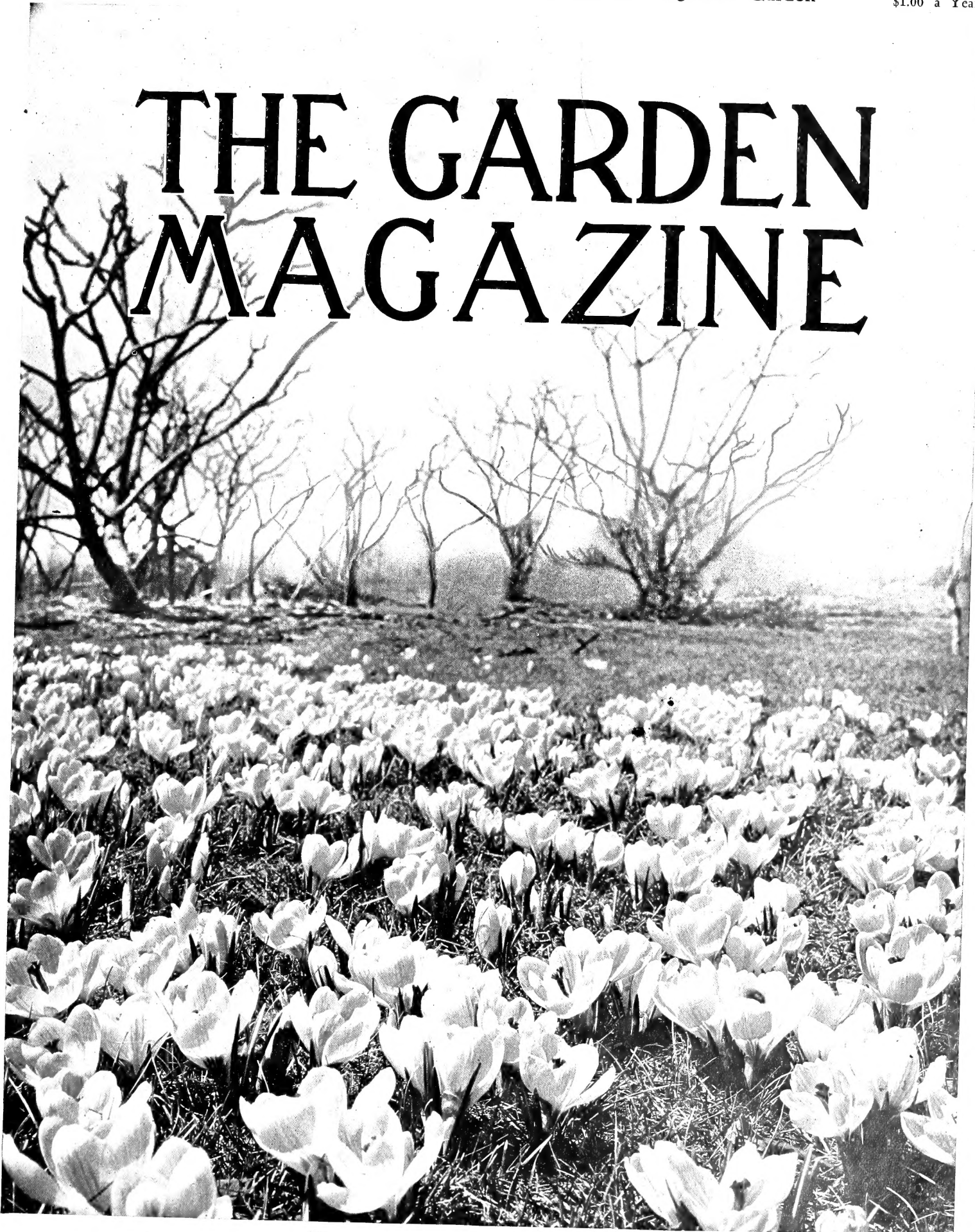
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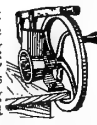
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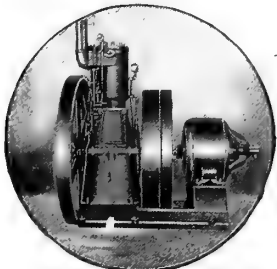
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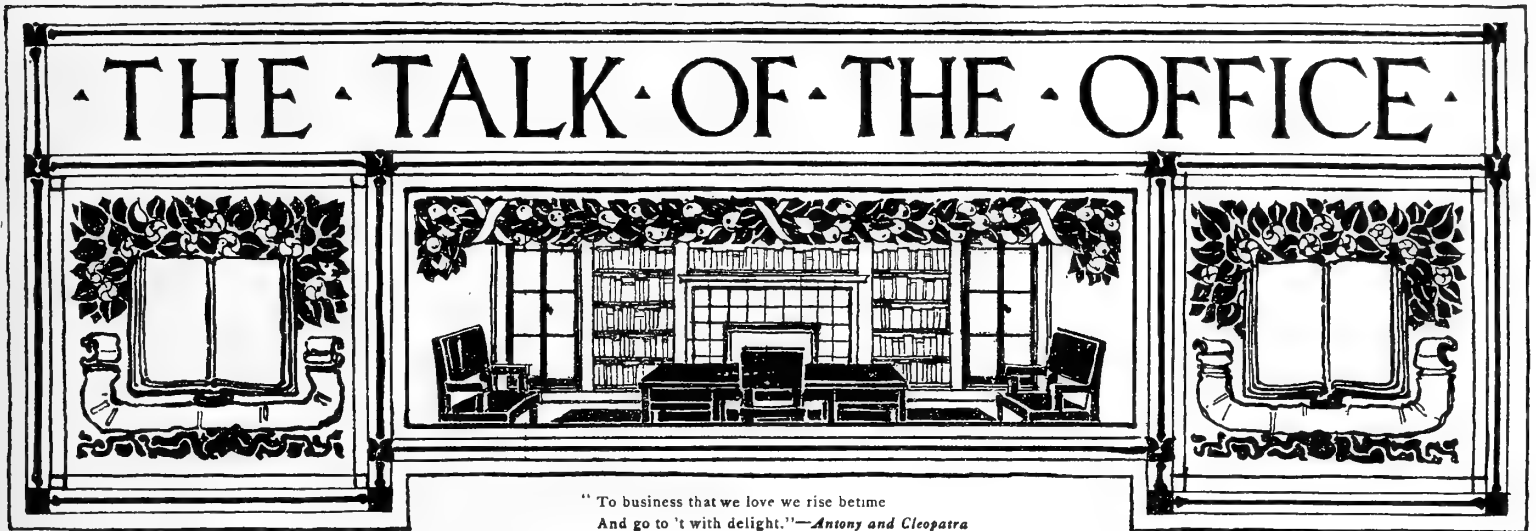
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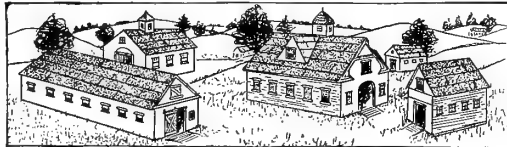
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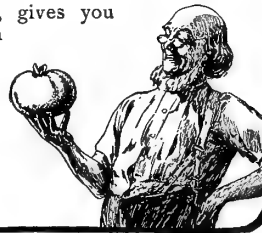
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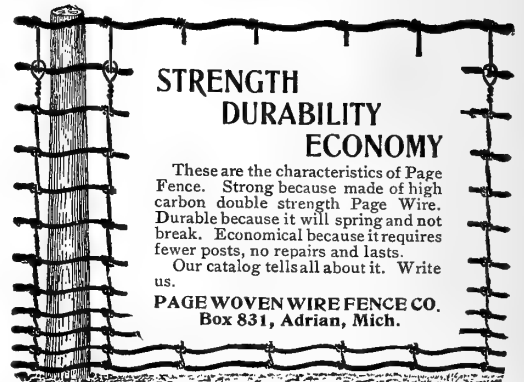
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"Imagination fails us in the attempt to determine what would have been the result if he had fallen short in the work he did so thoroughly on that great day of March, 1862, in Hampton Roads, Virginia. In the smoke of that battle between the Monitor and the Merrimac disappeared the Confederacy's hope of foreign recognition and foreign alliance. The thunder of the Monitor's guns, as they echoed around the world, gave assurance that the United States was equal to the task it had undertaken, and that the prophetic words of Webster were to be inscribed indelibly upon the banners of the Republic, 'Liberty and Union now and forever, one and inseparable.'"

From the address of Col. Wm. C. Church, August 1, 1903, at the unveiling of Ericsson's statue in New York.

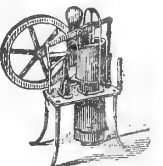
Capt. John Ericsson Patriot and Inventor of The Monitor and Hot-Air Pump

Articles for domestic service, no matter how useful, never attain the fame which appertains to implements of war, so it is that the sword and not the ploughshare receives the world's homage. Therefore Ericsson's Caloric Engine or Hot-Air Pump is overshadowed in the popular mind by his maritime inventions. But, in its every-day usefulness, the Pump exceeds in importance the Monitor. It is an engine of low power which cannot explode, working with just force enough to pump water; having no waste power it must be economical in operation; as it is practically automatic it requires no care; and being independent of wind or weather it is constant. The ordinary pump soon wears out. The Hot-Air Pump is a permanent investment.

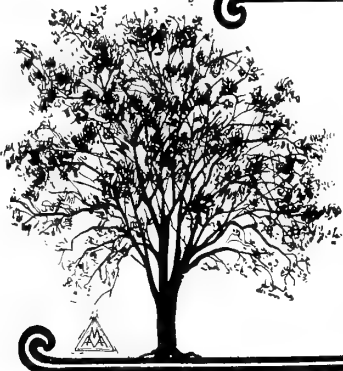
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Are the Only Kind to Plant for
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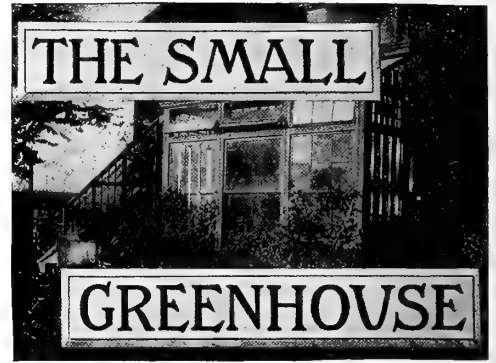
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TREES
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Another Case Where the Small Greenhouse Wins

IN THE January 1906 GARDEN MAGAZINE we showed the big advantage the owner of a small greenhouse has over the gardener who has hotbeds only.

Here are four more instances of the things you can do with a small greenhouse that will make your professional hotbed man an admiring friend or an envious Casca.

Item 1. You can have the finest beds of verbenas and petunias in town by starting the seeds indoors in February—a month earlier than usual. Thus you will have a solid mass of bloom in your flower beds in May instead of a mere scatterment. This is a whole month gained, because both these species will bloom until the autumn frost. And more important still, you can arrange your colors so that you will never be arrested for disturbing the peace. You never can tell how they will turn out—nightmares or pleasant dreams—until you see them in blossom.

Item 2. If you want perfectly gigantic castor oil plants—the kind that will make farmers sit up and stare—start them in February, too. But be very careful when transplanting them to take plenty of soil with the roots, otherwise they may not keep up their lead.

Item 3. Of all the tender flowering plants for porch and window decoration in mid-summer glloxinias are at once the most gorgeous and the most refined. This is the time their tubers begin to stir with new life, and if you have some repot them. Tuberous rooted begonias need the same attention.

Item 4. Ordinarily most people forget all about their dahlias during the winter until April, when they go down cellar and find the roots of all their choice varieties shrivelled beyond recognition or reduced to a sodden, decadent mass. In February, however, they are likely to be sound and happy, and if you can bring them into a small greenhouse you can propagate them in comfort while your friend across the way is risking tonsillitis and quinsy in his effort to ventilate his hotbeds according to the vagaries of a sunny day in winter when small cloud masses fleet across the sky.

Start your dahlia roots in a gentle bottom heat and you will be able to take off a big crop of cuttings of some one dwarf variety that needs no staking and that will make a bedding effect with fifty plants which will delight your heart from the middle of June until frost.



The above cut represents our
Catalpa Bungeii drive.

Our illustrated catalogue sent free to those interested in Trees, Shrubs, Roses, Vines, and also Fruits.

Over 400 acres in cultivation.

The Elizabeth Nursery Co.

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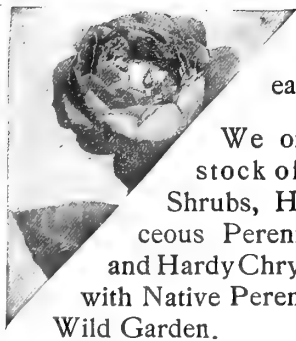
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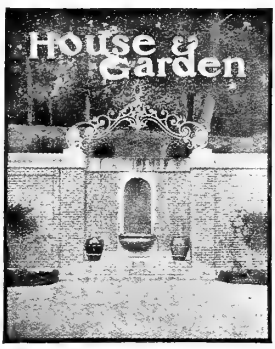
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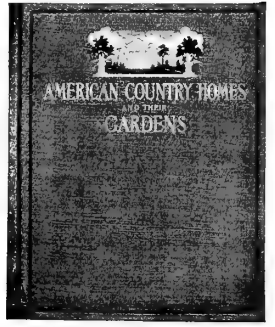
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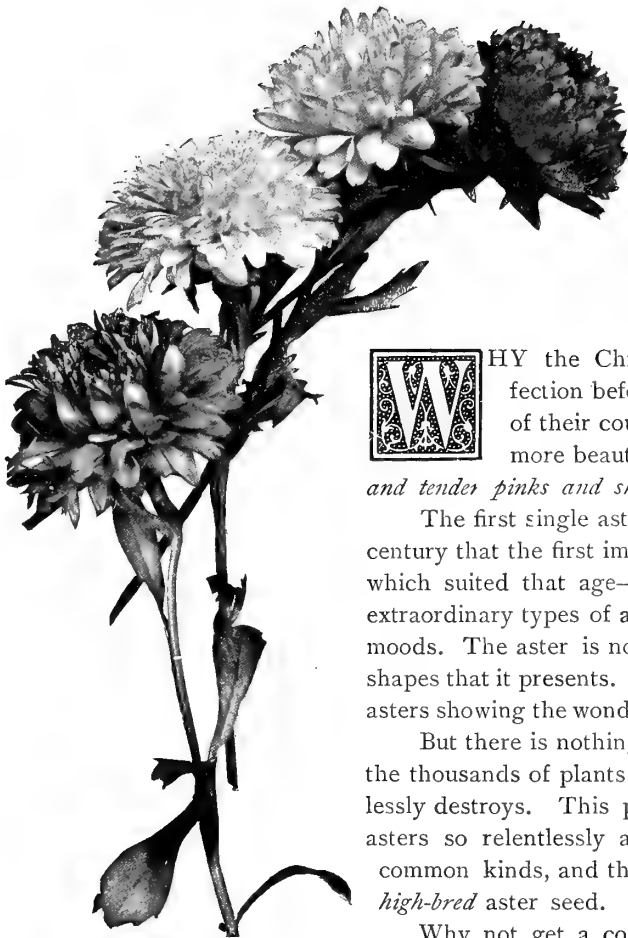
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WHY the Chinese, who brought the chrysanthemum to such an extraordinary pitch of perfection before their country was opened to the world, have never bred up the native aster of their country is something hard to understand, for the China aster has a far wider and more beautiful range than the chrysanthemum. *Nowhere in nature do we find more pure and tender pinks and sky-blues than in the aster.*

The first single aster did not reach Europe until 1731, and it was not until the middle of the 19th century that the first important "break" occurred. This was the quilled flower—a stiff, formal thing which suited that age—but it is only within the last quarter of a century that we have secured those extraordinary types of asters which mimic the chrysanthemum in its wildest as well as its most refined moods. The aster is now second only to the chrysanthemum in the variety of beautiful and picturesque shapes that it presents. Nothing can be more interesting than to grow a collection of the different types of asters showing the wonderful variation in form and color, and the extraordinary products of high-breeding.

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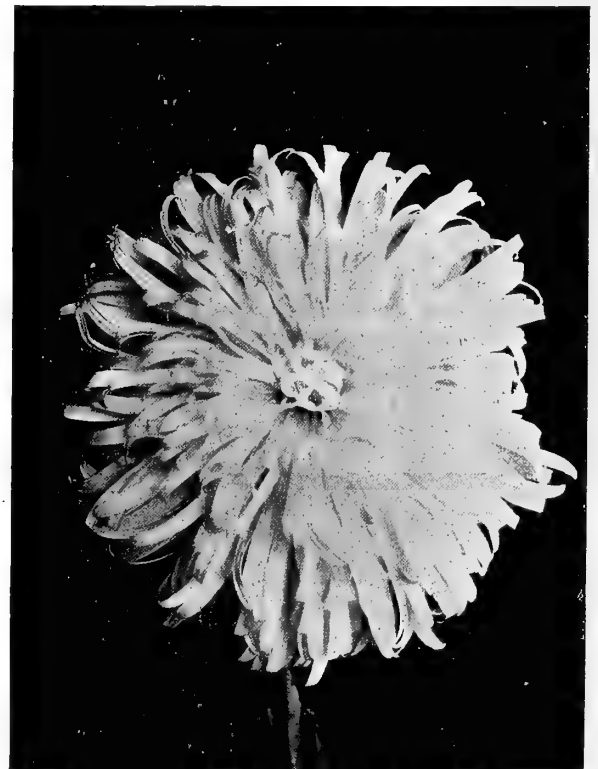
Also include varieties of seeds listed in last month's issue.

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High-bred aster

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The Garden Magazine

VOL. V—No. 1
PUBLISHED MONTHLY

FEBRUARY, 1907

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The Economy of Garden Plans

MANY good dollars are wasted each year because the garden is improperly planned. To be a success, a garden should bring in as much as, or more than, it costs. There is only one way to have your garden practically perfect, and that is to plan it carefully during the early months of the year. Make a definite scheme on paper, and stick to it. Of course, there will be errors and omissions, but the experience you will gain will be worth a great deal in future years.

Draw the plan on a fairly large scale, so that each row in the vegetable plot can be marked, and the vegetable which is to be grown there plainly written in; also, indicate on this plan what the second and third crops are to be, with the probable planting date of each. See the illustration on page 22 of this issue of THE GARDEN MAGAZINE.

The professional gardener always makes a working plan which he hangs upon the wall of the tool-shed. He finds that a garden which has been planned before planting is more nearly complete than one which has not been planned. Planning enables him to arrange for a much better succession; more than that, there is more time now to scheme and arrange than there will be later on; and the ultimate result of work done now is economy of time, money, and effort.

Another advantage of making the plan now is, that you will know at an early date what seeds you need and can order them promptly, and by early ordering, you avoid the danger of finding that the stock of what you most need has run out.

In planning the vegetable garden, try to have the space to be cultivated longer than it is wide, because it saves time in turning at the ends of the rows. If possible, have these rows run north and south, rather than east and west, because the plants will be less shaded.

You cannot accomplish much in the actual growing of plants during this month; in fact, outdoor work is at a standstill. But the seeds-

men's catalogues are now ready; get them, and by a careful study now, become acquainted with all the novelties that are offered. Make a selection of a few of these, but never make the mistake of trusting your entire garden to the season's novelties. Place your reliance upon the old time, well-tried favorites, or such recent novelty as has proved itself worthy under your special conditions. Very few varieties do equally well under all conditions, and in all sections of the country.

Read the various articles in the back numbers of THE GARDEN MAGAZINE, such as: "A Complete Garden for a Family of Six," 3:265. (These figures refer to the volume and page; this reference meaning Vol. 3, page 265.)

A less pretentious garden, yet one which supplied a family of three adults with all its vegetables, is described in 2:268.

If you are a commuter, and have only a few minutes each day that can be devoted to the garden, read the results of devoting to it ten minutes a day, 3:71.

Now is the time to select the vegetables which you are to eat at this time next year. Read Mrs. Barron's article, "Fresh Vegetables All Winter," 4:183, and get some ideas as to the requisite quantities and desirable varieties.

HOW TO ENSURE "SUCCESSION"

But, after all, the most difficult thing is to provide for a proper succession. The ground should never be without a crop, and under a proper system, a small plot of ground will give as great a total return as a much larger area. Study the classified planting tables (3:155), which show the time taken for the various crops to reach maturity; and what varieties to plant for succession. In Mr. J. T. Scott's article (3:332), are suggestions for vegetables to follow the early peas, early potatoes, etc.

If you want to grow the very best vegetables, that is, vegetables of quality, regardless of all other considerations, read:

Cucumbers and Melons, 2:61;
Lettuces, 3:18;
Onions, 4:204, 306;
Peppers, 3:325;
Potatoes, 3:143, 158;
Tomatoes, 3:223, 4:62;
Unusual vegetables, 3:20.

For the flower garden, valuable suggestions can be had from reading the following articles:

Annuals, 3:28, 139, 226;
Hardy perennials, 3:145, 212;
Alpine flowers, 3:133;
Asters, 3:166.
Chrysanthemums, 3:274, 280;
Sweet peas, 3:170, 172, 174.

For the suggestions about planning the fruit garden, read Professor Fletcher's articles, 3:68, 220, 276, 327; 4:10, 125 (especially the last, where complete planting plans are given).

If you would know what insect pests to watch for, and how to combat them when they come, read 3:64, 158, 232, 288, 329, 346; 4:12.

SEEDS FOR FEBRUARY SOWING

You can have early summer flowers in the conservatory, and plants in flower for bedding out in May, by starting seeds now in the greenhouse or even in the window. Otherwise, you must buy potted plants from the florist. All these are easily handled: cockscomb, China aster, verbena, Marguerite carnation, sweet sultan, periwinkle, and the varieties of the Vernon begonia. If seeds are sown not later than the first week of February, they will make strong plants in 2½-inch pots by bedding out time.

Sow sweet peas for spring and early summer flowers indoors, or sow in pots for later transplanting to the open ground as described by Mr. Presby in the December GARDEN MAGAZINE, page 227. He had them in bloom May 17th. See if you cannot beat your neighbors next season, and send us the record, with a photograph, for next December's collection of "Achievements."

Make cuttings of Lantana. Propagate Bouvardia (by root cuttings) and Swainsonia. This month is the last for making good carnation cuttings, and the earlier in the month the better. March cuttings, if they strike at all, rarely make strong plants.

Sow seeds of Schizanthus and mignonette for pot culture.

TABLE DELICACIES FROM HOTBEDS

Just for once, try a few extra early potatoes forced in the hotbed or the small greenhouse. Plant the tubers on end in flats of sand until sprouted, then pot singly in 8-inch pots only half full of soil, filling up as growth proceeds.

Carrots of the Early Short Horn type may be grown in deep flats, or in drills in the hotbed itself. They will be ready in ten weeks and nothing can be more welcome than these early forced vegetables, of exquisite tenderness and delicacy of flavor. Also sow a drill of forcing radish every ten days.

PLANTS FOR EASTER

There is just time to have Crimson Rambler roses in bloom for Easter, if forcing is begun on January 15th. This gives exactly ten weeks. Start in 50° to 54° at night, syringe the wood every clear morning, and when the buds break, raise the temperature to 58°, which should be maintained until the flowers open.



This pergola is attractive every day of the growing season because of its well-selected vines, perennials, and shade-loving trees

Flowers on and Under a Pergola—By Wm. P. Longland, ^{Wis-}consin

THE VINES THAT PROVIDE A SUCCESSION OF BLOOM FOR EIGHT MONTHS, AND THE FLOWERS THAT THRIVE BEST ON THE SUNNY AND SHADY SIDES BELOW

THE pergola shown above is a rustic one at the summer home of Mr. Charles Hutchinson, Lake Geneva, Wis. Because it leads from the house directly to the woods it was made in the rustic manner. Every pillar has a different vine, and the varieties are so selected as to have something in bloom upon the pergola practically every day throughout the season.

The succession idea is much better for a home pergola than the display idea. If you have the whole pergola covered with one kind of vine, the effect will be too showy for a brief period, and exceedingly monotonous for the rest of the season. On our pergola we have growing all the vines named below.

I say nothing about the cultivation of these, as the methods are simple, and may be had from any good catalogue, or from various numbers of THE GARDEN MAGAZINE.

The vine which blooms longer than any other is the trumpet creeper (*Tecoma radi-*

cans, also known as *Bignonia radicans*). It commences flowering in June and continues to produce an abundance of orange and scarlet blossoms through August. It has the happy faculty of climbing by means of aërial roots so it is unnecessary to be continually tying it in place.

Akebia (*A. quinata*). A very graceful vine climbing ten or twelve feet high. The chocolate colored flowers are borne the latter part of May. It must be grown in a sunny place. So it is with the beautiful white clematis (*C. Henryi*); its conspicuous flowers averaging six inches across are seen from June to September. Its rich purple and better known companion is *Clematis Jackmani*, very similar in habit and blooms during June and July. There are two small white-flowered clematises which always give me pleasure. They are the Virgin's-bower (*C. Virginiana*) and the Japanese Virgin's bower (*C. paniculata*). The former blooms during July and August, the latter in August and September. The flowers are replaced by seeds which have long fuzzy appendages, which give the plant a woolly appearance for a month.

FOLIAGE VINES FOR THE SHADED SIDE

In a position which is shaded from the sun nearly all day I have a plant of the frost grape (*Vitis vulpina*, also known as *V. riparia*), a vigorous, tall growing vine with bright green leaves. In June the sweet-scented flowers fill the atmosphere with a delicious fragrance. The cultivated grape vines are also desirable plants for the pergola—I have a plant of Concord—but they need the sun.

The fastest growing vine I have is the Kudzu vine (*Pueraria Thunbergiana*). It kills back nearly to the ground each winter but the roots are hardy. It does equally well in sun or shade.

The Virginia creeper (*Ampelopsis quinquefolia*) will grow in either sun or shade. The flowers are inconspicuous but are fol-

lowed in August by large clusters of purple fruit. *Ampelopsis quinquefolia*, var. *Engelmanni* is very similar to the type but the leaves are smaller. The fruits ripen in August and are purple or black. This variety has the faculty of hanging to anything it touches by means of little sucker-tipped tendrils. In the fall the foliage is much more highly colored than it is in the type.

A relative of these two which always gives satisfaction is the Japanese or Boston ivy (*Ampelopsis tricuspidata*, known to the trade as *A. Veitchii*). This, like the previous plant, will stick to almost anything, so that it is unnecessary to be continually tying it into place. It has glossy, dark green foliage all summer long, which turns to bright orange and scarlet in the fall.

Here it is necessary to grow it in the shade or else it will winterkill.

The only variegated vine I have is the variegated grape (*Ampelopsis heterophylla*, var. *elegans*, also known as *Vitis variegata*).



Spikenard (*Aralia racemosa*) growing in a stump. An ingenious way of softening the transition from architecture to wild nature



The best lily is the gold-banded one (*Lilium auratum*). It succeeds admirably for three years when grown among peonies, then needs replanting

The leaves are blotched and striped with white and when young have a tinge of pink. The flowers are borne in July and are followed in August and September by an abundance of purple berries.

In June and July two varieties of the prairie rose (*Rosa setigera*, var. *tomentosa*, also known as *R. rubifolia*), are in bloom; Baltimore Belle, a light pink becoming nearly white, and Queen of the Prairies, which is bright rosy red. These must be grown in the sun. The Crimson Rambler rose also



An entrance from a courtyard made of pebble dashed walls. All is harmony with the rustic character of the pergola

blooms during June and July, its bright crimson flowers lasting an unusually long time with us.

On the shady side of the pergola I have a plant of the sweet brier (*Rosa rubiginosa*); it does well there, attaining a height of thirteen or fourteen feet, and always has a sweet, pleasant odor.

To protect the roses from the winter's cold and wind, I cover them by wrapping with common building paper outside of which is a covering of burlap. This is not done until December, when the ground has frozen, and to help keep the mice out a strand of wire is drawn rather tightly around the bottom of the covering.

PLANTS UNDERNEATH THE FRAME

The question of flowers to be grown beneath a pergola, in order to make each step of the long passageway interesting and attractive, is a rather delicate one. I have tried perhaps fifty of the favorite garden flowers along the sunny side of the pergola, but our list of standbys has come down to about a dozen. The shady side of the pergola is overhung by trees that form the fringe of an ancient wood, and on this side the appropriate thing is of course the modest little wild flowers, ferns and other shade loving subjects that are native to the woods on the estate. There is no expense for getting the plants, and the cultural problem is chiefly that of providing plenty of woods earth in the beds.

There is, however, one native plant of such extraordinary decorative beauty that we have propagated it to a great extent, and made it a characteristic feature of our wild garden. This is the spikenard (*Aralia racemosa*), a

plant of which is shown in the first of the small illustrations. The old stump in which the aralia is growing was brought from the woods and inserted in the walk with such painstaking care that no guest of the family has ever suspected that it has not been there always. The idea was to reproduce near the end of this rustic walk a living picture that would tempt the guests to explore the woods beyond.

The spikenard grows from three to five feet high. During the latter part of July and early in August the greenish white flowers are borne on long, slightly drooping spikes. Later these same racemes are densely packed with red berries which ultimately change to purple. The plant is easily grown from seed or from root cuttings taken in the fall—October and November. It is perfectly hardy, but prefers a rich soil in which there is an abundance of leaf mold.

GAY FLOWERS IN THE SUN

In its season nothing equals the peony, and it needs so little attention after it has been planted. Give it a place in a sunny well-drained border and rich soil. Its season of bloom extends from May to July.

To keep up a gay appearance all summer in that portion of the border where the peonies are planted, I grow lilies between the plants.



The China aster is used as a filler, in the late summer, for vacant places caused by the foliage of the perennials dying down

Lilium auratum, *L. speciosum*, and *L. speciosum*, var. *rubrum* all do well and the flowers showing up above the groundwork of foliage make a good show. It is necessary to give the peonies and lilies a mulch of long manure during the winter.

I have a continuous show of phlox from May until frost. The first one to flower is *Phlox glaberrima*, var. *suffruticosa*. This blooms in May but its season may be prolonged easily by removing the blooms as soon as they begin to fade. This is followed by the many varieties of the perennial phlox (*P. paniculata*), which blooms from July to frost. Phloxes like a good rich soil with plenty of manure and full sunlight for best results.

They may be divided in fall or in spring and in this way are increased very rapidly. If you have a favorite you want a quantity of, lift a plant in the spring and put into gentle heat in a frame or greenhouse; take the cuttings as soon as large enough to handle, put these into sand and they will root very quickly. Pot up when rooted, and transplant to the open ground as convenient. They will bloom in August and September.

The best yellow-flowered hardy perennial is *Coreopsis lanceolata*. Its flowers are two to three inches across and are borne on long slender stems. It is a striking plant, but to be effective must be grown in masses, the plants being set one to one and a half feet apart. It succeeds in any good garden soil and is best grown in the full sun. It is perfectly hardy here and is better off if no mulch is given; mulching causes it to rot in the centre of the crown. The large flowered coreopsis (*C. grandiflora*) is not perfectly hardy here.

VALUABLE FOR SHADED SPOTS

If you want a plant to grow in the most dense shade get the red baneberry (*Actaea spicata*, var. *rubra*). It has the additional value of being in good shape all the season. The plant grows one to two feet high, has beautiful dark green foliage and in June has a cluster of white flowers. The flowers are quickly followed by handsome bright red berries which last until September. A later species which grows a little taller and has white fruits with black spots may be had in the white baneberry (*Actaea alba*). These do not need protection during the winter.

I have tried the cohosh (*Actaea spicata*) but so far have not been able to grow it in the shade; it always dies during the hot weather.

A good white flowered plant for the shade where other things will not succeed is the giant daisy (*Chrysanthemum maximum*). Its dark green leaves and white flowers with yellow centres are always attractive. In some of the varieties the flowers are as much as four inches across. It blooms continuously all summer long if the flowers are removed as soon as they begin to fade. If seeds are started in March the plants will flower the first year. Divide old plants every third season, as they are very prone to rotting in



During the winter the vines need some protection. Tarred paper and burlap shield them from the drying winds. Cover after the ground freezes



The best white flowers for late fall, the Japanese anemone (*A. Japonica*). There are pink and semi-double varieties. Easily increased by root cuttings

the centre if too large. Give a light mulch of straw or leaves during the winter.

The false dragon-heads (*Physostegia Virginiana* and its var. *alba* and var. *speciosa*), are very desirable perennials which flower in August. They all grow three to four feet high and have long spikes of showy tubular flowers. The variety *alba* is white, the other two are pink. All three succeed equally well in full sun or partial shade. Once planted you need have no fear of losing them as they increase very rapidly after the first year, provided they have room and are frequently divided and replanted.

Another good group of hardy perennials of easy culture, with colors ranging on all shades of blue to yellow and white is the Larkspur (*Delphinium*). The Chinese larkspur (*Delphinium Chinensis*), blue, and growing about one and one-half feet high, is in continuous bloom from June into August. The white Russian larkspur (*D. grandiflorum*, var. *album*) is just as good. The taller varieties will vary in height from three to six feet.

If the seeds are sown in March the plants will bloom the first year. A good deep soil with plenty of manure is what they like best, but they will succeed in almost any soil. Remove the flower stalks as soon as through blooming and plants will bloom again till frost. For best results grown in full sun, but I find that they also do fairly well in partial shade.

The common pyrethrum (*Chrysanthemum coccineum*, known in the trade as *P. roseum*) we grow in profusion because it is so lavish of its flowers and succeeds in either sunny or partially shaded situations. The centre of the flower is yellow but the outside, or rays, is either white or shades of red such as pink, carmine, rose, lilac and crimson and sometimes the rays are tipped with yellow. In this section it starts flowering in May and continues in bloom for four or five weeks. It is very useful as a cutflower. Plant in a good rich soil with plenty of decayed manure, as it is a gross feeder. As soon as it has finished flowering cut off the old flower stalks to within three or four inches of the ground so that the plant will have a chance to make a strong growth for next year. Give

protection during the winter with a light mulch of straw or long manure.

BLUE FLOWERS ALL SUMMER

Two of the most satisfactory biennials I have are the Canterbury bell (*Campanula Medium*) and the cup and saucer (*C. Medium*, var. *calycanthemum*). The latter looks like a double flower, the reason of this being that the calyx is the same color as the corolla. They do very well in partial shade and may also be grown in full sun. Both are to be had in various shades of blue, white and red. The Canterbury bell commences flowering in May and lasts in good condition until July. To secure the best effect plant in masses. Both are easily grown from seed (the variety coming fairly true from seed).

The beautiful blues of the speedwells can be enjoyed all summer by planting for succession and two kinds only are necessary for this result. For early flowers I grow *Veronica spicata*. This commences flowering in June and lasts nearly all summer. The first flowers to open are at the base of the spike, while it is still quite short but it lengthens until finally it is about eight inches long and the open flowers are at the tip of the spikes. The plant grows about one and one-half to two feet high.

A taller growing but later kind may be had in *Veronica longifolia*, var. *subsessilis*. This one is a very robust, compact growing form growing three to four feet high with 1-foot spikes of intense, lustrous blue flowers. It flowers during August and September. Both prefer a good rich soil.

HOW TO GROW THEM

All these perennials are easily grown from seed which may be sown either in the spring (April) or in July. If sown in the spring, as soon as the plants are large enough to handle comfortably, transplant them to their permanent quarters. If this is not convenient, put them in some out-of-the-way place where they can be given good care and the following spring transplant them to the place where they are to flower. Good plants for flowering the following season can be had by sowing the seed in a coldframe in July, and giving the plants a light mulching of



A mass planting of the spotted autumn lily (*Lilium spicatum*). One of the most popular lilies and grows best where the ground can be shaded



The Canterbury bell (*Campanula Medium*), one of the best hardy biennials of the gardens. It will flower the first year from seed if sown in February

leaves over winter. In the spring, transplant to permanent quarters.

A QUICK GROWING PERENNIAL SCREEN

The best hardy perennial for a screen is the plume poppy (*Bocconia cordata*) and it does equally well in the shade and in the full sun. The leaves are light green above and a silvery white underneath. The creamy white flowers are borne in plume-like spikes which need not be removed after the blooming period as the seed vessels are also pretty. The plume poppy grows six to eight feet high; will grow in any soil and when once established its suckers are hard to eradicate, therefore it belongs to the wilder parts of a garden.

In the back garden out of the way I grow some plants of scarlet sage (*Salvia splendens*) and some China asters, for they come very handy to fill in the bare places which are sure to show among the perennials late in the summer. They can be readily transplanted at any time during the summer.

WHERE THE LILIES THRIVE

Among the perennials and in shady places I have been using lilies with great success. They will do well for three seasons, then they must be replaced by new bulbs. Here are those which will succeed.

L. elegans, one to three feet high, with flowers which are usually self colored in some shade of yellow, orange, or red (flowers during late June and early July). It has a small variety, *Wallacei*, which has one pale red flower (July). *L. Grayi*, two to three feet high, with purple spotted, dull reddish brown-orange colored flowers (latter half of July and beginning of August). The wild yellow lily (*Lilium Canadense*) one to four feet high, with yellow, orange, or red flowers which usually have brown spots (June and first week in July). The wild orange-red lily (*L. Philadelphicum*), one to four feet high and has bright red flowers which are brown spotted (June to July 15th). The American Turk's cap lily (*L. superbum*), three to six feet high, with bright reddish orange flowers with darker spots (July 15th to August 15th).

The Cheapest Gardens for the Smallest Lots—By A. Lieble, ^{New York}

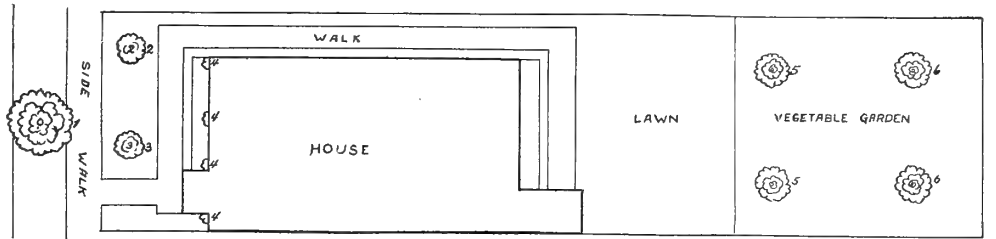
TEN COMPLETE PLANTING PLANS FOR CITY LOTS, THE LARGEST OF WHICH IS 50 X 100 FT., WHILE THE COSTLIEST SOLUTION INVOLVES AN EXPENSE OF ONLY \$100

I DO not want to spend very much money, yet I do want to have a few plants around my house." This is an everyday problem that faces the majority of people who have just moved out into the country. In the average city lot of the regulation 25 x 100 feet, there is no opportunity for landscape effect. Whatever is done, in the way of planting, should be with the idea of decorating and enlivening. The restrictions are so emphatic that there is very little room for individual design. The house itself usually occupies practically one-half of the plot and my idea is that in front the plants should merely be a sort of basal trimming for the building, and in the rear I would strive to hide the ugliness of the boundary wall or fence by planting a selection of ornamental flowering shrubs. These I would select to give a display of bloom over as long a period as possible. On the other hand, I have found it quite practical to make the back-yard not only ornamental but useful as well, by including in the planting a few fruit trees or berry bushes. Some people want to realize as much money value as possible from their home garden. In that case, the city lot can be rescued from ugliness at a cost not exceeding five dollars, but in this case I rely on the fruit trees themselves to give the bright floral effects in the spring months. By all means plant a shade tree along the curb line in front of the house.

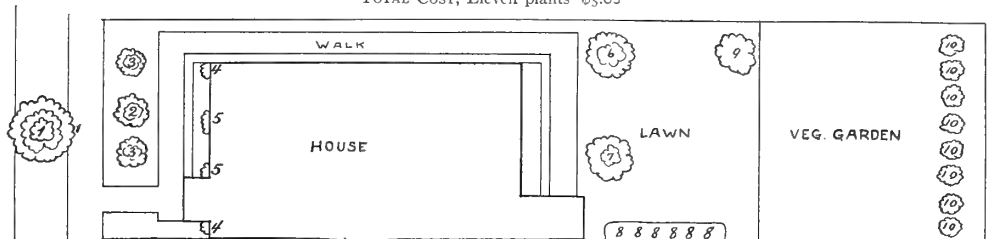
If you are seeking a maximum effect for a minimum expense, plant just one tree on the street line and let that tree be a well-formed specimen of respectable size. A 9- or 10-foot high Norway maple (*Acer platanoides*), I think will give more satisfaction than any other tree. It makes a beautifully formed trim head, it leafs early in the spring, all summer its foliage is richly dark, and in the fall it becomes the most luminous golden yellow of all the large trees. Added to these facts is this; that the Norway maple is not easily damaged by storm or weather and is not usually prone to suffer from insect attacks.

In the cheapest solution of the 25 x 100 foot lot, peach and pear trees give the flower in early spring, the weigela (*Diervilla florida*), in early summer and the late summer sees the hydrangea (*H. paniculata*, var. *grandiflora*). Around the porch, the Japan Honeysuckle (*Lonicera Japonica*, var. *Halliana*) may give greenery at all times. It is a very easy matter to spend fifty dollars on the same-sized plot. I assume here that the owner is able to buy all his fruits and vegetables, and wants his garden to be merely "a thing of beauty." Evergreens are not to be used in these small lots, because they are too expensive. The only desirable kinds would cost anywhere from two to ten dollars and the cheaper, quicker growing ones require a great deal more room than can be given.

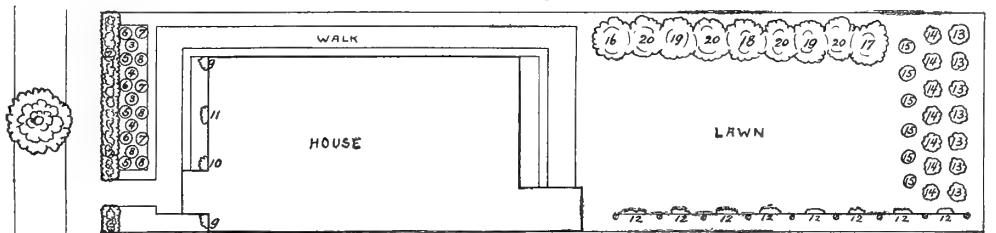
For fifty dollars, a succession of bloom can



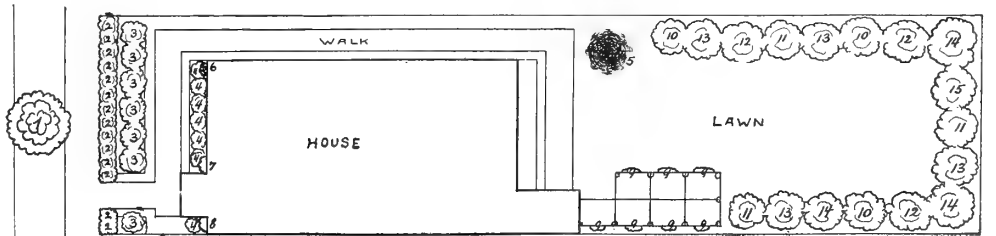
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|-----------------------------------|---|--------|----------------------------|---|------|
| 1. One Norway maple (9 to 10 ft.) | <i>Acer platanoides</i> | \$1.00 | 4. Four Hall's honeysuckle | <i>Lonicera Japonica</i> , var. <i>Halliana</i> | 1.00 |
| 2. One weigela (4 ft.) | <i>Diervilla florida</i> | .50 | 5. Two peach | <i>Prunus Persica</i> | .50 |
| 3. One hardy hydrangea (4 ft.) | <i>Hydrangea paniculata</i> , var. <i>grandiflora</i> | .50 | 6. Two pear | <i>Pyrus communis</i> | 1.50 |
| TOTAL COST, Eleven plants \$5.00 | | | | | |



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|--|----------------------------|--------|--------------------------|-----------------------------|------|
| 1. One Norway maple (10 ft.) | <i>Acer platanoides</i> | \$2.00 | 6. One carolina allspice | <i>Calycanthus floridus</i> | .50 |
| 2. One rose of Sharon | <i>Hibiscus Syriacus</i> | .50 | 7. One weigela | <i>Diervilla florida</i> | .50 |
| 3. Two hybrid deutzia | <i>Deutzia Lemoini</i> | 1.00 | 8. Six H. T. roses | | 2.70 |
| 4. Two Japanese virgin's bower | <i>Clematis paniculata</i> | .50 | 9. One lilac | <i>Syringa vulgaris</i> | .50 |
| 5. Two Jackman's clematis | <i>Clematis Jackmani</i> | 1.00 | 10. Eight blackberries | | .80 |
| TOTAL COST, Twenty-five plants \$10.00 | | | | | |



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|-----------------------------------|--|--------|-------------------------------|--|------|
| 1. One elm (12 ft.) | <i>Ulmus Americana</i> | \$1.50 | 11. One Dorothy Perkins rose | <i>Rosa multiflora</i> , var. <i>Dorothy Perkins</i> | .40 |
| 2. Twenty-two California privet | <i>Ligustrum ovalifolium</i> | 2.20 | 12. Eight grape vines | <i>Vitis Labrusca</i> | 4.00 |
| 3. Three Chinese peony | <i>Paonia albiflora</i> , var. <i>Sinensis</i> | 1.50 | 13. Seven currants | <i>Ribes rubrum</i> | 1.40 |
| 4. Two plantain lily | <i>Funkia subcordata</i> | .50 | 14. Three gooseberries | <i>Ribes oxycanthoides</i> | 1.40 |
| 5. Three showy larkspur | <i>Delphinium formosum</i> | .75 | 15. Six rhubarb | <i>Rheum Rhaponticum</i> | 1.50 |
| 6. Three spiked loosestrife | <i>Lythrum Salicaria</i> , var. <i>roseum superbum</i> | .75 | 16. One Hall's magnolia | <i>Magnolia stellata</i> | 3.00 |
| 7. Three astilbe | <i>Astilbe Japonica</i> , (S. Japonica) | .75 | 17. One pearl bush | <i>Exochorda grandiflora</i> | .50 |
| 8. Three perennial coreopsis | <i>Coreopsis lanceolata</i> | .45 | 18. One winged euonymous | <i>Euonymus alatus</i> | 1.20 |
| 9. Two Chinese wistaria | <i>Wistaria Chinensis</i> | 1.00 | 19. Two rose of Sharon | <i>Hibiscus Syriacus</i> | 1.50 |
| 10. One crimson rambler rose | <i>Rosa multiflora</i> , var. <i>Crimson Rambler</i> | 4.00 | 20. Four pompon chrysanthemum | <i>Chrysanthemum Indicum</i> | .80 |
| TOTAL COST, Eighty plants \$25.00 | | | | | |



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|------------------------------------|---|--------|--------------------------------------|--|------|
| 1. One Norway maple (12 to 14 ft.) | <i>Acer platanoides</i> | \$2.50 | 9. Seven grape vines | <i>Vitis Labrusca</i> | 3.50 |
| 2. Fourteen arborvitae | <i>Thuja occidentalis</i> | 14.00 | 10. Three hybrid deutzia | <i>Deutzia Lemoini</i> | 1.50 |
| 3. Seven rhododendron | <i>Rhododendron Calabriense</i> , var. <i>amena</i> | 8.75 | 11. Three rose of Sharon | <i>Hibiscus Syriacus</i> | 1.50 |
| 4. Seven bright-flowered azalea | <i>Azalea Indica</i> , var. <i>amena</i> | 8.75 | 12. Three Carolina allspice | <i>Calycanthus floridus</i> | 1.50 |
| 5. One yew | <i>Taxus baccata</i> | 2.50 | 13. Three red bud | <i>Cercis Chinensis</i> (C. Japonica) | 2.00 |
| 6. One white Chinese wistaria | <i>Wistaria Chinensis</i> , var. <i>albiflora</i> | .50 | 14. Three golden bells | <i>Forsythia suspensa</i> , var. <i>Fortunei</i> (F. Fortunei) | 1.50 |
| 7. One Chinese wistaria | <i>Wistaria Chinensis</i> | .50 | 15. One weigela | <i>Diervilla florida</i> (Weigela rosea) | .50 |
| 8. One trumpet honeysuckle | <i>Lonicera sempervirens</i> , var. <i>fuchsoides</i> (L. fuchsoides) | .50 | TOTAL COST, Fifty-six plants \$50.00 | | |

The regulation city lot of only 25 x 100 feet is by no means an impossible problem. The labor for planting the above should not exceed \$1.00 for the smallest lot of plants, and for the others, \$1.50, \$3.00 and \$5.00

be had from an abundance of flowering shrubs, and a rich dignified effect is given to the front by a hedge of arborvitae (*Thuja occidentalis*) faced by rhododendrons (*R. Catawbiense*, var.) and brilliancy is given in the

spring by the showy azalea (*A. Indica*, var. *amæna*). Provision is made in the rear for a grape-arbor, vines being trained over a conveniently placed summer-house.

During recent years, the so-called double

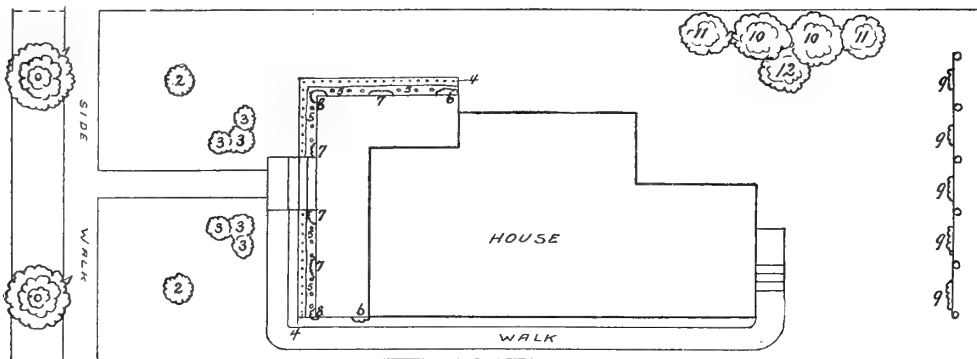
suburban lot (which is really two lots of 20 x 100 feet) has become a popular unit. This gives the gardener a great deal more leeway, as it enables him to use some ten to fifteen feet on one side of the house. Generally it is best to keep this entirely in lawn, and it offers a great opportunity for the use of vines on the wall of the house itself or for ferneries in narrow beds. Everything, of course, depends upon exposure to the sun. The narrow strip should preferably be on the east or north, but usually the space is divided up evenly between the two neighboring houses and the problem of exposure is reduced to a minimum.

With the expenditure of as little as fifteen dollars, a well furnished appearance may be obtained. Two plants each of the Norway or sugar maples are used to give the greatest effect, and the Japanese barberry planted in two clumps, one on each side of the entrance, to give character and dignity to the garden from early spring until Christmas. Of all the deciduous shrubs, this is the one which most nearly approaches the evergreen effect and its bright color in early winter is an added advantage. The Anthony Waterer spirea is used near the steps of the piazza because it gives flowers in the summer time, which fact very largely discounts any objection to its color. In each corner near the street line are clumps of the mahonia which give a bold evergreen appearance almost as good as that of the holly. The ornamental flowering plants are confined to vines and shrubs around the piazza, and of *Phlox paniculata*, which may be made to give a rich growth and abundant flowers nearly all summer.

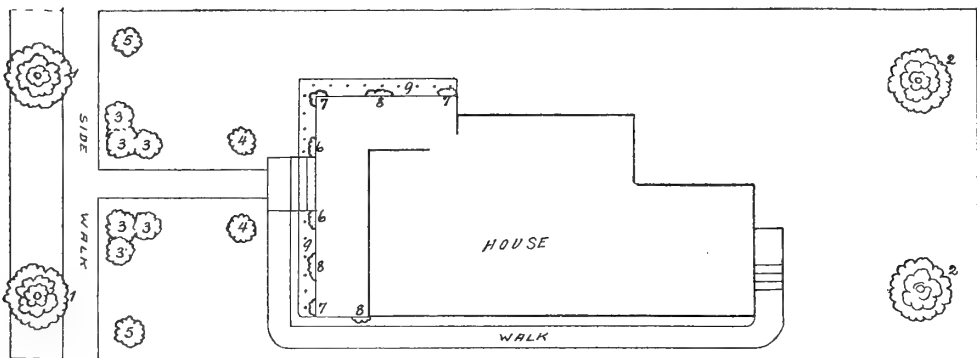
With the expenditure of fifty dollars, quite a wealth of plants may be obtained, and an effect of seclusion given to the rear part of the plot, where a belt of mock orange, honeysuckle, lilacs and snowdrop tree give a wealth of bloom at all times. In the front portion I am able to use two Mugho pines, than which nothing is better in the dwarf evergreens. Beyond these, I have a belt of yucca and two specimens of Japanese holly. The hardy hydrangea gives light and brilliancy in late summer and in the bed on the right side of the piazza steps, a wealth of herbaceous perennials may be planted. I am very fond of delphiniums with their charming blue flowers, unequalled by those of any other plant. Many of the plants that I have named here can be easily substituted by others, according to one's special ideas and requirements.

If only twenty-five dollars can be expended, I would reduce the rear shrubbery to one mass on the open side and at the rear of the plot make provision for a grape trellis.

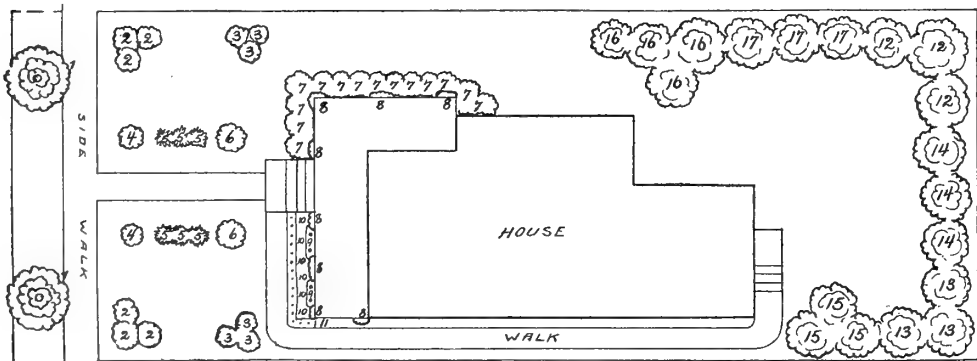
The easiest suburban plot to plant is the double lot measuring 50 x 100 feet. This offers a great opportunity for the gardener and if the scheme of placing the house to one side is adopted as is shown on the next page considerable play can be given to landscape features. The smallest sum that can be counted upon for any reasonable quantity of plants on the 50 x 100 lot is twenty-five dollars. It will not differ very greatly in the



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|--------------------------------------|---|--------|----------------------------------|---|------|
| 1. Two Norway maple (12 ft.) | <i>Acer platanoides</i> | \$3.00 | 6. Two crimson rambler rose | <i>Rosa multiflora</i> ,
var. <i>Crimson Rambler</i> | .75 |
| 2. Two sugar maple (8 to 10 ft.) | <i>Acer saccharum</i> | 1.50 | 7. Three Chinese wistaria | <i>Wistaria Chinensis</i> | 1.50 |
| 3. Six Japanese barberry | <i>Berberis Thunbergii</i> | 1.80 | 8. Three Japanese virgin's bower | <i>Clematis paniculata</i> | .75 |
| 4. Two Waterer's spiraea | <i>Spiraea Anthony Waterer</i> | .70 | 9. Nineteen perennial phlox | <i>Phlox paniculata</i> | 3.80 |
| 5. Two mahonia | <i>Berberis Aquifolium (Mahonia Aquifolium)</i> | 1.20 | | | |
| TOTAL COST, Forty-one plants \$14.00 | | | | | |



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|---------------------------------------|---|--------|-----------------------------|---|------|
| 1. Two linden (12 ft.) | <i>Tilia Americana</i> | \$4.00 | 8. Two crimson rambler rose | <i>Rosa multiflora</i> ,
var. <i>Crimson Rambler</i> | .80 |
| 2. Two juniper | <i>Juniperus communis</i> , var. <i>Candensis</i> | 3.50 | 9. Five grape vines | <i>Vitis Labrusca</i> | 2.50 |
| 3. Six deutzia | <i>Deutzia gracilis</i> | 3.00 | 10. Two syringa | <i>Philadelphus pubescens</i> | 1.00 |
| 4. Thirty-eight sweet William | <i>Dianthus barbatus</i> | 4.75 | 11. Two weigela | <i>Diervilla florida</i> | .50 |
| 5. Fifteen pompon chrysanthemum | <i>Chrysanthemum Indicum</i> | 2.25 | 12. One golden bell | <i>Forsythia viridissima</i> | .50 |
| 6. Two Chinese trumpet creeper | <i>Tecoma grandiflora</i> | .70 | | | |
| 7. Four Japanese virgin's bower | <i>Clematis paniculata</i> | 1.00 | | | |
| TOTAL COST, Eighty-two plants \$25.00 | | | | | |



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|---|--|--------|----------------------------|--|------|
| 1. Two purple maple (12 ft.) | <i>Acer palmatum</i> , var. <i>atropurpureum</i> | \$7.00 | 9. Four showy larkspur | <i>Delphinium formosum</i> | 1.00 |
| 2. Six Japanese barberry | <i>Berberis Thunbergii</i> | 3.00 | 10. Six showy sedum | <i>Sedum spectabile</i> | 1.20 |
| 3. Six Waterer's spiraea | <i>Spiraea Anthony Waterer</i> | 3.00 | 11. Fifteen golden tuft | <i>Alyssum saxatile</i> , var. <i>compactum</i> | 2.20 |
| 4. Two Mugho pine | <i>Pinus montana</i> , var. <i>Mughus</i> | 6.00 | 12. Three silver bell | <i>Halesia tetraptera</i> | 1.50 |
| 5. Six Adam's needle | <i>Yucca filamentosa</i> | 3.00 | 13. Three syringa | <i>Philadelphus pubescens</i> | 1.50 |
| 6. Two Japanese holly | <i>Ilex crenata</i> | 6.00 | 14. Three honeysuckle | <i>Lonicera Morrowi</i> | 1.50 |
| 7. Fourteen hardy hydrangea | <i>H. paniculata</i> , var. <i>grandiflora</i> | 5.60 | 15. Three lilac | <i>Syringa vulgaris</i> | 1.50 |
| 8. Eight Chinese wistaria | <i>Wistaria Chinensis</i> | 4.00 | 16. Four California privet | <i>Ligustrum ovalifolium</i> | 1.00 |
| | | | 17. Three golden bells | <i>Forsythia suspensa</i> , var. <i>Fortunei</i> (F. Fortunei) | 1.00 |
| TOTAL COST, Eighty-eight plants \$50.00 | | | | | |

For the new style suburban "double" lot of 40 x 100 ft., the cheapest solution is \$15.00 worth of plants, which could be planted for \$2.00. The larger lots would cost \$3.00 and \$5.00, respectively; in the last case, two men for one day

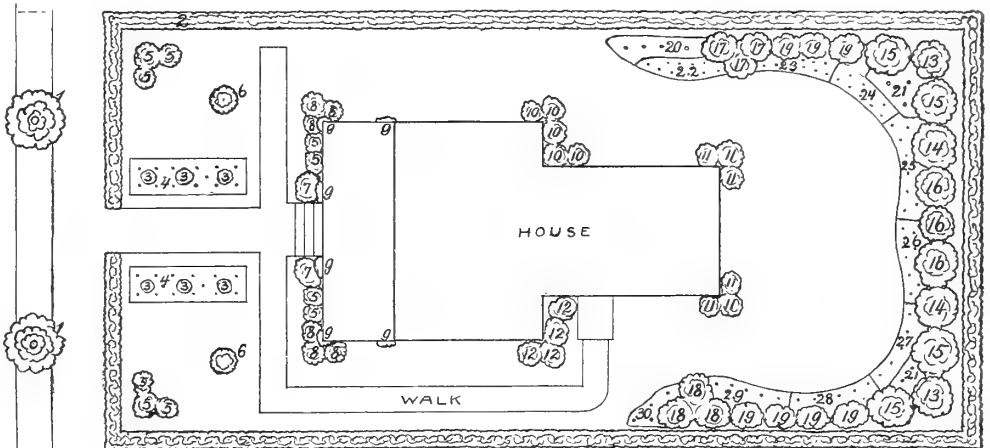
selection of plants from what has been given for the same amount of money in the smaller-sized plots. The only thing that can be done in this case is the making of a few isolated shrubbery clumps and the placing of two or three specimen trees. Around the house itself I place peonies or other large-growing herbaceous plants and rely on vines for the porch decoration. The clumps of shrubbery are each made of one kind of shrub and so designed that a succession of bloom is given from early spring until the rose of Sharon expands its flowers in late summer.

If you will expend as much as one hundred dollars for plants, a plot of this size can be converted into an abundantly furnished garden, which would give play for a connoisseur to include such gems as his fancy may dictate. The whole plot can be enclosed by a hedge of California privet for less than thirty dollars, of course, buying small-sized plants which will develop into a hedge in a year or two. The rear of the plot is edged with flowering shrubs, in front of which space is left for flower beds, in which bulbs may be planted in the spring time, and a selection of herbaceous plants arranged for cut flowers throughout the year.

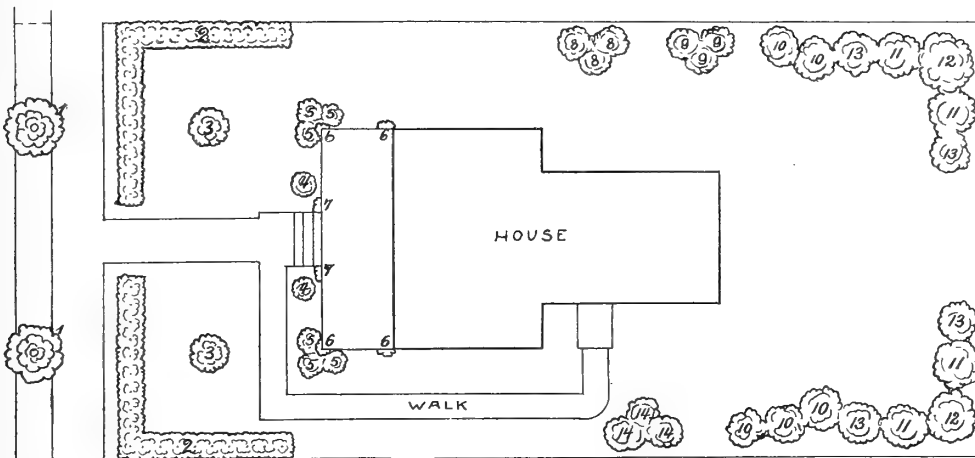
Beds of roses are planted each side of the entrance walk, a selection of which, of course, may be varied to suit the conditions, but I am suggesting the Baby Rambler on account of its continuous-blooming character. Two

specimens of arborvitæ are placed one on each side of the walk to give a furnished effect during the winter time, and clumps of *Berberis Thunbergii* appear in each corner as well as along the front of the piazza.

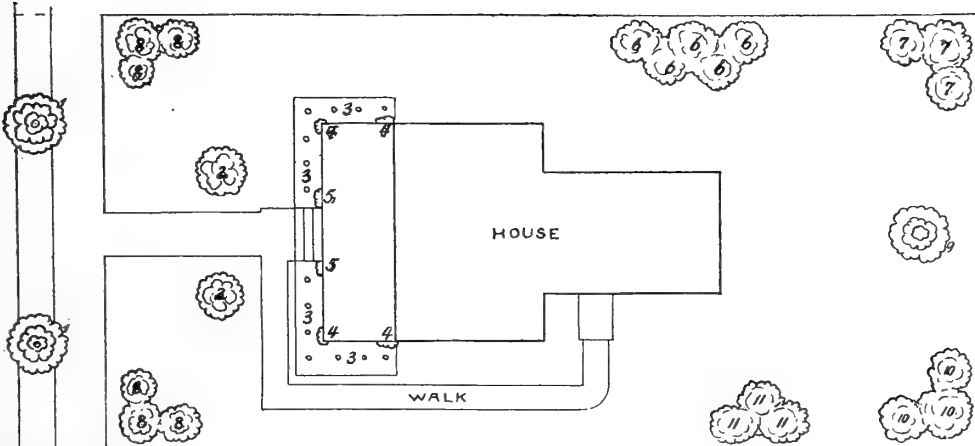
(For suggestions on planting, see page 46)



1. One Norway maple	<i>Acer platanoides</i>	\$5.00	18. Three Japanese snowball	<i>Viburnum tomentosum</i> , var. <i>picatum</i>	1.50
2. Two hundred and ninety California privet	<i>Ligustrum ovalifolium</i>	29.00	19. Seven swamp rose mallow	<i>Hibiscus Moscheutos</i>	1.05
3. Six standard roses		6.00	20. Four peony	<i>Paeonia officinalis</i>	2.00
4. Thirty baby rambler rose		9.00	21. Five showy larkspur	<i>Delphinium jorismosum</i>	1.00
5. Ten Japanese barberry	<i>Berberis Thunbergii</i>	3.00	22. Ten pearl achillea	<i>Achillea Ptarmica</i> , var. <i>flora pleno</i>	1.25
6. Two Hovey's arborvitæ	<i>Thuja occidentalis</i> , var. <i>Hoveyi</i>	4.00	23. Nine German iris	<i>Iris Germanica</i>	1.35
7. Two yew	<i>Taxus baccata</i>	4.00	24. Nine Caucasian soapwort	<i>Saponaria Caucasica</i>	1.80
8. Six hybrid deutzia	<i>Deutzia Lemoinci</i>	3.00	25. Eight coneflower	<i>Rudbeckia pinnatifida</i>	1.60
9. Six Chinese wistaria	<i>Wistaria Chinensis</i>	3.00	26. Eight perennial phlox	<i>Phlox paniculata</i>	1.60
10. Five deutzia	<i>Deutzia gracilis</i>	2.50	27. Six Shasta daisy	<i>Chrysanthemum Iris larvigata</i> (I. Kemperii)	1.40
11. Six blue spirea	<i>Caryopteris Mastacanthus</i>	1.80	28. Seven Japanese iris	<i>Gypsophila paniculata</i>	1.20
12. Four Thunberg's spirea	<i>Spiraea Thunbergii</i>	2.00	29. Six baby's breath	<i>Lythrum Salicaria</i>	1.00
13. Two arborvitæ	<i>Thuja occidentalis</i>	3.00	30. Four spiked loosestrife		
14. Two storax	<i>Styrax Japonica</i>	2.00			
15. Four rose of Sharon	<i>Hibiscus Syriacus</i>	2.00			
16. Three black alder	<i>Ilex verticillata</i>	1.50			
17. Three globe flower	<i>Kerria Japonica</i>	1.05			
			TOTAL COST, Four hundred and sixty-eight plants	\$100.00	



1. Two ash	<i>Fraxinus Americana</i>	\$5.00	
2. Thirty-eight Japanese barberry	<i>Berberis Thunbergii</i>	7.60	
3. Two weeping mulberry	<i>Morus alba</i> , var. <i>pendula</i> (M. <i>Tartarica</i> , var. <i>alba</i>)	4.00	
4. Two box	<i>Buxus sempervirens</i>	6.00	
5. Six savin	<i>Juniperus Sabina</i>	12.00	
6. Four Chinese wistaria	<i>Wistaria Chinensis</i>	2.00	
7. Two Japanese virgin's bower	<i>Clematis paniculata</i>	.50	
8. Three Van Houtte's spiræa	<i>Spiraea Van Houttei</i>	1.50	
9. Three rose of Sharon	<i>Hibiscus Syriacus</i>	1.50	
10. Five golden bells	<i>Forsythia viridissima</i>	2.50	
11. Four syringa	<i>Philadelphus coronarius</i>	2.00	
12. Two smoke tree	<i>Rhus cotinus</i>	1.50	
13. Four Persian lilac	<i>Syringa Persica</i>	3.00	
14. Three flowering raspberry	<i>Rubus odoratus</i>	.90	
		TOTAL COST, Eighty plants	\$50.00



1. Two sugar maple	<i>Acer saccharum</i>	\$4.00	
2. Two hardy hydrangea	<i>Hydrangea paniculata</i> , var. <i>grandiflora</i>	1.00	
3. Fourteen Chinese peony	<i>Paeonia albiflora</i> , var. <i>Sinensis</i> (P. <i>Sinensis</i>)	7.00	
4. Four Chinese wistaria	<i>Wistaria Chinensis</i>	2.00	
5. Two Japanese virgin's bower	<i>Clematis paniculata</i>	.50	
6. Five snowberry	<i>Symphoricarpos racemosus</i>	2.50	
7. Three dogwood	<i>Cornus sanguinea</i>	1.50	
8. Eight rugosa rose	<i>Rosa rugosa</i>	1.50	
9. One horse chestnut	<i>Aesculus Hippocastanum</i>	2.00	
10. Three snowflower	<i>Deutzia scabra</i> , var. <i>crenata</i>	1.50	
11. Three rose of Sharon	<i>Hibiscus Syriacus</i>	1.50	
		TOTAL COST, Forty-seven plants	\$25.00

A plot 50 x 100 ft. may be redeemed by an expenditure of \$25.00 for plants, which can be planted by a good gardener in one day. One expert man and a laborer could plant the fifty dollars' worth in one day for about \$5.00. It would take these two men two days to plant the hundred dollars' worth. Always have one competent gardener on the planting work; if he needs assistance, hire day-laborers



The Oriental poppy (*Papaver orientale*) is the most splendid of the red flowers of June. The young seedlings are often winter-killed so should be protected the first year

A Garden of Bright Red Flowers—By Helen R. Albee, ^{New} Hampshire

A GUIDE TO THE SELECTION AND USE OF TRUE RED AND SCARLET FLOWERS TO THE EXCLUSION OF TONES BORDERING ON PURPLE AND MAGENTA—HOW WHITE IS USED AS A FOIL

(EDITOR'S NOTE—This is the second article in a series of "color studies" for the hardy border. The first appeared in the September, 1906, GARDEN MAGAZINE.)

THE term red as applied to flowers has great latitude; it includes all tones ranging from orange-scarlet, pure scarlet and blood red, to those tinged with bluish shades, which verge from deep purplish pink, solferino, and magenta into crimson. Therefore one needs to exercise much care in arranging places for the different plants. By keeping

orange tones at one end of the border and purplish tones at the other, uniting them by pure red, a certain color harmony can be maintained, but it is difficult.

Matters are very much simplified if all solferino and magenta colors are absolutely debarred. Fortunately, however, the red-flowered plants usually have an abundance of foliage, so that each plant furnishes the background for its own flowers; and if the various tones in the foliage of red-flowered plants are given consideration as a part of the color composition subtle effects can be produced. But it requires intimate knowledge of the plants, and for this reason a red border involves many experiments and upheavals before it can be finally and satisfactorily arranged.

Most of the flowers mentioned are pure red, and (with the exception of the spiked loosestrife and marvel of Peru) there is no suggestion of either a magenta or solferino tone. The plants named here and the supplementary tables on page 36 comprise such as I have tried and found desirable.

As a foil to the bright reds I recommend the butterfly flower (*Gaura Lindheimeri*), a tender perennial from Texas, usually quoted in the catalogues as an annual. The numerous white flowers, perhaps an inch across, resemble orchids delicately poised on slender mahogany-colored stems two to four feet high. At a distance these graceful waving

flowers look like hovering butterflies, hence the name, and give a delightful airiness to an otherwise red bed. At first I grew mine as annuals but as the plants looked singularly vigorous at the end of the season I mulched them lightly with coarse litter and a few leaves, and in the following spring was not a little surprised to find they had spread from the root. The second summer, instead of growing only two feet high, they were four feet high, and the loose raceme became dense—almost a spike of bloom. In sheltered gardens where protection is given by deep snow the butterfly flower can be looked upon as a hardy perennial.

My red border shows its first color in April, and from then until October there is a constant succession. The first flowers are the tulips, and of the early singles, Artus, with its blood-red flowers, is the best: among the doubles, Cochinille, pure red. Nothing in May can equal the brightness and gaiety of the many varieties of the flowering almond (sometimes, but erroneously, referred to as a peach). Its deep red and pink varieties are verily the glories of the month. The flowers are double. When once established it is certainly one of the most beautiful of shrubs, and it is no wonder that the Japanese hold *Prunus Japonica*, fl. pl., (sometimes known as *P. nana*) in so great esteem. The ground about it needs to be well fertilized and a liberal dressing of wood ashes will also



In the late summer, and until frost, the scarlet sage overwhelms all other red flowers



One of the best brick-red-flowered plants is the Maltese cross (*Lychnis Chalcedonica*)

help greatly in ripening the wood for winter. The shrub can be kept in a bushy form if the shoots are cut back after the flowering season.

Of the many red flowers that June contributes the most splendid in effect is the Oriental poppy (*Papaver orientale*); the variety *Parkmanni* has given me special pleasure. While established plants of this poppy are hardy, the young seedlings are easily winter killed in some localities. The best way of overcoming this difficulty is to sow the seeds early in spring where the plants are to remain, and by autumn a vigorous growth will have been made, and if mulched lightly and covered with boughs, the plants will usually endure a severe winter. There is so much vigor in this poppy that any portion of the root cut into small pieces will grow into new plants. In its second year the plant blooms a little, and in the third is a veritable patriarch. The leaf somewhat resembles that of a thistle, and the flowers, borne on tall stems two feet high, are usually four inches across—though one of mine was six inches. They are a gorgeous flaming red with a black spot at the base of each petal. The blooming season covers but a few weeks; after which the foliage assumes a rusty appearance, and in a few weeks should be cut down for the sake of tidiness and also to induce the formation of new crowns.

The first week in July brings a dazzling array of an old-fashioned, semi-double red rose, such as was formerly found in every New England dooryard. I have a number of plants massed in a long bed that outlines the driveway for about a hundred feet from the entrance. I do not know the name of this rose, nor can I identify it in any of the catalogues. The plants were brought from an abandoned farm, whence all trace of the

old house had disappeared; for more than a generation they had run wild in the grass and were not growing over eight inches high. They were transplanted into a heavily manured bed and now make an annual growth of from two to three feet, which is cut back each autumn within six inches of the ground. In mellow ground they spread much at the root. The flowers are nearly four inches across, semi-double, brilliant red, with a lovely fringe of yellow stamens showing about the pistil. I have counted more than forty roses on a single bush. The fragrance is spicy and clean, unlike the heavy perfume of many other varieties. It resembles the American Beauty in many respects, but is less double and is a clearer red.

The hollyhock, in both single and double varieties, in pure cardinal red, is another July perennial, growing from five to eleven feet high and bearing spikes of large, open, funnel-shaped flowers four or five inches across. It does not bloom until the second season, and as winter kills it in some places, it is often spoken of as a biennial. It can be propagated both from seed and by division of the root; the former method gives stronger plants. The hollyhock varies greatly from seed, and a strain is quickly changed. From seeds of a pale pink single kind, years ago, I have grown all shades of pale pink, deep pink, deep rose and pure cardinal red, and all in both single and double varieties; also a lovely, distinct semi-double kind that had a few small tufty petals about the centre. This latter type, in a shell pink, was the most beautiful hollyhock I ever saw. Plants from self-sown seeds are strongest because they have found conditions peculiar to their needs; so I allow mine to spring up where they will and select the most vigorous for transplanting. The plants should be renewed every few years as they outgrow their vigor and become subject to the rust, which is death to the plant. Spraying the plants, while still young, with a weak solution of permanganate of potassium is recommended for the rust in its incipient state. If the tops of hollyhocks are nipped when not more than three feet high the stalks throw out lateral branches. This pruning delays the bloom and prolongs the season into October.



Among the modern varieties of the perennial phlox, Coquelicot (poppy red) is one of the best

In July there is an abundance of annuals in red. Perhaps none is more satisfactory than the nasturtiums (*Tropæolum*), both tall and dwarf in pure red. A good dwarf variety is known in the trade as Compact Lustrus; of the climbing or tall type select Coccineum. The only difference between these plants lies in the manner of growth. The dwarf form is a low mass of green, with an abundance of blossom, while the running kind makes a vine of four to ten feet in length. I tried the experiment once with a dwarf variety, of cutting off most of the leaves, and the result was an almost solid mass of blooms of enormous size, but the plant was soon exhausted. Extreme forcing impairs the vitality of any plant. By picking off a reasonable number of leaves, and the seed vessels as they form, nasturtiums may be



The red-hot poker plant (*Tritoma Pflanzert*); flowers from July to September. Stalks 3 ft. high

encouraged to bloom vigorously, and this will insure flowers from July until frost.

Three other red annuals are of a special merit: Satin flower (*Enothera Whilneyi*, known in the trade as *Godetia gloriosa*), in cardinal red, the annual phlox (*P. Drummondii*, var. *grandiflora*), in deep blood red, and the peony-flowered poppy in pure red. The last is more showy than any geranium, and a succession of plantings about three weeks apart, beginning in April, secures bloom from July until frost.

During August, one of the best red flowers in my garden is the Firefly snapdragon (*Antirrhinum majus*, var.), which begins to bloom in July, but is at its height in August. From seed started in March plants bloom in July of the same year, and given the protection of a litter or hay covering in winter, they will persist for years. There are both tall and dwarf growing types in many colors—yellow, pale pink, deep red, white. The curiously lipped corolla, whence the name snapdragon is derived, is always a source of interest. The plant requires rich soil and full sun.

For a splendor of color in the late summer and enduring until frost, there is nothing to compare with the scarlet sage (*Salvia splendens*). There are many varieties, but the one I grow is Clara Bedman. It grows two feet high, and bears huge quantities of slender spikes of brilliant red flowers for which the dark green foliage makes an excellent background. The end of the spike droops somewhat, thus relieving any suggestion of stiffness. A tender perennial, the scarlet sage is usually grown as an annual, and seeds should be started in frames, or even in the open. Toward fall the plants may be taken up and potted as house plants for the winter. If the plants are to be left in the garden to bloom as long as possible, they should be protected from the first light frosts of autumn, for, if saved from these, there will be perfection of bloom during the long warm season of the Indian summer which follows the first cold nights of September. During the blooming season, give water freely, and by pinching back the growing tips early in the season, to induce branching, very bushy plants will result.

With September the red-hot poker plant (*Kniphofia Pfitzera*, known in the trade as *Tritoma Pfitzeri*) adds its brilliant spikes of bloom to the garden. Its fleshy root is not reliably hardy in all localities in the North, so if you are not certain about the conditions, it will be better to keep it packed in sand over winter, and in a cool cellar; it can then be planted out each spring. It bears long, slender leaves, and many foot long spikes, set with drooping scarlet flowers, each spike being carried erect on a stout stem a yard or more high. There are several other named varieties, varying greatly in the intensity of color, but most of them are later flowering than the well-known Pfitzeri, which begins to bloom in July or August, but is at its best in September.

No red border should be without our native cardinal flower, (*Lobelia cardinalis*), which is found in low lands, in the North, but will also live and thrive in dry locations.



Loves-lies-bleeding (*Amarantus caudatus*) must be carefully selected to the desired color; self sows

It attains a height of three feet, and bears quantities of large flowers of the purest cardinal red, distributed on the upper part of the spike. I transplanted four specimens from a low marsh while they were in full bloom, fearing lest I should not recognize them later. My garden is on a dry hill-top with full sun exposure, but I watered the plants daily, shaded them from the sun for several days, and then gave them no further attention. The following spring each plant had made several growths from the root, and later, giant spikes of bloom, larger than are commonly borne in the wild state, were developed. They began to bloom late in July and were one of the chief features of my garden all through September. Plants may also be raised from seed, which germinates within a week after planting.

No annuals appear in September; the latest of them begin to bloom in August, but are at their best in September. Among them is Sander's hybrid tobacco (*Nicotiana Sanderæ*). The brilliant red, original form is especially recommended. Introduced within the last two or three years, it is already widely known, and is most favorably reported on in New England. It is an ideal plant for its color in shaded beds. It grows three feet high, and bears quantities of large salver-shaped flowers so closely resembling those of the white, sweet-scented tobacco (*N. alata*), that it may be regarded as a color variety of it. It has fragrance, too.

The feature for October, when all else is failing, is the Japanese lantern plant (*Phytolacca Franchetti*). Its coarse, weedy looking leaves and inconspicuous white flowers are not attractive through the summer, but at this late time, when the husk enclosing the small, tomato-like fruit brightens into a glowing scarlet, it is distinctly attractive. The showy husk is nearly two inches in diameter. If cut after the leaves fall, the shoots, still carrying the fruits, may be kept all winter as a house decoration, or the berry itself may be made into a preserve. Though a perennial (if given protection in our climate), it is commonly grown as an annual.

A \$10 Vegetable Garden on a Suburban Lot—By M. H. Northend, Massachusetts

A PRACTICAL SOLUTION OF AN EVERY-DAY PROBLEM; GIVING PLENTY OF FRESH PRODUCE THROUGHOUT THE SEASON—AMPLE SPACE FOR CUT-FLOWERS AND THE USUAL BACKYARD CONVENIENCES

LAST year I decided to attempt a vegetable garden, and for fear of failure, determined to limit my outlay to ten dollars. Throughout the season an account was kept of the produce from it, at market prices, and I found that it yielded nearly double the amount of my outlay.

The vacant land at the rear allowed a garden plot forty-six by thirty feet. Early in March a plan was made, using the notes taken in my neighbors' gardens and following the more specific directions on varieties and spacing found in reliable seed catalogues.

As I could think of nothing more discouraging than to weed rows over forty feet long, I decided to cut them across the centre with a path two feet wide, distinguishing this walk by an edging of flowers. This made two sections with rows twenty-two feet long, running north and south. Beds there were none, as with flowers I had learned that rows were much more easily cared for.

In the sunniest end of the garden early peas, lettuce, radishes, cucumbers, and string beans were planted. A few hills of muskmelons, one dozen tomato plants, three rows

of early corn, and one row of summer squash were also to go in the southern half of the garden.

On the other side of the path (toward the north) rows of Black Mexican corn, pumpkins and Hubbard squash, parsnips and salsify, and pole beans were planted. Being anxious to have plenty of tomatoes for preserving, twelve more plants were put here, also five additional hills of melons, also one row of bush peas to be my second crop. Turnips and winter beets shared one row, carrots and beet greens another. Next came



Why not grow fresh, crisp vegetables like these rather than buy wilted ones at the green grocer's?

the others were left to grow as they would, supporting some in frames made of barrel hoops and staves, and tying the others to lattices which were at hand. The first method is the best, as it economizes space, and results in larger and more abundant fruit. This year I am going to attempt Brussels sprouts, okra, kale, and a dandelion bed. The peas are to be in earlier, and tomato plants are being raised from seed. The kitchen window now serves as a hotbed, but I hope for a genuine one by another season. The cost of fertilizers is reduced by the use of wood ashes, of which I collect about a bushel in a winter. Another economy is a compost-heap, where are thrown old vines, the kitchen waste, and autumn leaves raked off the front yard. These last retain moisture and will be decomposed by spring. When recommended to me, I thought such a collection would make an unsightly object, but this difficulty was rectified by sprinkling seeds of wild cucumber and scarlet runner over the heap, and planting around the edge a screen of Russian sunflowers.

a variety of late peas which I had been advised to plant early and train on strings. Just here, at the eastern edge of the garden, where the soil was exceptionally deep and loamy, space was devoted to a row of spinach and onions. After a few seeds of parsley and cress were sprinkled along the path its borders were to be filled up with zinnias, marigolds, and candytuft.

The plan did not reach this finished state until I had spent many hours thinking it over and readjusting it. Once completed, however, the seeds were ordered immediately, so that I might have no opportunity for changing my mind.

In April, as soon as the frost was out of the ground, the land was plowed. As the earth was new, there was much work then to be done in the way of pulling up sods, throwing out stones, and spading, where specially well worked soil was needed. At first I undertook to do all this myself, but was finally obliged to hire a man for the heavier part of the labor. By working with him the work was finished in less than a day. Lastly the garden was raked three times.

No change in the plan was found necessary when planting the seeds, but figuratively speaking, it was necessary to have the catalogue tied to my apron-strings for constant reference as regards time of planting, distances, and depth. As the soil had not been worked for some years I was advised to use a little commercial fertilizer to start things, in addition to the stable manure, which would carry them through the season.

It had been predicted that the two kinds of corn would mix, as both were planted in such a small area, but by delaying planting one variety for three weeks I had no such trouble. After the earliest peas were gone, lettuce was planted in that row, while more peas (a wrinkled variety) went into the original lettuce row. When the carrots were ready to be thinned out the surplus plants were transplanted into the other half of their row, which had previously been filled with beet greens. The string and butter beans were successful, but the pole beans did not mature so well, although their flavor was good. I learned, however, that more fertilizer was required for that kind than for other varieties.

Tiring of radishes in July, endive was

planted, which was taken into the cellar in the late fall and lasted some time for use in salads. There were really more cucumbers than I could use, but some were disposed of by pickling. The turnips were a failure, as the damp soil was too heavily fertilized. The parsnips were left in the ground till winter.

The hardest work of all in my garden was thinning and transplanting, but, it was at the same time really the most interesting. Weeding was done daily, never letting the weeds get ahead.

At first the different bugs and worms seemed a great problem, so far did their numbers exceed those of the insect pests common to flower beds; but I found that by fighting them systematically I could check their depredations. Later on, the toads proved to be such willing partners that I introduced a plentiful supply into my garden.

In August, someone suggested cutting off the tops and branches of the tomatoes, leaving only three stalks to a plant. I tried this with a dozen, which were tied to stakes;

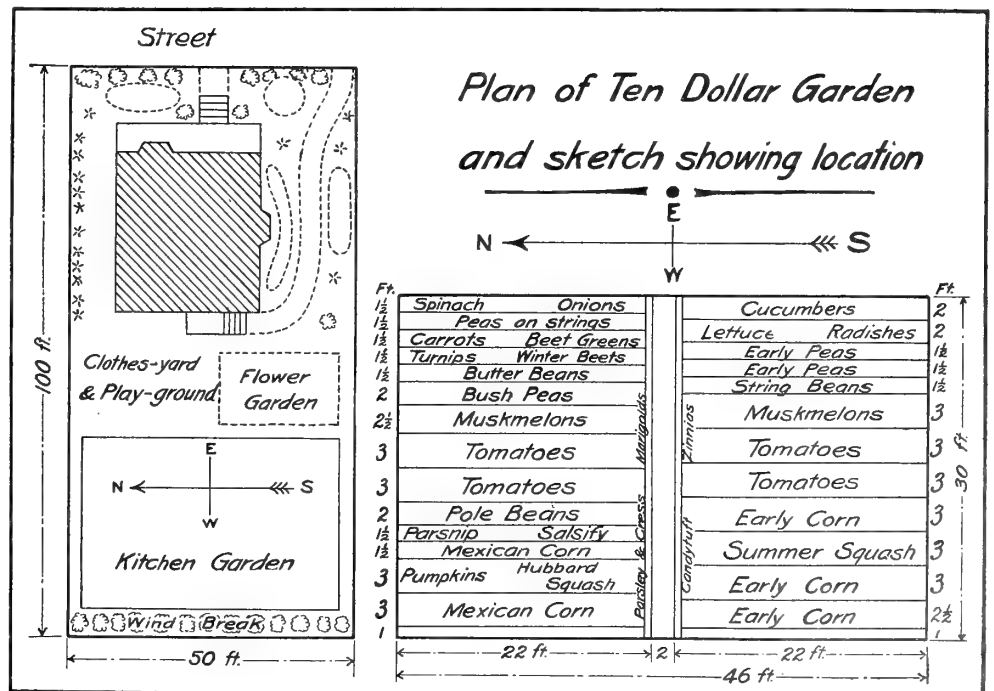
LIST OF EXPENDITURES

Plowing	\$1.00
Commercial fertilizer	1.00
Manure	3.00
Seeds	2.50
Tomato plants .....	.50
Bean poles .....	.50
Insecticides .....	.25
Labor hired	1.25

Total \$10.00

My western wind-break of wild barberry (*Berberis vulgaris*), is the outcome of several years' labor and is effective, both as regards use and beauty. The scent of its yellow blossoms fills the spring air, and its cardinal fruit adds to the brightness of autumn, while some remain even through the winter snows.

The thorns prove an additional safeguard against small boys, who never make a second attempt to crawl through.



What may be done on a 50 x 100 foot lot to raise all the vegetables for the family

A Californian Amateur's Berry Garden—By W. Almont Gates, Berkeley, Cal.

LUSCIOUS FRUITS IN CONTINUOUS SUPPLY FROM MAY UNTIL THANKSGIVING FROM THREE VARIETIES THAT ALSO MADE A PERFECT SCREEN—FORTY POUNDS OF BLACKBERRIES FROM A SINGLE PLANT

THE garden is of the usual kind, the rear end of a small city lot, but the berries that grow there are very unusual. The lot (forty feet wide) faces the east, and the berries occupy the west end. They were planted in February two years ago, and last summer was the first bearing season.

The rear fence is of boards, four feet high



A city backyard, with 40-foot rows of blackberries which produce fruit for half a year

and solid, with the rails on the inside. Next to this fence are three plants of the Mammoth blackberry, fifteen feet apart. These plants require a partial shade for the best results and this is an ideal place for them. Besides, an unsightly board fence has been converted into a beautiful evergreen wall. The canes start very early and take on the running habit, some of ours extending sixteen feet. We train them on the fence, using the rails



A cluster of Himalaya blackberry bearing 132 fruits. The whole plant bore a crop of forty pounds

as a trellis and fastening the branches with staples.

The berries are the largest blackberries known, many of them exceeding two inches in length. They are of good flavor and unlike any other. We picked our first ripe berries May 1st and plants continued bearing for two months.

In the next row I set two plants of Phenomenal berries and crowded in some plants of Cuthbert and Wilson. These latter, however, are to come out and the row will be completed with two more of Phenomenal. This row was set too close to the Mammoth. The distance must be not less than six feet. These must have a trellis and four plants will be sufficient for a 40-foot row. Our plants sent up three canes each the first season which after harvest were cut away to give room for the six new canes sent up by each plant the last season. The canes are of good size and some have reached fifteen feet in length. This berry is a cross between the red raspberry and the dewberry. In color the ripe berry is bright crimson, bordering on purple. The flavor resembles the raspberry but is more acid. The berries are very large, many of ours last season measured one and one-half inches in length, and one inch in diameter. They commence to ripen early in May almost as soon as the Mammoth and continue in bearing about sixty days. From two plants I gathered thirty-six pounds of berries and I expect an increase in the yield this coming season. The Phenomenal is an excellent table berry and has no superior for jams and sauces.

The third kind which I have adopted for my garden is the Himalaya blackberry. I set three plants fifteen feet apart in the 40-foot row and the first season allowed but two canes to grow from each plant. These canes were trained on a trellis made by setting 2 x 4 in. posts, extending six feet above the ground and nailing on each post, four feet from the ground, a cross piece one foot long. On these cross pieces, on each side of the posts, I fastened a board four inches wide, laid flatwise. The canes were trained on the top of these shelves and firmly tied or the wind and weight of the crop would have pulled them off.

No laterals were allowed to grow. These canes grew so very large and long that I could not keep some of them from encroaching upon my neighbors. Others I induced to make a right-angle turn at the fence rail. The longest of these canes measured thirty-three feet. They were allowed to root at the tips during the winter season and in the spring were cut back to the length of the trellis. The buds on these canes were eight inches to ten inches apart, and in the spring a bearing branch started from each bud and grew to be from two to three feet long. Many of these branches produced more than one hundred berries each. Our trellis

was now a solid wall of vine and berries. New branches, blossoms and berries kept right on growing. The last ones were picked on Thanksgiving day and then we made an end of it by removing all branches, leaving only the bare canes.

The canes that fruited this year do not die like those of other berries, but



The Phenomenal blackberry. Four plants cover a 40-foot trellis. Berries one and a half inches long

remain healthy for several years. This year I had difficulty in providing for the two new canes permitted to grow from each plant, but it was accomplished by placing on the same posts another pair of trellis shelves thirty inches from the ground and training the new canes on these.

The berry is large, globular, dull black in color, and of good flavor. When fully ripe it is very sweet. Our first berries were gathered June 20th and the vines continued bearing until stopped by pruning. I kept a record of the berries gathered until the last of August, when over forty pounds had been obtained.



The Mammoth blackberry; an early variety, and the largest-fruited. Fruits two inches or more long

A Vest-pocket System of Garden Records—By J. L. Kayan, Philadelphia

THE SIMPLE SCHEME WHICH HAS GIVEN A PERFECT SUCCESSION OF VEGETABLES WITHOUT LOSING A DAY, AND HAS INCREASED THE YIELD UNTIL A 60x68 FT. GARDEN PRODUCES ENOUGH FOR A FAMILY OF FIVE

[All the record systems for garden use we have ever seen were of no real good. They involve too much work and don't get the results. What everybody wants is to raise enough vegetables for his own family on a space of a few square feet without hiring outside labor or turning play into work. The author of this article attains these results because of a little vest-pocket note-book that omits the red tape and "gets there" by a short cut.—EDITOR.]

THE reasons why ordinary systems fail are two. (1) You can't get a big yield without fertilizing and there is no way to learn how to fertilize except by *experimenting*. (2) You can't economize space unless your crops follow one another without the loss of a day and there is no way to get the necessary dates except by *experimenting*.

My garden contains about one-tenth of an acre and it grows all the vegetables (excepting late potatoes) needed for a family of five adult persons. Last year was the fourth of its existence, and each year has shown an increased yield which was made possible only by keeping a record of each year's work and making use of this in planning the succeeding year's garden.

The garden's daily progress is recorded in a small book (2½ x 4½ inches) that can be carried in the vest pocket, and is always handy. The pages are arranged in the form of a table, usually with only one kind of a vegetable on a page, yet so arranged that the same book can be used three years. The entries are made in pencil and at the end of the year they are copied in ink into a much larger book—one that will last for a number of years, so that the records for a series of years may be seen at a glance. Both books are indexed.

The sample pages are reproduced in part herewith: The first is the record of an early tomato. The page number appears in the upper left hand corner. In the first column the variety of the vegetable is placed. Abbreviations are used to mark the columns as follows:

- Sow—Meaning the date seed was sown.
- Sp.—The date seed sprouted.
- 3. Pot.—The date plants were taken from flat and put into 3-inch pots.
- 4. Pot.—Date of shifting into 4-inch pots.
- Plt.—The date of planting outdoors.
- Blos.—The date of first blossoms.
- T.—The time elapsed from seed sowing to blossom.
- Ripen.—The date of ripening.
- T. Blos.—The time from blossom to ripening.
- T. Seed.—The time from seed to ripening.
- Done.—The date of last picking.
- No. Plts.—The number of plants of the variety.

A space on the extreme right is left for remarks.

Immediately below the line on which these records are kept is one for the yield. The mark, four upright strokes crossed by another, represents five tomatoes picked; the fraction 7-25 is the date placed in the row, July 25th, and is inserted to show how the crop came on. After September 10th tomatoes were measured. In the record of the peas the last column is marked L and gives the length of the row in feet. In recording vegetables by measure the X is used to represent one peck, each leg being one-quarter of a peck. Each vegetable has a table arranged on this general basis to suit its needs.

bushes planted last year and set eighteen inches from the fence; also a shallow gutter fifteen inches wide used as a path, which also gives room in which to turn, but may be shortened if necessary.

At the rear there is a row of rhubarb plants set eighteen inches from the fence. Two and a half feet in front of this is a row of asparagus (planted last year), the roots set eighteen inches apart; this year another row of asparagus will be planted two and a half feet from the present one. The remaining sixty-two feet is divided into two unequal portions. All vegetables of the same family are grown in the same portion, the position

15-TOMATO	Sow	Sp	T	3Pot	4Pot	PLT	Blos	T	RIPEN	T Blos	T SEED	DONE	# PLTS	Remarks.
Barliet Pink	2/10	2/14	4	3/10	4/1	5/11	5/16	94	7/2	47	1/42		6	
YIELD	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	1/10
b. Jewel	2/10	2/14	4	3/10	4/1	5/11	5/9	87	7/4	56	1/44		6	
YIELD	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	1/10
Carlanna	2/10	2/14	4	3/10	4/1	5/11	5/7	85	7/4	58	1/44		6	
YIELD	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	1/10

12 PEAS	Sow	Sp	T	Blos	USE	T Blos	T SEED	DONE	T USED	L	Yield
Surprise	4/17	5/2	15	5/26	6/9	14	53	6/20	11	104	X
Profusion	4/20	5/3	13	6/6	6/28	22	67	7/8	10	104	X

4 1/2 in.

Two sample pages from the record book by which closer cropping was made possible

By keeping a record I am able to estimate, almost to a day, when anything planted will be ready for use, and also—and this is very important—when it can be cleared away to make room for a succession crop. Although some things planted may be almost failures, yet the total value of the yield from a small garden may still be large by careful planning, planting another crop as soon as one is cleared away. In other words do not let the ground remain idle. By this means, too, the garden is always presentably neat and in order, never an eyesore with old plants, vines, etc., disfiguring it.

An almost perfect succession is the total result of my three years' records. The plan on page 22 shows that the larger part of the garden yielded two crops. A 4-foot space along each fence line contains a row of berry

of these portions being changed each year, so as to get a rotation.

In deciding on the distances between both rows and plants the effort has been to give the plants room to properly develop, yet to have them so that when grown the foliage will completely shade the ground, and thus lessen the labor necessary for their care. Paths one foot wide are left between the beds of small vegetables, so that the beds can be seen to and crops gathered without unnecessary trampling of the ground.

Several changes from the plan are contemplated for this year as a result of the winter's study of the records. Cabbage is to be omitted, making room for another row of asparagus; celery can therefore follow early potatoes. When cabbage is again grown it will be tried planted among the corn

hills. Stringless greenpod pole bean has given me such a large crop that it will be planted instead of the wax pole beans, and no late bush beans. This one variety will bear from the middle of July until frost. Early bush beans will still be planted, as the first picking was made from them on June 18th. These rows of beans will be placed between the limas and the corn. The record shows that late peas were through bearing by July 8th, the early peas by July 20th; corn can therefore follow the peas, giving ten rows instead of eight. Even if the peas are not out in time it will not matter as they can be sowed six inches away from the line of the future corn row, being cleared away later.

All such plants as lettuce, early cabbage, parsley, egg plant, pepper and tomato are grown from seed; the tender ones in the windows of the house, the hardy ones in the laundry, which has sash on two sides, but no means of heating. After March 7th the hardy plants do very well here; on cold nights

they are covered. These home-grown plants are better than the wilted bought ones; also I know they are of the desired variety, and for a very small outlay in cash I get a great number. The early plants grown in the house last year were six egg plants, sixty-eight tomatoes and fifteen peppers; in the laundry, thirty plants of cabbage, twenty-four of parsley, and over two hundred lettuce.

The tomatoes are grown on an upright trellis. The plants are set eighteen inches apart in the row, and trimmed to two stems, all side shoots being cut off as soon as they start. The first ripe tomatoes were picked July 2nd. Three varieties of early tomatoes were grown, six plants of each. Chalk's Jewel gave me the greatest results out of the five varieties that I have tried during the last three years. The scarlet fruits are smooth, solid, medium sized, and of excellent quality. For late tomatoes, Stone and Matchless were grown. Both are excellent and hard to distinguish.

Previous to the first killing frost all green tomatoes were picked from the vines, the small ones used for pickles, and the large ones stored in a dark place where they kept ripening until December 18th.

The first early cabbage was ready for use July 10th. I had twenty-five good heads from thirty plants set out. Kale follows early cabbage, and is transplanted into the rows as fast as a cabbage is removed, and set so as to come between the cabbage plants. Two sowings of kale are made, one about June 6th and another about July 6th, so as to always have young plants ready. Kale needs frost to make it good. Last winter it was used until February and the young growth, made in the spring before the ground was plowed, was also used. The early potatoes were dug July 20th. Late cabbage followed the potatoes, fifty-two plants were set but only twenty-four heads matured, because of the club root. Growing cabbage in my garden has been a continuous fight with club root and maggot. The latter is overcome by the use of lime; when the plants are set out they are watered with limewater so strong that it might be called whitewash. About one week later they get another dose.

BIG RETURNS FROM EIGHT DOLLARS

All my crops are planted in straight rows, for easy cultivation with a wheel hoe. In fact I could not take care of this sized garden without that tool, as all the work is done by myself either in the morning before going to work or in the evening after returning home.

The annual cost of the seeds used is really very small, for taking advantage of the fact that their vitality extends over a period varying from one to ten years, they are bought in larger quantities than needed for one year—indeed in many cases this is unavoidable, and instead of throwing out the remains of a single packet of seed, the surplus is kept on hand. Thus for example, my Chalk's Jewel tomato has been grown from the same packet of seed for three years and germination was as strong last year as it was at first. The yearly average seed expense is kept below three dollars and my total outlay in money is less than eight dollars, made up thus:

COST PER YEAR

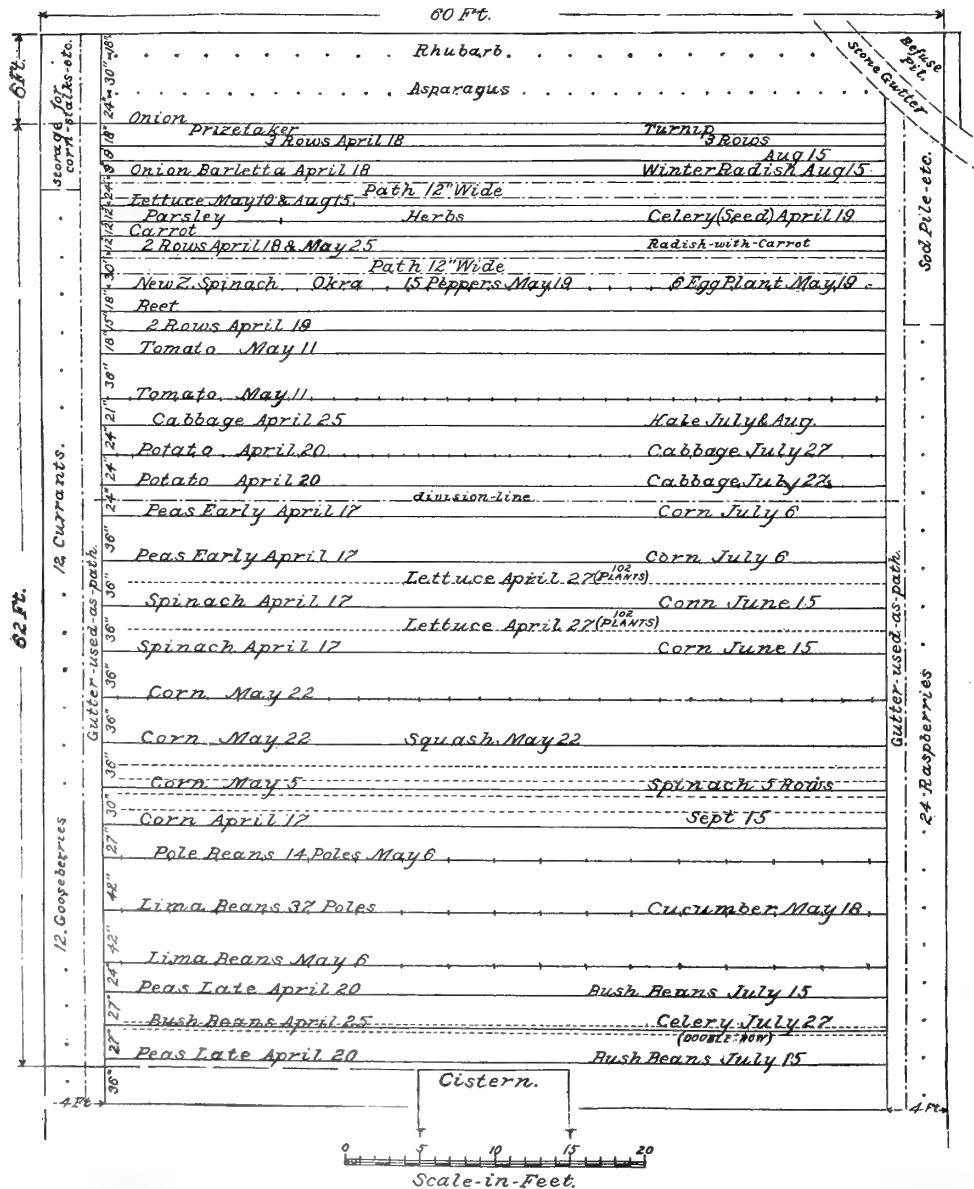
Value of seed used	\$1.82
3 loads of manure at \$0.75	2.25
Plowing and harrowing	1.50
50 lbs. bone meal	1.15

Total \$7.72

The bone meal is used in the rows for second crops and mixed with the soil when setting out plants from frames or pots.

MORE THAN 600 PER CENT. RETURN

The produce of the garden was estimated (by careful records kept all the season), to be \$51.59. This does not include such items as the herbs, parsley, etc.—a number of vegetables of which no estimate can be made, such as kale, New Zealand spinach, green tomatoes pickled before frost, five rows of spinach, and a large quantity of rhubarb which was freely used and of which I have fifteen quarts canned for winter use.



An ingenious garden chart. Solid lines are rows; dotted lines mark successive crops when spacing was changed; marks on lines show distance between the plants. The names and dates of first planting are in the left-hand column; those of successive planting in the right-hand column.

Eleven Types of Garden Enjoyment

CONVINCING EXAMPLES OF CREATIVE IMAGINATION AND NO UNCERTAIN PURPOSE ON THE PART OF THE OWNERS—SOME GARDENS THAT WILL NOT HAVE TO BE MADE OVER AT GREAT EXPENSE



A real seaside garden. A bed of portulaca in the poorest sandy soil; its brilliant flowers in sharp contrast to the rocks and sea



An old-fashioned garden that almost takes care of itself. Filled with perennial flowers, which do not have to be planted every year



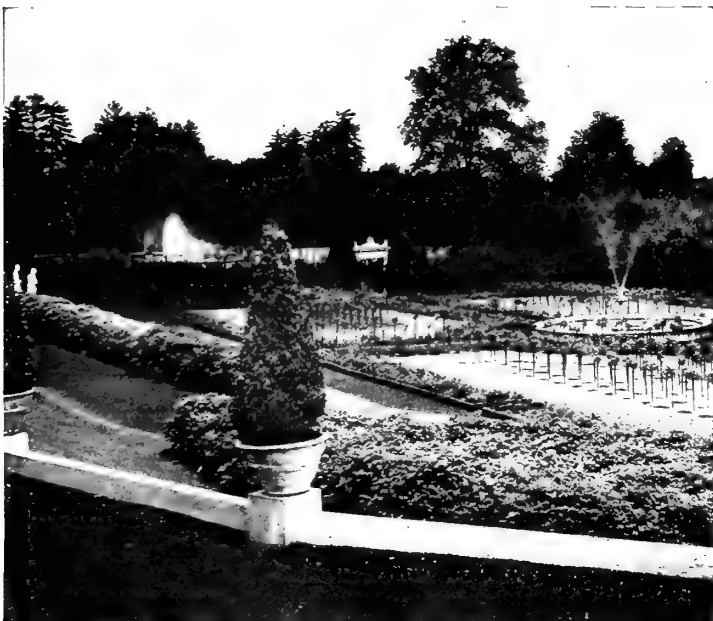
A seaside wild garden. Where the lawn meets the rocky shore are planted barberries and other native shrubs and trees in a nature-like manner



A secluded sunken garden where tender bedding plants appear at their best. Here they do not bring a discordant note into the landscape. A formal arrangement which suits a formal situation. Mostly geraniums and cannas



A garden that is attractive both winter and summer. This formal garden is composed almost exclusively of hardy evergreens which always give a glimpse of life and cheer from the home windows. Yonkers, N. Y.



A large formal rose garden in which "standard roses" are the dominant feature. A "standard" is a shrub grown in tree form. A popular idea in England, but rarely successful here. Mrs. Spencer Trask's, Saratoga, N. Y.



The garden of a collector where one may grow every variety of his favorite flower and rejoice in the merit of each. A place where you may forget your troubles and be an amateur Burbank. Iris makes a good hobby



Water lilies naturalized on a large scale at small expense by an enthusiastic amateur who enjoys outwitting muskrats, turtles and other enemies. Every stream and pond should have water lilies and fish to devour mosquito larvae



A Japanese garden in a village yard. The owner had the wisdom to give a first-class Japanese gardener a free hand and he is better satisfied than if he had imposed ideas of his own



A garden that has the spirit of the Colonial times—seclusion, maturity, a certain formality, flowers for sentiment rather than display, permanence, evergreen growth (a symbol of immortality), and above all, a masterful sense of design which speaks of personality and home life—not mere show



The imperishable dignity and charm of the Southern ante-bellum home. The magnolia is the grandest broad-leaved evergreen tree of sub-tropical regions, and box is the most aristocratic of all broad-leaved evergreen shrubs. In such a place flowers would be petty, impertinent, undignified

The Choicest Vines for Trellis, Pillar, and Wall—By James T. Scott, ^{New York}

FLOWERING AND FOLIAGE PLANTS THAT WILL GIVE SECLUSION AND FINISH TO A NEW HOME
—THE PROPER SIZES TO BUY FOR BEST RESULTS AND THE PARTICULAR USES OF EACH KIND

THE best known and most useful of all foliage vines is the Boston or Japanese ivy (*Ampelopsis tricuspidata*, known in the trade as *A. Veitchii*). This is most suitable for brick or stone walls, because it has disk-like tendrils on the young growths by which it holds on securely, and the plant is supported to any height. Boston ivy succeeds in any aspect, north, south, east, or west, and is perfectly hardy. It succeeds in the smoke and dirt of the city just as well as in a clearer atmosphere; and after planting needs no attention, except cutting back when it encroaches upon windows or doors. The foliage is deciduous, but in early spring bursts forth with beautiful tints of green and red-brown. In summer the vines present a mass of shining green, and when autumn arrives the foliage assumes vivid tints of gold, purple, and scarlet; it hangs on with great tenacity, and is among the last of the leaves to stand against the approach of winter.

Plant the vines in early spring, using by preference two-year-old pot-grown plants (costing about 25 cents each), and set them six to eight feet apart. As growth is very rapid, any ordinary wall will be covered with drapery in two or three years.

Field mice are very fond of the young growth in winter; they must be destroyed, as otherwise it is no use trying to grow *Ampelopsis*. Poisoning is the most effective method. Get a can of green peas from the grocery and stir well into it a few grains of arsenic, then let it stand for a short time. A few of these strewn around will be a greater enticement than the young growing shoots; and the result to the mice is certain. There is a larger leafed form of Boston ivy known in the trade as *Ampelopsis Roylei*, but I prefer the former.

The Virginia creeper (*Ampelopsis quin-*



Even in winter time, the bare stems of the Boston ivy give an attractive quality to masonry walls in the city

quefolia) belongs to the same family, but does not climb. It trails much more freely, however, and is the more suitable for covering rocks, boulders, and low walls. Whenever possible, it should be planted on the top of a wall, rather than at the bottom, for its tendency is to creep and grow downward, rather than to climb upward like the Boston ivy. Where it can be used to advantage, it is a very effective and satisfactory plant. Neither one has any natural enemies to bother the gardener. Their purple berries in the fall are much sought by our feathered songsters.

The English ivy (*Hedera Helix*) is the only distinctly evergreen vine suitable for a high wall; it is practically hardy in the



The best quick-growing, fragrant-flowered vine. How greatly it improves the lamp post

vicinity of New York, but it must be planted against a north wall, or have northern exposure, or by some other means be protected from the sun in winter. The cold and frost do not injure the plant, unless the growth be more or less active. The greatest injury occurs during February or March, when the vine is grown in a sunny position. The early spring or late winter warmth starts

the flow of sap so that every cell becomes filled, and if at night this sap gets frozen, the cell walls are ruptured and the injury is done. The leaves soon turn yellow and later on fall from the plant. If given a northerly exposure, where the sun does not strike until late in the afternoon, this cause of injury is avoided.



On rough walls, the climbing euonymus has all the grace of English ivy. Rather slow growing

The English ivy is slower in growth than the *Ampelopsis*, but there is no other vine that approaches it for beauty at all times. It should be used wherever possible. It emits roots along its branches, and clings with tenacity, deriving nourishment from even a stone wall. In planting, treat it just like an evergreen shrub and do not handle it until about the end of May, or beginning of June. Get two-year-old pot-grown plants, as in the case of the Boston ivy. The price is the same, about twenty-five cents each. Plant six to eight feet apart and supply them plentifully with water the first summer, or until they get a good hold of the new ground. This vine also has few natural enemies.

The climbing euonymus (*Euonymus Japonica*, var. *radicans*), illustrated in the January GARDEN MAGAZINE, page 286, is a plant that ought to be better known as a vine. It is often seen in masses, used as a low shrub for covering bare spots, and for this it is very well adapted, but it is also of great merit as a true vine for walls, trees, rocks, etc. It clings as tenaciously to a rough surface as does the English ivy. Its leaves are small, and growth is slow, two attributes which fit the plant well for use on a low wall. Besides the green form, there is also a variegated leaved one that is extremely decorative. Both are perfectly hardy in New York, and for some distance north. Their small, beautiful, shiny green leaves, about an inch across, are evergreen. I do not know of any vine that gives a neater appearance. It is quite easy to establish either as a vine on a wall or as a ground cover. Plant in early spring in a rich soil. It may

be lightly sheared in June to keep an even surface.

I have seen the climbing hydrangea (*H. petiolaris*) on one or two places only, but its possessors have always spoken of it in very laudatory terms. It is of slow growth, and seems to be rather more difficult to establish than the commoner vines, but when once established it is perfectly hardy. It will cling to stone or brick, but not to wood. I once saw it planted against a wall which retained a terrace. At the time of my visit (in June) it was one mass of white bloom. I cannot recall a prettier picture, nor a more suitable subject for the situation. It has all the white beauty of the Japanese clematis, which twines, but does not really cling. The leaves are deciduous, but as it is one of the earliest of plants to show its leaves in spring, the period of bare stems is short. Plant in early spring, and for the first two or three winters (or until established) give it a light protection with salt hay or burlap.

Often confused with this plant, even by the trade, is the false hydrangea (*Schizophragma hydrangeoides*), but it is quite distinct. The leaves are deeply lobed, and the flowers are not so showy, having only one large white sepal to the sterile flowers, whereas



The trumpet vine and Virginia creeper will quickly cover a wooden trellis to make a solid screen

the true plant has four showy sepals. It is unfortunately better known than *Hydrangea petiolaris*, and is responsible for the popular unfavorable opinion about that vine.

Two of the most useful of hard-wooded vines requiring support, and very suitable for wall or piazza decoration, are the wistaria, *Wistaria Chinensis* with its racemes of

pale purple, fragrant flowers, and the trumpet vine (*Tecoma radicans*) in bright orange-scarlet flowers, four or five inches long. Both are perfectly hardy, and excepting, perhaps, an oak or a maple tree, nothing is so easily taken care of. Both are rapid growers, and attain to a great height, and they will outlive the natural term of any man. They can be planted either in spring or in the early fall, and so far as my observation goes, the results are about equal. Give them a rich soil, and they will respond readily to it. Complaints are often heard about these plants not blooming. The fault is usually with the man who handles the shears. In his endeavor to have everything pruned and cleared up before spring, he invariably cuts away all the flowering wood. Let him restrain himself for once, and leave the pruning operation until *after the flowering season*. He can then cut away any superfluous growth, and need not be afraid of killing the vines. They will respond to such treatment by a still greater profusion of bloom a year hence.

Several of the clematises are excellent for screen and trellises, or for draping on walls and pillars. The most generally known is the Japanese clematis (*Clematis paniculata*). It is one of the very showiest of all vines,



The Virginia creeper (*Ampelopsis quinquefolia*) is an ideal vine for rough places, or banks and walls where it can hang down. Needs support



Crimson Rambler roses on an arch over steps, a blaze of color foiled by Boston ivy and shrubbery

producing more flowers than any other that I know, in August. It is best adapted for trellis work, and if planted against a wall must have a piece of large-mesh wire netting to cling to. It supports itself by its leaves, which twine around any such medium, and it requires no further training. It is best to cut it back almost to the ground every spring before growth starts. As the flowers are produced upon the current season's growth,

it may be stated broadly that the harder it is cut back the greater the profusion of bloom.

The wild clematis (*Clematis Virginiana*), the traveler's joy (*Clematis vitalba*), the scarlet-flowered clematis (*Clematis coccinea*), and *Clematis flammula*, are all suitable for growing in similar situations and serve to extend the season and character of bloom.

There are many beautiful flowered hybrid varieties of clematis of the Jackmani type,



A combination of honeysuckle and Boston ivy on a Pittsburg garden-wall, a charming gaiety of color

and they are worth growing for the size of the flowers, four to six inches across, whereas in the others named a diameter of about one inch is extreme. But the growth of the large-flowered kinds is not nearly so robust, nor do they produce flowers in such lavish quantities. They are to be regarded strictly as gems and should be planted in the most prominent places. They are at home on the lattice or trellis work of a piazza, or for covering pillars or posts in prominent places; they do well also when planted with Crimson Rambler and other climbing roses. Their growth is thin, and no harm is done.

For fences and low walls and for the rougher portions of the garden the honeysuckles are superior to all else. They grow quickly, and are not over-particular as to soil; they produce an abundance of fragrant flowers the whole season (which compensates for their comparatively small size); they are not subject to disease, or bugs of any kind. In fact, when once planted, they seem to thrive indefinitely, requiring no attention whatever. It would be hard to find another lot of plants at once so useful and so pretty that will also stand so much abuse and neglect. Honeysuckles are very easily established, and can be planted in either spring or fall, although early spring is preferred. Nursery grown plants can be procured from thirty-five cents upward. Though not particular as to soil or situation, they do, like any other plant, respond readily to good treatment. If the soil of the place where planting is to be done be naturally poor, dig out a place big enough to hold a large wheelbarrowful of rich soil and they will soon establish themselves. When once agrowing, they will find enough sustenance in the poorest locality. The best climbing kinds are: golden Japanese (*Lonicera Japonica*, var. *aureo-reticulata*), with variegated foliage; monthly fragrant (*L. Periclymenum*, var. *Belgica*), with reddish flowers, extremely fragrant and in bloom all summer; Hall's evergreen (*L. Japonica*, var. *Halliana*), flowering in the fall; red trumpet (*L. semper-virens*), evergreen in the South, flowering all summer; and Heckrott's (*L. Heckrottii*), the freest bloomer of all.

While the climbing roses are not vines in the strict sense of the word they can with so little trouble be tied and trained to so good an effect that we may take some of them into consideration. The easiest method is to have a lattice-work frame or cedar posts, about four feet apart, on which they may be tied. Planted at that distance the roses will comfortably fill the intervening spaces.

In the vicinity of a wall or dwelling an amount of subsoil usually gets incorporated with the overlying earth which makes poor conditions for plants. If such be the case, dig out the poor, gravelly, or sandy material, and put in fresh, rich matter. While a trench two feet wide and eighteen inches deep will suffice, more will be better. Breadth is preferable to depth, however, at all times. Where large-growing specimens, such as wistaria, or trumpet vines, are to be planted, a square hole that will take two or three cubic yards of good soil will be sufficient.

VAUGHAN'S NEW CANTELOPE

HOODOO

As like as two peas in a pod.

THE story of the growth and development of a new and better table melon than those in common use makes a horticultural record of unusual interest. All of the Garden Magazine readers may not know or realize the years of careful selection and hybridizing necessary to secure and fix a new fruit of value.

Mr. Paul Rose, in whose Michigan fields this new variety, the **HOODOO**, originated, has spent a lifetime in growing Cantelopes. His shipments have brought the best prices in the big markets of the Central States, Buffalo, Pittsburg, Chicago, Columbus and other cities. His specialties have been Osage, Osage Gem, Paul Rose (Petoskey) Netted Gem and this his latest, the **HOODOO**. Four of these have been introduced to the public by Vaughan's Seed Store and not one of them has been a failure,—all are grown largely to-day.

It need not be said that Mr. Rose has been constantly watching for a better melon and ready to notice, save and improve any variation in Cantelopes that comes nearer to the perfect market sort. Mr. Rose now has Cantelope plantations in Michigan, Illinois, Texas, Alabama, Indiana and Tennessee.

WHAT OTHERS SAY

Pronounces the **HOODOO** the Best Melon

"We have grown **HOODOO** four seasons, both in field and under glass. Far from bringing us bad luck it has given us our best melons every year, holding off blight ten days longer than Emerald Gem, Paul Rose (Petoskey) or Rocky Ford Netted Gem. It would seem Mr. Rose has achieved complete success and we feel certain this new variety will not **HOODOO** its growers."

The Rural New Yorker.

In A Class By Itself

"The **HOODOO** Melon is in a class by itself, totally unlike any other Cantelope in flavor and has a very deep color."

Trotwood's Monthly, Nashville, Tenn.

Real Hybridizing

Mr. Paul Rose wrote as follows March 2, 1906:

MR. J. C. VAUGHAN, Pres.,
Vaughan's Seed Store,
Chicago and New York.

Dear Sir:

The **HOODOO** is an out-growth of the Petoskey. I have been working for some time to get a melon of more uniform size, solid netting, of a rounder form, tough netted rind and a much more hardy foliage. I have found the **HOODOO** to be more blight resisting than any other variety that I have ever grown. I think that it will prove the best shipper of them all; retaining the high quality of the Petoskey (Paul Rose). It is really some later than the Gem varieties, but more prolific. No seeds have been sold to anyone, I am not looking for anyone to buy seed. I only want to perfect this Cantelope and give the public something that is a little better than the best.

Yours truly,

PAUL ROSE.

This new melon, which has been given by Mr. Rose the peculiar and distinct name **HOODOO**, he has placed with us for distribution. We promise that it will be no **HOODOO** in the garden, but rather the most perfect Cantelope for general use.

Its Description

The **HOODOO** is the ideal basket and crate melon, the fruits average 11-2 lbs., are thickly netted, as hard as a bullet, extra strong at the blossom end, of a very handsome appearance. The flesh is very thick, of fine firm texture, not stringy, rich orange in color, and of the sweetest flavor. The seed cavity is very small; it is a scant seed producer—30 melons yielded but one pound of seed. The well netted rind is very tough and rubber-like. The vines are vigorous, healthy, and the most blight resisting of any we have seen. *The Rural New Yorker* says: "It holds off blight from a week to ten days longer than Vaughan's Paul Rose or Petoskey (the most blight resisting up to date), the 'Emerald Gem' or the 'Rocky Ford' strain of Netted Gem."

The Best Ever

"I think the **HOODOO** the best melon I ever ate."

C. B. Compton, L. & N. Ry.

Never Tasted a Finer Melon Than the HOODOO

"We have never tasted a finer melon, no matter where grown, than your **HOODOO**, received today from Michigan. If the product duplicates the melon, we should have no fear of handling on this market all that could be grown. The melons you shipped us on the 18th and used on the 24th, were of a superior quality. The party who purchased your Tennessee stock was so well pleased that he called again and again for that variety. They were at that time being used jointly with the Rocky Ford product."

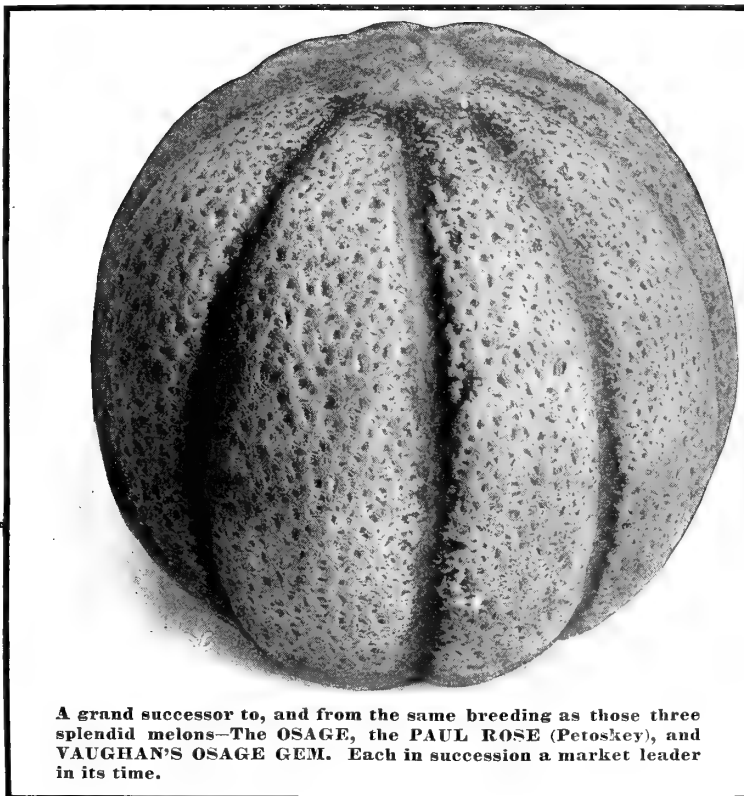
Phillips & Sons, Commission House.

Advises Growers to Try the HOODOO

"I cannot say too much in favor of this melon and will advise all growers to try the **HOODOO**."

F. M. Welch, Buffalo.

(**HOODOO** sold by Mr. Welch at \$4.50 per case, while Rocky Ford Netted Gem sold at \$3.00 and \$2.25.)



A grand successor to, and from the same breeding as those three splendid melons—The OSAGE, the PAUL ROSE (Petoskey), and VAUGHAN'S OSAGE GEM. Each in succession a market leader in its time.

Edition, more complete than ever, A Mirror of Horticulture, Four Complete Departments in Gardening. The Best Flower Seeds in America. 160 pages. Price for **HOODOO** Melon Seed, one packet 20 cts.; 3 pkts. for 50 cts. prepaid with catalogue. For market gardeners 1-4 lb. sealed packet prepaid for \$5.00. While the supply is limited, we hope to see a few seeds sown in every good garden for 1907.

The 1907 Catalogue

of Vaughan's Seed Store will be mailed free with every order for **HOODOO** Seed. Our 30th Annual

VAUGHAN'S SEED STORE

Greenhouses, Trial Grounds and Nurseries, Western Springs, Ill.

84-86 Randolph St., CHICAGO
14 Barclay St., NEW YORK

MENTION THE GARDEN MAGAZINE

1 RIVERSIDE DRIVE VIADUCT 2 GRANT'S TOMB 3 COLUMBIA COLLEGE
4 CATHEDRAL OF ST. JOHN THE DIVINE 5 SOLDIERS AND SAILORS' MONUMENT

New Pearline Works

At Edgewater (opposite 98th St., N.Y.) Capacity Increased 10 Times. Made **NECESSARY** (and possible—thank you) to supply the steadily increasing demand of **THE INTELLIGENT WOMEN** who realize that a **POUND OF PEARLINE** does **MORE** work—**BETTER** work—**EASIER** work—**SAFER** work—than four pounds of Soap.

OUR TREES BEAR FRUIT
THEY REPRESENT PENNSYLVANIA'S BEST, SPECIAL FINE STOCK FOR SPRING.

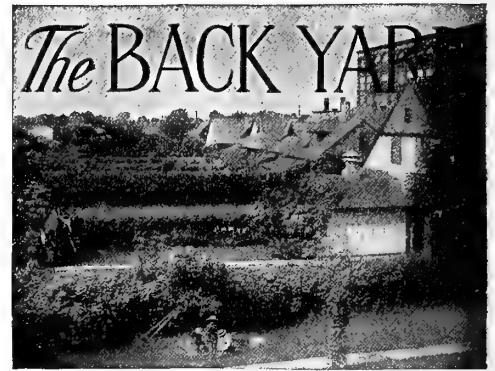
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Seeds That Hustle
Plant Our Northern-Grown Seeds

They are hardy, vigorous, prolific, and mature quick, because they are grown in our short, northern summers, on new, healthy land. They begin hustling the minute they are in the ground, keep at it, and mature crops while the lazy southern seed is getting started. Our new, 150 page catalog tells all about them and our **Big Cash Club Offer**. Mailed free, if ordered quick.

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406 Michigan St. Petoskey, Mich.

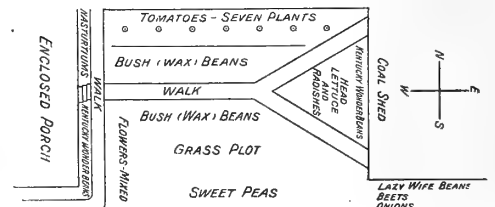


The BACK YARD
An Office Man's Vegetable Garden

OUR available space measured up to a total of 540 square feet, and a few trenches for sweet peas.

We had wax beans from June 26th to July 31st, nine and one-half pecks, valued at \$2.27; pole beans from July 1st to September 26th, eighteen and one-half pecks, worth \$3.94; sweet corn from July 3rd to September 2nd, 204 ears, worth \$3.98. The tomatoes yielded from July 18th to October 4th eight and one-half bushels, worth \$4.70. Of the early lettuce, radishes, onions and beets we kept no accurate account, but we would have had to pay at least \$1.50 at the grocer's.

The time devoted to working in my garden was that remaining out of office hours, 8 A. M. to 5 P. M. The three obstacles of little time, little space and little knowledge



DRIVEWAY			
GOLDEN BANTAM SWEET CORN (EARLY)	STOWELL'S EVERGREEN SWEET CORN (FIRST PLANTING)	STOWELL'S EVERGREEN SWEET CORN (SECOND PLANTING)	ASH BINS ETC.

The plan of a garden which cost less than one dollar and produced \$14.52, over 1400 per cent.

were overcome, and the table for a family of four was kept supplied with crisp, fresh vegetables.

As soon as the ground was in condition to work, it was spaded up, and the soil—a tough, yellow clay—worked as thoroughly as possible with hoe and rake. A quantity equal to two wagon loads of old, black, stable manure, hauled by the wheelbarrow load, was carefully worked into the ground. We had decided to begin with only the staple summer vegetables—tomatoes, beans, corn, beets, with lettuce, radish and onion for early spring greens. The garden was laid off as shown in the accompanying diagram.

The strip on the south side of the division fence, four feet six inches wide by eighteen feet long, was devoted to tomatoes, seven plants. Bordering the walk strips eighteen inches wide by ten feet long were devoted to early bush wax beans. A strip eighteen inches

WISS

Solid Steel PRUNING SHEARS
Will Snip a Broom Handle

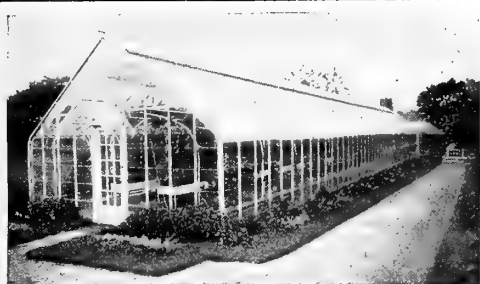
That gives you an idea of the strength and quality of the pruner. Wiss Pruning Shears will outlast a dozen ordinary ones. They will cut tissue paper. That shows how nicely they are adjusted.

Nurserymen and growers of fine trees use them in preference to all other shears—they will cut clean the thickest twigs or the most delicate tendrils without tearing.

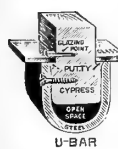
Wiss dealers will replace free of charge any shears returned defective or unsatisfactory. All parts are interchangeable. If any part (say the blade) becomes worn, it can be replaced, thus making the shears as good as new at a slight cost.

Made in three sizes—9-inch, \$2.25; 10-inch, \$2.50 No. 3B (7/8-inch) for light pruning, \$1.75
Extra blades, 50 cents each. For sale by all dealers.

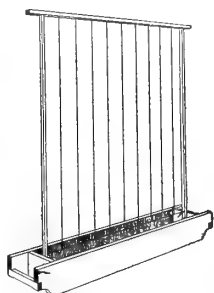
J. WISS & SONS CO., 15-33 Littleton Avenue, Newark, N. J.



SWEET PEAS AND SOMETHING ABOUT GROWING THEM IN A GREENHOUSE



IN this age of electric buttons and subways we are apt to get the idea that everything can be done in a snap-shot way, but with Nature, although you can hurry her along a good deal, she resents too much hustling and simply refuses to act. What we had in mind more particularly was, sweet peas grown in a greenhouse and the necessity of building your house in time this year so you could get your sweet peas started in time for next fall. Can there be anything more beautiful or delightful in their fragrance than a vase of sweet peas picked for your table, two or three times a week, all through the winter months? The reason we selected sweet peas from all the choice things so successfully grown in greenhouses, is because we just visited this house where they



are growing so abundantly. This little sketch shows the kind of box the gardener has rigged up for growing them. It is easy to handle, while the frame, strung for the vines, does away with the unsightly brush or net wiring. He plants them in his U-Bar house during August, the first picking was for Thanksgiving, and each year he has picked right through to Easter. We don't know of another such record with an ordinary house. Just another one of the proofs of the wonderful growing powers of U-Bar greenhouses—wonderful because they are so light, so near like an actual outdoors condition.

U-Bar houses are built so entirely different from other greenhouses that we have tried to tell this difference for you in an interesting way in our new book catalog. This catalog we want you to have.

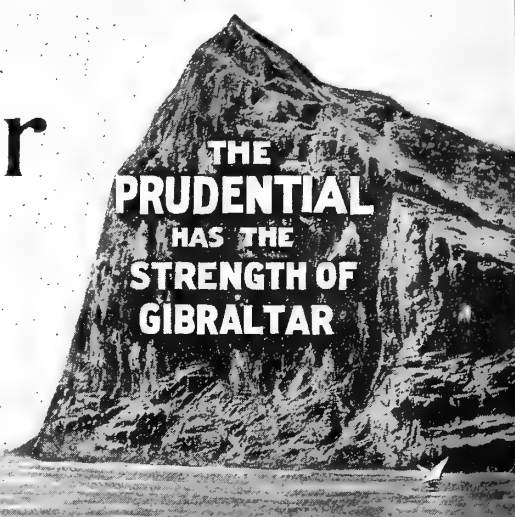
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Pierson U-Bar Company
U-Bar Greenhouses
 Metropolitan Building, 23d St. and 4th Ave.
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But don't put off building until next fall if you want flowers and fruit for next fall and winter.

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These charming, reedy things, along with our exquisite native pond lilies, are growing in a 6 foot long aquatic pool.

An Interesting Outcome

At the time when you were all enthusiastic over the so-called nature-study craze, the old "gray-beards" shook their heads and declared "the fad could not last"—and they were right; the fad did run itself out of breath, but the many who were interested in a healthy, red-blooded way are still revelling in the joys and charms of nature, and will continue to do so.

Along with this ever-growing interest, comes the desire for flowers in the dull gray months, and you are no longer content with the brief pleasures of the outdoor garden—you must have them all the year through; that is just the reason we have made our greenhouses such attractive, workable sort of places—actual bits of garden land where, amidst most delightful surroundings and just the right growing conditions, you can experiment with seedlings, turn completely around the blooming or fruiting time—have your roses in December as well as June; go strawberrying at Christmas, picking a quart from every six or eight plants.

Then there are the vegetables—tomatoes and string beans growing side by side. Melons and cucumbers clambering up their trellises. With it all comes not alone the actual pleasure of having things out of season but the genuine enjoyment of helping things to grow—that zest that only comes with doing things. Send for our "Two P's" booklet. It shows four of just the kind of greenhouses that will bring all this to you.

LORD & BURNHAM, GREENHOUSE DESIGNERS AND MANUFACTURERS,
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WM. WARNER HARPER, PROPRIETOR

wide by seven feet long, at the back of the enclosed porch, was given to the old-fashioned pole beans, as was a strip eighteen inches by nine feet at the front of the coal shed and another eighteen inches wide by ten feet long at the end of the shed.

Outside the driveway was a plot nine feet in width, running the full depth of the yard. This was divided into three 15-foot spaces, in which sweet corn was planted. In the "V" of the rear walk, a bed for head lettuce was made, French radishes being sowed between the rows of lettuce. At the end of the shed, between the space given up to beans and the driveway, was a plot ten feet long by four feet wide; this was utilized for spring onions and early beets.

The purely decorative gardening was confined to a strip a foot wide and ten feet long, beside the driveway, wherein was made a trench for sweet peas. A double trench for the same flowers gave two 20-foot rows toward the front of the yard and outside the



Seventeen dozen ears of corn were produced from a narrow strip on one side of the yard

driveway; climbing nasturtiums were planted beside the back steps and at the south end of the enclosed porch, and a small bed of old-fashioned flowering plants was made beside the walk leading around the house. One plot of corn was planted with Golden Bantam for first crop, while in the other plots, two plantings of Stowell's Evergreen were made a month apart.

For the climbing beans, small stakes were driven deeply into the ground at the ends of the trenches, and strong wire was run across from one stake to the other. Then stout twine, such as is used in tying heavy parcels, was strung from the wires to the walls—the walls being, in one case, the lattice of the enclosed porch, and in the other the front and end of the shed. The strings were placed three or four inches apart and were run up about seven feet.

For the support of the tomato vines a trellis, English fashion, was planned, the intention being to hold the plants well up from the earth so that the air might circulate freely under and through them and the fruits

VICK'S

Garden & Floral Guide

¶ Contains the most intelligent information possible to obtain on planting Vegetable or Flower Seeds, Vines, Bulbs, and Small Fruits.

¶ The culmination of over a half century of experience by the Pioneer Mail Order Seed House of America.

SPECIAL OFFER

¶ If you send 10 cents with request for Catalog, we will mail prepaid a Hardy Baby Rambler Rose, ready to bloom indoors or out. But one to a customer, however.

¶ Send for the Catalog anyway, it's free.

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EXTRA EARLY

ONE of our many striking novelties this year is a tomato that is at least *10 days earlier* than any other tomato grown. Besides its earliness it is a fine, smooth, medium size tomato—a delicious variety for the table. Every one who prides himself on the showing of his garden should plant it.

PER PACKET 10 CENTS

For 83 years it has been the policy of Bridgeman's to handle the best varieties of everything.

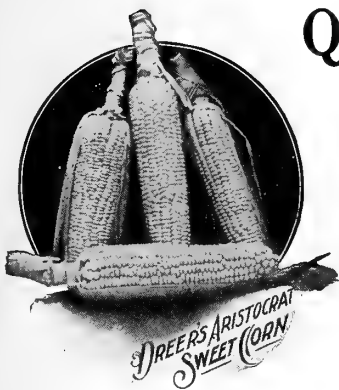
Our 1907 catalogue contains a complete description of everything you will want to grow. Sent free upon application.

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describes the varieties of vegetables that are best for the amateur as well as best for the market gardener. *Four Superb Color Plates*, 224 pages profusely illustrated, describing everything worth growing in vegetables and flowers, including our unmatched Hardy Perennials, Roses, Dahlias, Cannas, Gladioli, etc.

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Dreer's Aristocrat Sweet Corn. Extra early; ears 8 to 10 inches long and of delicious quality. Pkt. 10c; pt. 25c, postpaid; qt. 45c, postpaid.

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Dreer's Improved Lima. This pole lima of our introduction has now become the standard for quality, earliness and prolificness. Our strain will be found greatly superior to the ordinary. Pkt. 10c; pint 25c, postpaid; qt. 50c, postpaid.

One Packet each of the above five kinds of "Quality Vegetables" sent postpaid for 40c.

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Philadelphia

Hollyhocks



EVERYBODY should have Hollyhocks. Not those with small, dull hued, imperfect blossoms, but the improved kind, with large, perfect, exceedingly double, bright colored flowers (each one a veritable rosette)—crimson, maroon, rose, salmon, yellow, snow white, etc. Though not generally known, there has been as great improvement made in this stately flower, during the past 25 years, as there has in the Canna, Dahlia, Chrysanthemum or Carnation.

Lovett's Superb Hollyhocks

will doubtless prove a revelation to thousands. The flowers are not only very large, wonderfully perfect in make-up and pure in color, but they are produced in far greater numbers and for a much longer season than the Hollyhocks of "Grandmother's Garden"—interesting and attractive as they were. In my catalog of Hardy Perennial Plants the above are illustrated and described, with prices of plants, together with more than one thousand varieties of other beautiful hardy flowers.

Nothing for the cost gives such an air of refinement and adds so much cheer to the country home grounds, rendering them attractive and interesting from early spring until late autumn, as Hardy Perennials; yielding, as they do, a wealth of flowers of an almost endless variety of form and color—not only during the year planted, but for many years—from a single planting.

My catalog of Hardy Perennial Plants is a profusely illustrated and beautifully printed book of seventy pages; its descriptions are accurate and it is replete with information of value to all who are interested in flowers. Mailed free for the asking.

J. T. LOVETT, Little Silver, N. J.

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Framingham (Mass.) Tribune, May 25, 1906.

123 W. 44th St., New York, Feb. 6, 1906.

"I thank you for your very attractive book on Roses and appreciate the expensive manner in which you have adorned it."

Mrs. Jefferson Davis.

NOTE—The late, adored Mrs. Davis was a most enthusiastic lover of the Rose, and in the old days in Mississippi was mistress of a five-acre Rose Garden, embracing six hundred varieties.

Niles, Ohio, Feb. 12, 1906.

"Every page has been read and reread—delighted. I would call it the 'Little Classic' of rose literature."

J. L. Watson.

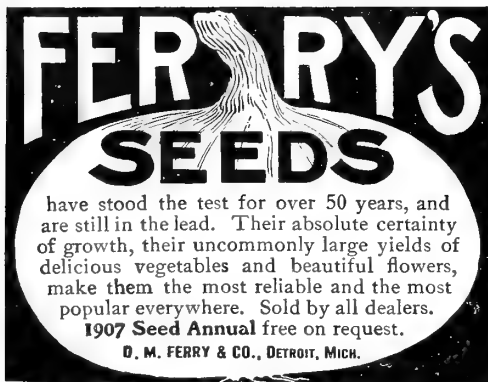
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I have faith in my plants. Hence this offer to introduce into your community absolutely free, post-paid three fine blackberry plants. Get a good place ready—then send your name. I want to prove that I excel in fine blackberries—the money making kind. Many of my customers are realizing **\$300 PER ACRE PROFIT** from my blackberries, new raspberries, strawberries and currants. I offer a full line of nursery stock, farm and garden seeds, poultry, etc. 800 acres in farm and nursery—the actual fruit of good plants. Catalog free. Send for it.

W. N. SCARFF, New Carlisle, Ohio

thus be kept off the ground. The estimate of the probable growth was entirely too low; the tomatoes finally attained a height of fully seven feet from the ground. The beans attained a similar height and the pods were always clean and easy to gather.

The bush wax bean came to maturity at least three weeks before the climbing kinds, and from the twenty feet given of row, we gathered five pecks. While the bush beans were still in bearing, the climbers matured their earliest pods, and in repeated "pickings," the last of which was made about the middle of September, the vines produced two and one-half bushels of as fine "snap" beans as anyone could desire. Two varieties were planted—one called Kentucky Wonder, and the other, a week to ten days later, called Lazy Wife. The Kentucky Wonder is certainly true to its name, many of the pods picked being more than eight inches in length, and a number of the fully matured ones measuring eleven to thirteen inches.

Seventy-eight fully developed ears were pulled from the early corn, over a period of three weeks, the two later plantings furnishing 126 roasting ears, through a season of about seven weeks.

The tomatoes planted were of the variety Beefsteak, large and solid. The first ripe fruits were picked on July 18th. At one time the seven vines were set with over two hundred fruits, and from their first bearing until the end of the season, with the frost in October, they furnished an ample supply for the table, as well as an abundance for making catsup, Chili sauce, etc.

As for the cost of the garden, less than one dollar covered the entire cash outlay for seeds, etc. A single packet of nitro-culture sufficed for treating all the seed beans, and this cost twenty-five cents. The manure cost nothing; spade, mattock, hoe and rake were already on hand; therefore, the total cash outlay involved in making this experiment in "intensive farming" was only \$1.15. Close account was kept of all vegetables used, the market price of the produce at the time being set down, and by the end of the season the city backyard, that had been considered too small for anything larger than a flower bed, had produced, according to the actual market prices, \$14.52 of the finest of home-grown vegetables.

I made a comparison of treated and untreated beans, and am entirely satisfied that nitro-culture increased the yield. The soil was prepared in precisely the same manner in all cases, and the beans were all weeded, hoed and watered exactly the same. From the 7-foot row of Kentucky Wonder beside the porch (given the treatment), we gathered five times the quantity of beans plucked from the untreated 9-foot row. The vines, too, made a growth of from two to five feet greater length. I also treated our sweet peas, and in the entire neighborhood ours were the only ones which were a success, flowering until September and being nearly seven feet in height. The soil is a tough, hard, almost unworkable yellow clay, that must be cut up with sand and fertilized until there is little of the original soil left.

Indiana.

ROBERT DALE.

Vaughan's Vest Pocket Calendar and Memorandum Book

For every day in the year, a week to every page, and carefully prepared "Hints on Garden Work" for every week, timely, correct and suggestive.

Bound in linen, 90 pages. The most valuable compilation of useful suggestions to the country gentleman and private gardener ever printed. It contains tables, rules, weather maps, etc., etc. Invaluable in every rural home.

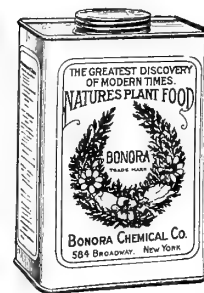
Price 25 cents with Catalogue for 1907 (30th Annual Edition), A Mirror of American Horticulture, and a coupon entitling you to 25 cents' worth of packet seeds free when returned with any order made up from our New Catalogue. Write now.

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Cuts from both sides of limb and does not bruise the bark.

We pay Express charges on all orders.

Write for circular and prices.

RHODES MFG. CO.

Grand Rapids, Mich.

Nature's Two Unique and Wonderful "New Creations" in Bush Limas!



Nature has surely surpassed herself! In a single season she has outstripped all efforts of man. In fact, such distinct new types have never even been dreamed of before!

Look at the illustrations shown of the BURPEE-IMPROVED and FORDHOOK BUSH LIMAS, recall to mind the largest and best pods of Lima Beans you have ever seen, and you must agree with us that this is a **most remarkable find**. To learn just what they really are and how they were discovered, kindly study *pages 10 to 15* of THE FARM ANNUAL FOR 1907. These two most unique new Bush Limas will be worth many thousands of dollars annually to the gardeners of America. They are undoubtedly the "*Greatest Novelties of the Age.*"

The Burpee-Improved is an entirely "**New Creation.**" The pods are truly enormous in size, borne in great abundance upon bushes two and one-half feet high by two feet across. The beans are both larger and thicker than those of the popular *Burpee's Bush Lima* or any strain of the large White Pole Lima.

Fordhook Bush Lima. This is altogether *unique*. Nothing like it has ever been seen before. It is the first and *only* stiffly erect Bush form of the fat "Potato Lima." Both pods and beans are twice the size of *Dreer's* and more than half again as large as the *Challenger Pole Lima*.

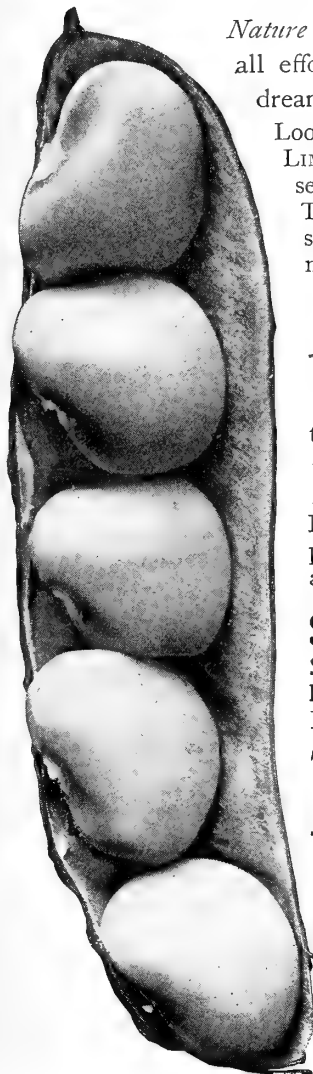
\$1115.00 in Cash Prizes for 1907. With one prize of **\$150.00**, several of **\$50.00** each, we will pay a total of **\$1115.00** on these **Two New Bush Limas**. For particulars, see *page 28* and *page 199* of BURPEE'S FARM ANNUAL FOR 1907.

These Bush Limas are sold only in scaled packets. Each packet contains twelve perfect hand-picked beans. **Per pkt. 25 cts.; 5 pkts. (assorted as desired) for \$1.00, postpaid.**

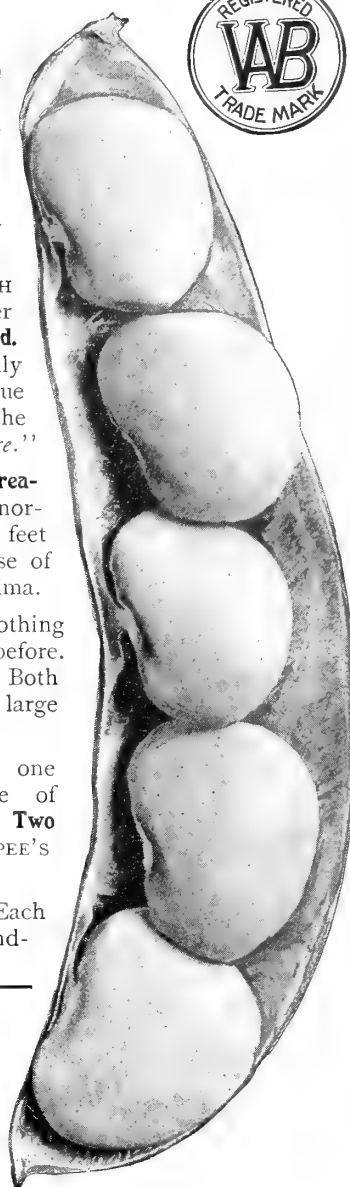
Burpee's Farm Annual for 1907. "The Leading American Seed Catalog."

The "*Silent Salesman*" of the world's largest mail-order seed trade. An Elegant New Book of **200 pages** with hundreds of illustrations from photographs, it tells only the plain truth about the very best **Seeds that Grow.**

It describes Grand Novelties in Flowers and Vegetables, of unusual importance, which cannot be obtained elsewhere. If interested, **write to-day,—name this publication,—**and the book is yours.



NEW "FORDHOOK" BUSH LIMAS,—Life-Size Pod.



BURPEE-IMPROVED BUSH LIMAS,—Life-Size Pod.

"Five Finest" New Flowers.

For 25 Cts. we will mail,—as a special advertising offer,—one regular *fifteen-cent* packet each of the charming VARIEGATED QUEEN TALL NASTURTIUM, the first of Burpee's New "Royal-Race" of Variegated-Leaved Tall Nasturtiums,—BURBANK'S NEW CRIMSON-FLOWERING ESCHSCHOLTZIA,—BURPEE'S HERCULES GIANT PANSIES,—the gigantic orchid-flowered new pink FLORENCE SPENCER, and the richest colored EVELYN BYATT SWEET PEA. Purchased separately these five packets *would cost seventy-five cents.* **All five mailed for 25 cts.; or five assortments (in all 25 packets) for \$1.00,—**mailed to separate addresses if requested.

Four Advance Novelties for 1908 Given Free!

To every one who orders *direct from this advertisement*, we will present **Free**,—if asked for,—*any one* with a 50c. order, *any two* with a dollar order, or all four with an order for \$2.00. These Novelties, not yet cataloged by us, but on which we offer Cash Prizes for advance trials, are: *New American Dwarf Bush Nasturtium*, "*Ashes of Roses*,"—*The New English "Beacon" Sweet Pea*,—*New American Thick-Leaved Gigantic Mustard*, and a *New Early Hard-Head Butter Lettuce* from



Germany. Be sure to ask for our complete catalog.

W. ATLEE BURPEE & Co., Seed Growers, BURPEE BUILDING PHILADELPHIA, PA., U. S. A.

One Man Does It

Compare the one-man-one-hammer way of laying REX Flintkote ROOFING with the crew of skilled laborers and apparatus necessary to lay any other kind of roof.

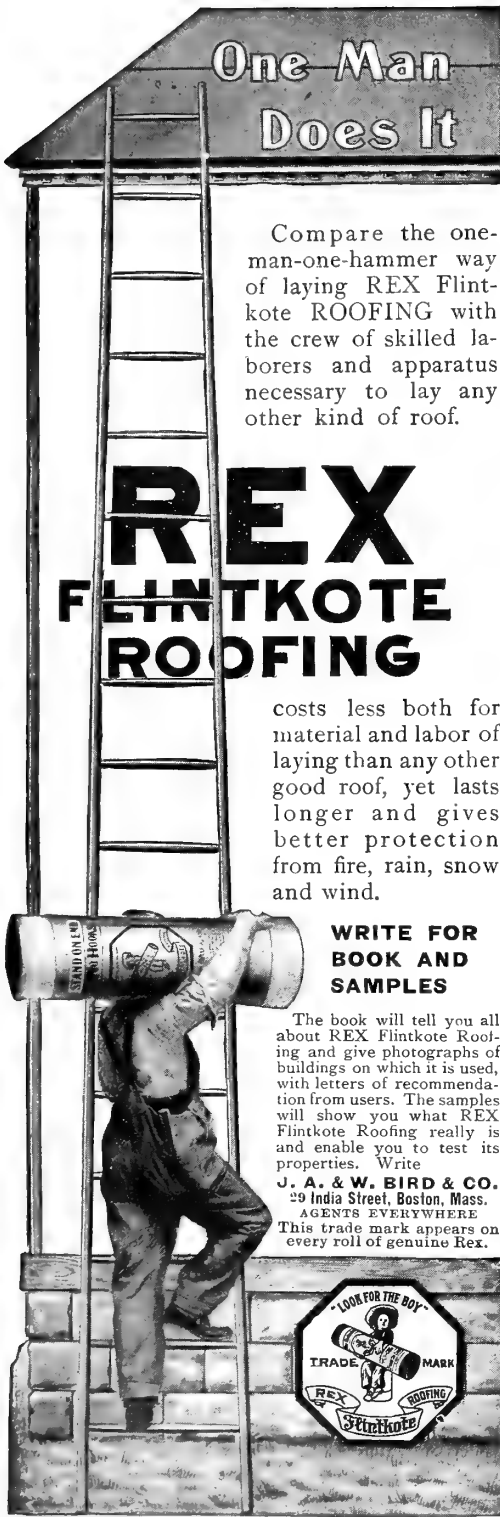

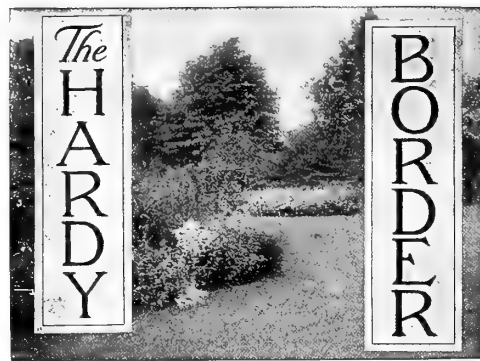
REX
FLINTKOTE
ROOFING

costs less both for material and labor of laying than any other good roof, yet lasts longer and gives better protection from fire, rain, snow and wind.

WRITE FOR BOOK AND SAMPLES

The book will tell you all about REX Flintkote Roofing and give photographs of buildings on which it is used, with letters of recommendation from users. The samples will show you what REX Flintkote Roofing really is and enable you to test its properties. Write

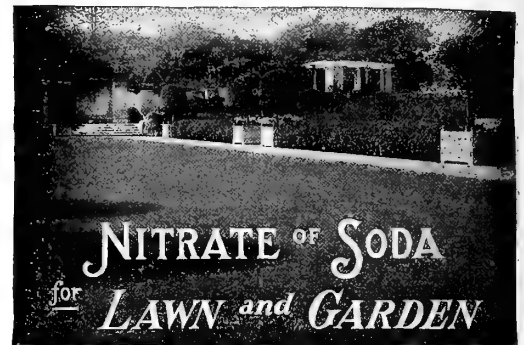
J. A. & W. BIRD & CO.
29 India Street, Boston, Mass.
AGENTS EVERYWHERE
This trade mark appears on every roll of genuine Rex.

Hardy Red-flowered Plants

There is a host of red flowers from which a selection may be made to follow out the scheme of an entirely red garden suggested by Mrs. Albee's article on page 16. The plants in the following list have been tested and may be relied upon to give results in the months named.

COMMON NAME	SCIENTIFIC NAME	HEIGHT IN FEET
FLOWERING IN APRIL		
False water cress	<i>Aubretia deltoidea</i> , var. <i>Leichtlini</i> (A. <i>Leichtlini</i>)	1 1/2
FLOWERING IN MAY		
Columbine	<i>Aquilegia Canadensis</i>	2
Japanese quince	<i>Cydonia Japonica</i>	2
Maltese cross	<i>Lychnis Chalcedonica</i>	2
FLOWERING IN JUNE		
Red valerian	<i>Centranthus ruber</i>	2 1/2
Sweet William	<i>Dianthus barbatus</i> , var. <i>sanguineus</i>	2
Red Chinese pink	<i>Dianthus Chinensis</i> , var. <i>Heddeiwiggi</i> (D. <i>Heddeiwiggi</i> , var. <i>atropurpureus</i>)	1 1/2
Foxglove	<i>Digitalis purpurea</i> , var. <i>gloxinioides</i>	4
Fall dandelion	<i>Leontodon autumnale</i>	1
Scarlet flax	<i>Linum grandiflorum</i> , var. <i>rubrum</i>	2
Woodbine	<i>Lonicera Periclymenum</i> , var. <i>Belgica</i> (L. <i>Belgica</i>)	8
Victoria stock	<i>Matthiola incana</i> , var. <i>annua</i>	1
Agida peony	<i>Peonia officinalis</i>	2
Oriental poppy	<i>Papaver orientale</i>	2
Shirley poppy	<i>Papaver Rheas</i> , var. <i>Shirley</i>	1 1/2
Hybrid potentilla	<i>Potentilla Mars</i>	1 1/2
Rugosa rose	<i>Rosa rugosa</i> , var. <i>rubra</i>	4
FLOWERING IN JULY		
Pheasant's eye	<i>Adonis aestivalis</i>	1
Pheasant's eye	<i>Alonsoa incisifolia</i> , var. <i>Warszewiczii</i> (A. <i>grandiflora</i>)	1
Prince's feather	<i>Amarantus hypochondriacus</i> (A. <i>cruentas</i>)	1
Poppy mallow	<i>Callirhoe involucreta</i> , var. <i>lineariloba</i>	1
China aster	<i>Callistephus hortensis</i>	2
President Cleveland canna	<i>Canna Indica</i>	3
Clematis	<i>Clematis Villa de Lyon</i>	4
Early hybrid cosmos	<i>Cosmos bipinnata</i> , var.	4
Red larkspur	<i>Delphinium nudicale</i>	2
Tassel flower	<i>Emilia flammea</i> (C. <i>calia coccinea</i>)	1 1/2
Avens	<i>Geum Chilensis</i>	1 1/2
Collomia	<i>Gilia coccinea</i> (Collomia <i>coccinea</i>)	1
Coral bells	<i>Heuchera sanguinea</i>	1
Royal balsam	<i>Impatiens Balsamina</i>	2
Phyllis Unwin sweet pea	<i>Lathyrus odoratus</i>	



NITRATE OF SODA
for **LAWN and GARDEN**

NO FORM OF NITROGEN is so quickly available, or so positive in its results for the vegetable garden, on the lawn, for shrubbery or trees as a top dressing of

NITRATE OF SODA

(THE STANDARD FERTILIZER)

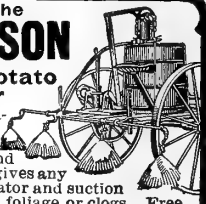
Send your name and address on **Post-Card** and we will send you, as long as the edition lasts,

"Food for Plants"

a most valuable book of 237 pages, dealing with the use of Nitrate of Soda as a fertilizer, giving detailed information covering a list of trials at Agricultural Experiment Stations throughout the United States and on all sorts of crops. Mention magazine in which this advertisement is seen, and address

WILLIAM S. MYERS, Director
John Street and 71 Nassau St., New York, N. Y.
Please apply by Post Card

SPRAY WATSON The
Four Row Potato Sprayer



Covers 30 to 40 acres per day. Straddles 2 rows, sprays 4 at a time. Wheels adjust for different widths. Sprays to any fineness and gearing of pump to wheel of cart gives any pressure desired. Automatic agitator and suction strainer cleaner. It never spoils foliage or clogs. Free instruction and formula book shows the famous Garfield, Empire King, Orchard Monarch and other sprayers. Write for it.

FIELD FORCE PUMP CO., 48 11TH STREET, ELMIRA, N. Y.

The "Apollo" Sweeper

is the ideal machine for sweeping Lawns, Porches, Sidewalks, Pavements, Barn Floors, Factories, Warehouses, etc. Write for illustrated Booklet.

THE GREEN MFG. CO.
54 SYCAMORE ST. SPRINGFIELD, OHIO

Advice on What to Plant and Where to Plant It

FRANK HAMILTON
Landscape Gardener

Bryant Building, 55 Liberty Street, New York
Tel. 1286 Cortlandt

SUN-DIALS

with or without PEDESTALS

Send for Illustrated Price List

Hartmann Bros. Mfg. Co.
New York Office, 1123 Broadway Mt. Vernon, N. Y.



Horsford's Hardy Ferns

for out door culture

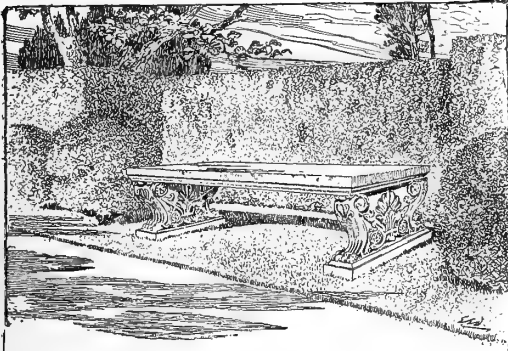
Have you tried to grow hardy ferns? There is nothing more decorative than they in the right places and you can grow them where few other plants would live. My new catalogue offers the best of the hardy kinds which can be relied on in cold winters. It also offers a long list of plants, shrubs, trees, etc., which should interest those who grow such. Ask for it.

FREDK H. HORSFORD, Charlotte, Vt.

AN abundance of fruit of highest quality, finely colored and flavored, is the direct result of supplying a complete fertilizer containing from 7 to 12 per cent. of POTASH to the tree, vine or bush.

"Plant Food" is a book well worth a place in the library of any fruit grower. We will gladly mail it to all applicants.

GERMAN KALI WORKS
93 Nassau Street, New York



GARDEN FURNITURE

How much the addition of a stone bench means to the furnishing of the garden. It shows distinction, taste and refinement.

We would be pleased to send you our collection of sketches upon request.

WELL HEADS—SUN DIALS—VASES
IN MARBLE, STONE AND BRONZE.

LELAND & HALL CO.

557 FIFTH AVENUE NEW YORK



Miss Lois L. Howe, Architect, Boston

Plenty of Evidence

can be furnished to prove the artistic, durable, and economical character of

Cabot's Shingle Stains

"Five years ago this month I had my house stained with your moss-green and ruby-red shingle (creosote) stains, and it looks almost as well to-day as then. . . . House was stained in April, 1900—never touched since." Englewood, N. J., April 22, 1905. WILLARD SMITH.

"April 23, 1903, I bought No. 302 green shingle stain from you, which we used on a new residence. . . . Same has proved very satisfactory, and I now want to place an order for three barrels of this same No. 302 creosote shingle stain for a new property which I am now building." Billings, Mont., June 1, 1905. AUSTIN NORTH.

East or West, North or South, the only reliable, guaranteed wood-preserving stains.

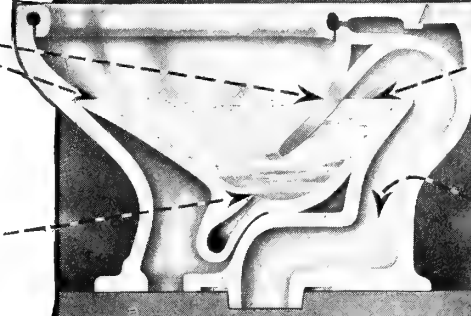
Stained wood samples, catalogue and color-chart, free.

SAMUEL CABOT, 1 Oliver St., Boston, Mass.
Agents at all central points.

What to Demand in a Closet

Absolute cleanliness assured by water capacity and width of water surface in bowl.

Water jet at bottom of bowl, which cleanses inside of trap and insures bowl being absolutely washed out.



Water seal of unusual depth, making escape of sewer gas impossible.

Vacuum chamber into which entire contents of bowl are drawn by syphonic action.

To know what a closet should be to be safe, study the sectional view showing the principle and action of the SY-CLO Closet. If your closet is not self-cleaning, odorless, positive in its action when flushed, replace it with the SY-CLO Closet,—“the closet of health.”

The SY-CLO Closet overcomes the offensive and dangerous faults of the common closet of the wash out variety by its syphonic action. In addition to a copious flush of water from above, a powerful jet of water enters at the bottom of the bowl. This starts the flow of water over the retaining rim into the soil pipe, where a vacuum, or suction is formed, into which the entire contents of the bowl are drawn. If your closet merely empties without thoroughly washing the bowl, replace it with the

SY-CLO

TRADE MARK

The SY-CLO Closet as shown by the illustration of the sectional view, is formed in a single piece—fine hand moulded china—without a crack or crevice where impurity can lodge. Unaffected by water, acid or wear. No enamel to chip or crack. If your closet is different in any respect, it is unsafe. Replace it with the SY-CLO.

The name “SY-CLO” on a closet guarantees that it is made under the direction and supervision of the Potteries Selling Company, of the best materials, and with the aid of the best engineering skill, and has the united endorsement of eighteen of the leading potteries of America.

FREE.—Send us the name of your plumber, and we will send you a valuable booklet—“Household Health.” It will tell you how to be certain of the sanitation of your home, and may explain the cause of past illnesses you have never understood.

Lavatories of every size and design made of the same material as the SY-CLO Closet.

POTTERIES SELLING CO., Trenton, N. J.

PENNY WISE POUND FOOLISH

PARSIMONY IN PAINT is expensive economy. Paint costs little but preserves materials that cost much. The loss from decay that can be prevented by timely use of paint can never be made good—which means, *it pays to use paint freely.* And when you use paint let it be the kind that looks best and protects longest, that is paint containing an adequate proportion of **OXIDE OF ZINC.** Our pamphlet, “PAINT: WHY, HOW AND WHEN,” (free to property owners) explains the matter.

THE NEW JERSEY ZINC CO.
71 Broadway, New York

We do not grind zinc in oil.

A list of manufacturers of zinc paints sent on application.

All the plates used in

THE GARDEN MAGAZINE

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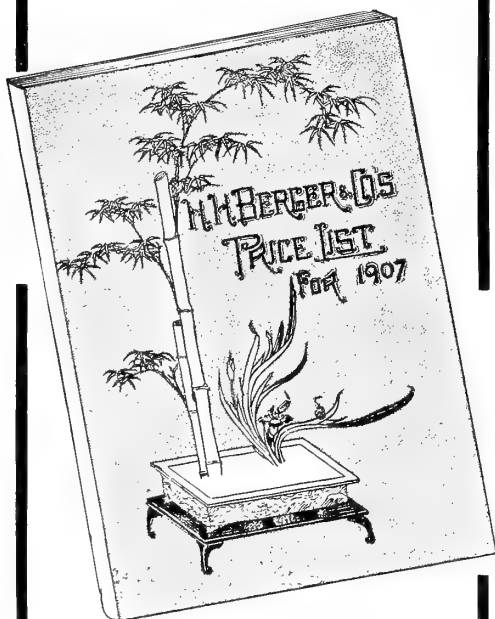
The **GILL** Engraving
Company

140 Fifth Avenue New York

Every Lover of Flowers Should Have This Catalogue

☐ The *outside* of this new Spring Catalogue will be plain, as the illustration shows, but the *inside* will be full of valuable information and cultural directions.

☐ It contains full list of Seeds, Bulbs, Plants, Hardy Perennials and Novelties in Seeds that make your garden



more interesting and beautiful than it ever has been before.

☐ SPECIALTIES in imports from Japan, which we have handled for 30 years: Iris Kämpferi, Pæonias, Azaleas, Rare Shrubs and Trees, Dwarf Plants, Bamboo and Materials for Japanese gardens.

☐ Our December and January offers in GARDEN MAGAZINE hold good for February. *Send for Catalogue NOW*



H. H. Berger & Co.
47 Barclay St. - New York
Established 1878

Catchfly	<i>Lychnis Viscaria</i> , var. <i>splendens</i> (<i>Viscaria cardinalis</i>)	1
Spiked loosestrife	<i>Lythrum salicaria</i> , var. <i>roseum superbum</i>	3
Beebalm	<i>Monarda didyma</i>	3
Sweet scabious	<i>Scabiosa atropurpurea</i>	2½
Spirea	<i>Spiraea superba</i>	3
Trumpet vine	<i>Tecoma radicans</i> (<i>Bignonia radicans</i>)	15
Defiance verbena	<i>Verbena hybrida</i>	2
Curled and crested zinnia	<i>Zinnia elegans</i>	2
FLOWERING IN AUGUST		
Sweet-scented shrub	<i>Calycanthus floridus</i>	4
William Agnew dahlia	<i>Dahlia rosea</i>	
Blanket flower	<i>Gaillardia amblyodon</i>	2
President Carnot gladiolus	<i>Gladiolus</i>	2
Cypress vine	<i>Ipomoea Quamoclit</i>	5
Marvel of Peru	<i>Mirabilis Jalapa</i>	2
Blazing star	<i>Liatris scariosa</i>	2
Defiance phlox	<i>Phlox paniculata</i>	4
Smoke bush	<i>Rhus Cotinus</i>	8
Salpiglossis	<i>Salpiglossis sinuata</i>	3
FLOWERING IN OCTOBER		
Pompon chrysanthemum	<i>Chrysanthemum Indicum</i>	2



The Californian's Reminder

This is the best month of the year for general garden planting.

Plant out citrus trees, loquats, all fruits, ornamental trees and plants native to semi-tropical or tropical climates.

Manure lawns and turn up soil for new lawns, to get it aerated.

Plant out first lot of gladiolus.

Fertilize and cultivate roses and remove the weak wood.

Put out cabbage and cauliflower plants, and roots of asparagus and horseradish.

Sow beans, peas, rhubarb, tomatoes and turnips.

Plant potatoes: Early Rose and Six Weeks' Market for early; Burbank for late.

If you have no onions, plant at once: New Queen for early white, White Portugal for later, and Yellow Danvers and Australian Brown for dark-skinned; the latter is the best keeper of all onions.

Los Angeles. ERNEST BRAUNTON.

The New Way to Plant Crocuses

THE most delightful way to plant crocuses is to scatter them in the lawn, instead of having them in the garden where they come up out of bare earth. They are the first spring flowers that have good size, and good colors, and good cheer. The cheapest bulbs for lawn planting cost \$3.00 to \$3.50 per thousand mixed, but you can get much better effects by buying separate colors, which only cost a dollar more. Then you can control your purples and yellows, which sometimes conflict in mixtures.

YOU HAVE NEVER ENJOYED
as Good a Glass of CHOCOLATE SODA
HOT or COLD
as at the fountains of our
35 RETAIL STORES



THROUGHOUT THE
STATES & CANADA
or at our authorized Sales Agents
IN PRINCIPAL CITIES
*Where you have seen Bear Signs
and Bear Statues displayed.*

You remember that
DELICIOUS CHOCOLATE FLAVOR?
WHY NOT ENJOY IT IN YOUR OWN HOME
BY ORDERING A CAN OF
Stuyler's
BREAKFAST COCOA
AT OUR
Stores, Sales Agents or from your Grocer.

Most makers of lamp-chimneys don't mark their wares—possibly they are ashamed to.

If I didn't make as good chimneys as I do, I wouldn't mark mine either.

I mark mine "MACBETH"—my own name—because I am proud to be known by them.

My Index—it's free—tells other reasons why my lamp-chimneys are marked and why I am proud to put my name on them. May I send it to you? Address,

MACBETH, Pittsburgh.

QUALITY SEEDS, BULBS, PLANTS

Send for Catalogue.

ARTHUR T. BODDINGTON

342 West 14th St., New York.



Jewell Seeds and Trees

1200 acre nursery and seed farm, founded at Lake City in 1868 by Dr. P. A. Jewell. Send postal card for Free 132-page catalog of Seeds, Plants, Trees, Roses, Evergreens, etc. We grow only Hardy varieties suited to the North.

The Jewell Nurseries

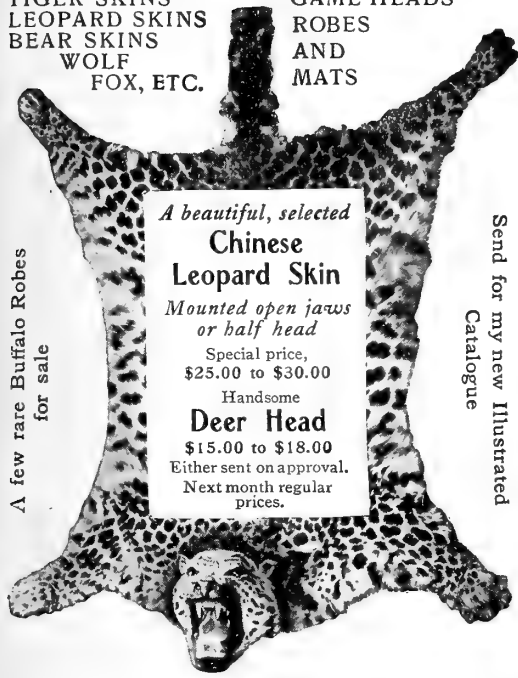
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TIGER SKINS
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BEAR SKINS
WOLF
FOX, ETC.

GAME HEADS
ROBES
AND
MATS

A few rare Buffalo Robes
for sale





A beautiful, selected
**Chinese
Leopard Skin**
Mounted open jaws
or half head
Special price,
\$25.00 to \$30.00
Handsome
Deer Head
\$15.00 to \$18.00
Either sent on approval.
Next month regular
prices.

Send for my new Illustrated
Catalogue

FRANKLIN C. JONES, Importer
174 FEDERAL STREET, BOSTON, MASS.

UBET I KILL
MICE

Exterminates field mice, house mice, and other rodents in houses, greenhouses, hotbeds, barns and stables. Package (containing enough Ubet I kill to kill 1,000 mice) 60 cents, carriage paid.
STUMPP & WALTER CO., Distributing Agents
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MADE BY
J. D. AUG. HARTZ
COLLEGE POINT, QUEENS BOROUGH, NEW YORK

BERRY PLANTS



We are headquarters for plants of the new "Oswego" strawberry and 50 other best new and old varieties. Also the "Plum Farmer" raspberry and other desirable kinds of Raspberries, Blackberries and other Fruit Plants, etc. 23 years' experience. Highest awards at World's Fair. We invite correspondence. Catalog free.
L. J. FARMER, Box 729, Pulaski, N.Y.

Would You Like a Few Dollars?

I WANT EVERY PERSON who is interested in any sort of gardening, or who has any ground about his or her home to know what THE GARDEN MAGAZINE really is.

WILL YOU HELP ME in this work, which will take very little of your time and will pay you well? You cannot make a fortune at it, but you can make a few dollars just as easily as not. Also, if you can give me some information I want, you can earn several dollars' worth of our books in a few minutes, without stepping outside your house.

THIS IS NOT A CANVASSING PROPOSITION, and only the first person heard from in any locality will be able to take advantage of it. BE THE FIRST IN YOUR LOCALITY. Let me hear from you TO-DAY on a postal card, and I will tell you what I want to know. Do it to-day. Address

**CIRCULATION MANAGER
GARDEN MAGAZINE**
188 East 16th St. New York City

For House Plants or Chicken Lice

*SOLD BY SEEDSMEN
25 YEARS*

This picture represents a perforated top carton of Hammond's Slug Shot, sold all over America by the seed dealers and many merchants who deal in seeds.

For house plants or dusting on chickens to destroy lice, it is safe and effective.

For free pamphlets on "Bugs and Blights," worth having, write to

**Fishkill-on-Hudson
New York**



AN INFALLIBLE INSECTICIDE
Hammond's Slug Shot
DESTROYS ALL INSECTS INJURIOUS TO
House and Garden Plants, Shrubs, Trees, Vines, Potatoes, Cabbage, Currants, Vegetables and Fruits of all kinds.

Directions for use:—Dust the powder lightly over the plant, so as to cover every part of them. One application is generally sufficient, but if a new brood appears repeat the operation, though injurious to insects, does not injure the foliage and acts in some measures as a repellent.

SLUG SHOT is also sold in packages of from five packages a barrel for use in the field and orchard, and is the trade generally. Giving full information many testimonials as to efficiency, mailed on application.

HAMMOND'S SLUG-SHOT
I SLAY BUGS
1880
KILLS INSECTS, SAVES FOLIAGE.

Hammond's Slug Shot Works
FISHKILL-ON-HUDSON, N. Y.

Thorburn's Seeds

YOU can order from our Catalogue with great saving of time because it is arranged in **Alphabetical order**, as heretofore, and each article is numbered. In ordering, therefore, numbers only need be given. It contains **142 large size pages beautifully illustrated** and is sent **free on receipt of postal**.

Grass seed mixtures for Golf Links, Tennis Courts, Polo Grounds, Lawns, etc., one of our specialties.

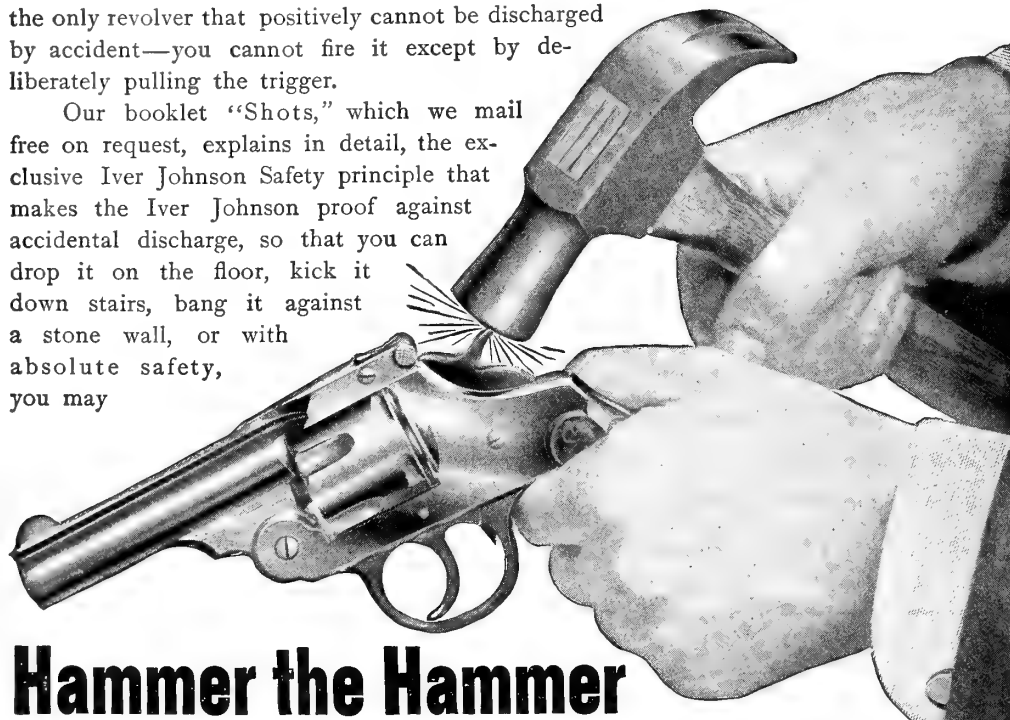
We import every year large quantities of all the natural grasses, of the highest possible grade.

J. M. THORBURN & CO.,
33 Barclay St., through to 38 Park Place, New York
Everything of the Highest Grade.

The IVER JOHNSON Revolver has now reached a sale equal to all other American makes combined.

A success like this does not merely happen. It is won by exclusive features of excellence or a superior average of quality. The Iver Johnson has both. It is the only revolver that positively cannot be discharged by accident—you cannot fire it except by deliberately pulling the trigger.

Our booklet "Shots," which we mail free on request, explains in detail, the exclusive Iver Johnson Safety principle that makes the Iver Johnson proof against accidental discharge, so that you can drop it on the floor, kick it down stairs, bang it against a stone wall, or with absolute safety, you may



Hammer the Hammer

But this is only part of the Iver Johnson story, the biggest part is that which the revolver tells best itself—high quality of material and workmanship in every detail, faithful and sure discharge, straight, hard shooting, beauty and graceful design. Compactness of structure, easy to handle—just the weapon for a gentleman's pocket, bureau, or desk. It may be purchased for home use without fear—the ladies of the home find in it a real protection against intrusion and have no fear of accidental discharge with it "about the house."

Iver Johnson Safety Hammer Revolver

3-inch barrel, nickel-plated finish, 22 rim fire cartridge, 32-38 center fire cartridge - - **\$5.00**

These revolvers can be fitted, at extra prices, as follows: Blued finish, 50 cents; two-inch barrels, no additional charge; four-inch barrel, 50 cents; five-inch barrel, \$1.00; six-inch barrel, \$1.50. Pearl stocks, 22-32 caliber, \$1.25; 38 caliber, \$1.50. Ivory stocks, 22-32 caliber, \$2.50; 38 caliber, \$3.00.

Iver Johnson Safety Hammerless Revolver

3-inch barrel, nickel-plated finish, 32-38 center fire cartridge - - **\$6.00**



For sale by Hardware and Sporting Goods dealers everywhere, or will be sent prepaid on receipt of price if your dealer will not supply. Look for the owl's head on the grip and our name on the barrel.

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 Makers of Iver Johnson Truss Frame Bicycles and Single-Barrel Shotguns



The Southerner's Reminder

In the latitude of Richmond sow in hotbeds the tender vegetables, e. g., tomatoes, eggplants and peppers.

Sow in coldframes lettuce and radishes for use in March; beets for April; early cabbages, cauliflowers and onions for May.

Sow outdoors in late February, if favorable, the earliest varieties of the hardiest vegetables. Under favorable conditions you can have ready for the table in March radishes, spinach, peas, parsley and beets, these being named in the order of their maturity. Also you will have plants of celery, kale, carrot and other plants requiring a long season of growth, to transplant or thin in March, when shiftless people are just beginning to think of sowing seeds.

Sow seeds of Georgia collards so that they will mature before the summer's drought sets in.

Set out asparagus roots, onion sets, horse-radish roots, and a few lettuce plants. Also plant an early variety of potatoes.

Sow lawn-grass seed. Bermuda grass is best, as it can withstand the summer's heat.

Start flower seeds in boxes in the window.

In the latitude of New Orleans sow outdoors by the middle of the month, sweet corn and Early Mohawk beans; at the end of the month, Early Valentine. If frost threatens the bean seedlings, cover them an inch deep with soil, by means of the hand-cultivator. To prevent their being washed away by heavy rains plant beans on slight elevations.

Sow in coldframes tomatoes, eggplants and peppers.

Sow on sods cucumbers, melons and okra. Cover them on cold nights with boxes or canvas, and in March you can set the young plants in their permanent quarters without any set-back.

Plant the main crop varieties of Irish potatoes.

Make a canvas-covered bed for propagating sweet potatoes, or plant a row of whole tubers for "draws" and vines.

Set out small pieces of Bermuda grass a foot apart, to make a lawn.

Dig up and divide dahlia and canna roots as soon as the growth begins. Dahlia roots without eyes will never sprout.

Plant one-third of your gladiolus and tuberose bulbs; another third in March; the remainder in April.

Sow seeds of tender annuals and perennials in coldframes, for protection against heavy rains, e. g., castor oil beans, China asters, heliotropes, lobelias, petunias, scarlet sage and verberna.

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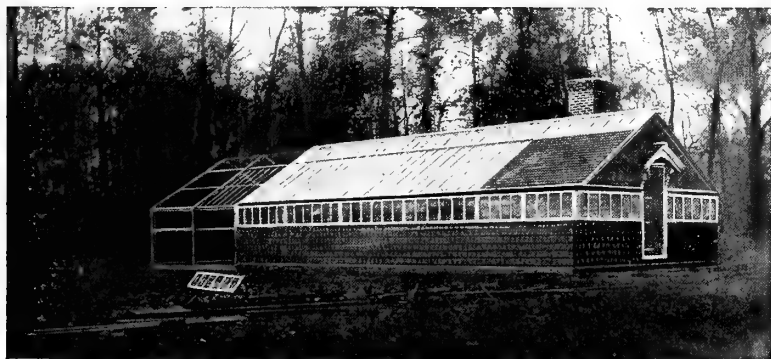
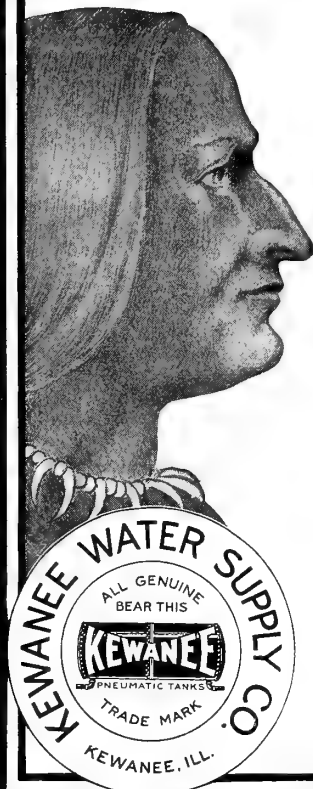
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Greenhouse Designers and Builders
Manufacturers of Heating and Ventilating Apparatus
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A Concrete Residence at Woodmere, L. I.

"Concrete Country Residences" is the title of a new book just published by The Atlas Portland Cement Company. This book contains about 90 photographs and floor plans illustrating numerous styles of concrete houses, and should be of great value to those who are about to build. It has been collated for the purpose of showing prospective house builders the many advantages to be derived from a concrete dwelling. A copy of this book (size 10 x 12 inches) will be sent, charges paid, upon receipt of \$1.00.

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AILSA CRAIG ONION the largest mild onion, compared in size to Yellow Globe Danvers. This is the largest of all the large, sweet, mild onions. 12 bulbs have been known to weigh 30 pounds. This class of onions is planted January 15th to February 15th in hot beds and transplanted in March and April to the field. They grow three and four times the size of field planted varieties. Ailsa Craig is the finest of this class. Pkt., 15 cts.; 2 for 25 cts.; oz. 35 cts.

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FOR \$1.00 BY MAIL POSTPAID

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This offer holds good only till March 1st, and orders must be in by that time, but we will hold the plants for you and ship any time up to April 10.

The 12 best varieties of hardy garden roses ever grown in strong two-year old plants by express for \$4.50, or mailing size, postpaid, for \$1.50. Varieties as follows: Killarney, Etoile de France, Cardinal, Gen. McArthur, Baby Rambler, Winnie Davis, Sou de Pierre Notting, Caroline Festout, Climbing Kaiserine, Helen Gould, White Cochet, Pink Cochet.

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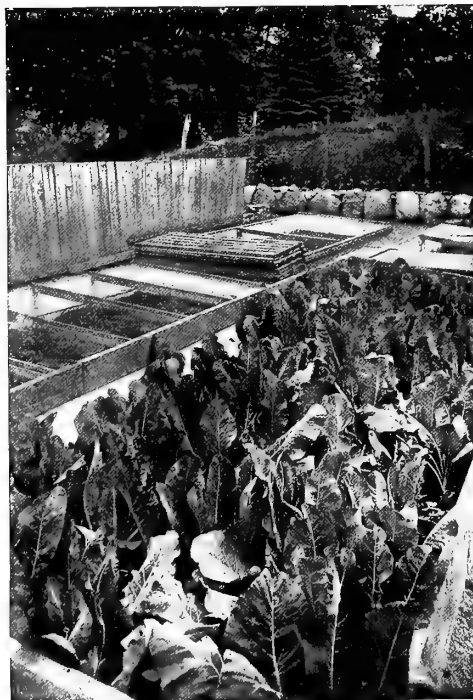
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Start Early Vegetables at Once

BY SOWING seeds in late January or early February, fresh home-grown vegetables may be had in the late spring or early summer, while the price at the green-grocers' is still very high. Beets, cauliflower, lettuce, string beans, etc., may be started, either in the small greenhouse or window, and later transferred to hotbeds or coldframe.

Sow beet seeds in a flat (a convenient size is ten inches wide, twenty-four inches long and four inches deep, with three to five holes in the bottom for drainage), put about half



Coldframes require no artificial heat, yet in them there may be grown garden delicacies which may be had far in advance of the regular season

an inch of rough sod or crocks on the bottom, and about three inches of soil, then level the surface and firm well. Any ordinary potting soil will do, provided it is not too rich. Sow the seeds, either in shallow drills made with the forefinger, or broadcast, moderately thick, covering with about an inch of soil. Firm well with a piece of board, water to settle the soil, and place in a light position in a temperature of 50° to 55°. Cover the flat with a sheet of glass during the daytime, but remove it at night, to prevent the seedlings from "damping off." When the seedlings appear above the ground, keep the soil rather dry, and, as the plants grow,

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Special Introductory Offer

\$2.50 Garden Box for \$2.00

WHAT THE BOX CONTAINS:

One Pint Package Flowerlover's Sweet Peas.
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A Dozen Packages Ten-cent Specialties, among the finest of my well known Flowerlover's mixtures—Adams Extra Asters, Early Hybrid Cosmos, New England grown seed; Everlasting flowers, always interesting; Foxgloves, the newest strains; Everblooming Hollyhocks; Japanese Flower Garden, mixed; all the nose-herbs that Shakespeare writes about, mixed; Old Fashioned Hardy Flowers, the Old Garden Favorites, mixed; Pansies, Butterfly, Parisian, etc., the newest sorts, mixed; Phlox Drummondii Grandiflora, extra mixed; Shirley Poppy, the daintiest garden annual, and Giant Zinnias.

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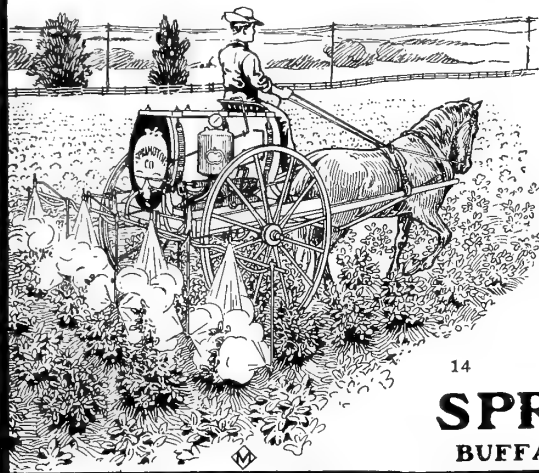
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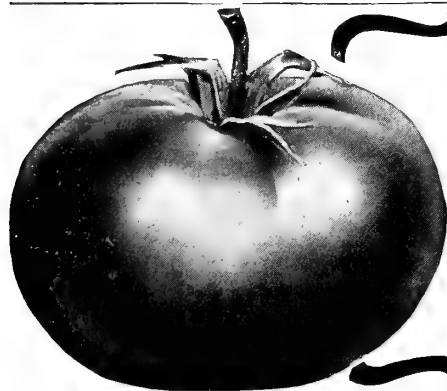
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As a wheel hoe it is a *No. 1 Iron Age* and cultivates any crop—used either as a single or double-wheel hoe. The only wheel hoe that combines these two forms.

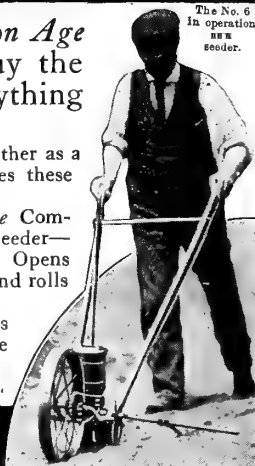
Add the seeder attachment and you have a *No. 6 Iron Age Combined Single and Double Wheel Hoe, Hill and Drill Seeder*—the most compact and useful garden tool ever invented. Opens the furrow, sows any seed in hills or drills, covers and rolls the ground and marks the next row all at one time.

Write for the *new 1907 Iron Age Book* that shows all the different *Iron Age* tools that save you time and lighten your labor.

Bateman Mfg. Co., Box C, Grenloch, N. J.



No. 1 Iron Age Combined Double and Single Wheel Hoe Hill and Drill Seeder.



The No. 6 in operation as a seeder.

IRON AGE IMPLEMENTS

give an abundance of air but avoid cold draughts. Keep the surface of the soil stirred.

By March 1st they will be ready to transplant in the coldframe. Set them in rows ten inches apart and the plants two inches apart in the row. Their after treatment consists in frequent stirring of the soil, good watering when needed, and ventilating on all favorable occasions. Beets grown this way may be had by May 1st, and the tops may be used for greens. Bassano is the earliest but some people object to its light color.

In order to get early lettuce, sow the seeds in flats or pans, barely covering the seed with soil; firm the earth well and water. After the plants have made their first true leaves, prick them out into 2-inch pots or transplant into other flats, putting them about three inches apart. Grow in a temperature of 50°-55°. Like the beets, lettuces may be transplanted to coldframes about the first week in March. Have a good rich soil and set the plants nine inches apart each way. Water freely at all times but be careful not to wet the lower leaves, and give plenty of air on all mild days. When the lettuces are heading, do not allow any water to lodge in the heart. The secret of good lettuce is growing it quickly, never letting it suffer a check from start to finish. It may be had in eight weeks.

String beans in April are a delicacy, but they may be had easily by sowing seeds early in February in well drained, 4-inch pots. Plant about five seeds to a pot, covering with half an inch of soil, and water sparingly until they germinate. Grow them along as quickly as possible in a night temperature of 55° or 60°. About March 15th transfer the plants to the frames, setting them about four inches apart and in rows which are one foot apart. When transplanting be careful not to break the ball for that will retard and perhaps seriously injure the plants. Air the frames very carefully each day but avoid cold draughts. If the nights are very cool, cover the frames with mats or shutters. Pay strict attention to watering, stir the surface of the soil frequently and keep a sharp lookout for mice, for they are very fond of beans. The two best early varieties are Triumph of the Frames and Early Mohawk.

By starting cauliflowers, as suggested for the beets, good heads may be had by the middle of May. After they have made their second pair of leaves, transplant into flats, placing the plants four inches apart, or put them into 3-inch pots. The latter way is best, as the cauliflower receives no check at planting time. Keep the plants growing rapidly and never let them suffer for want of water. About March 1st to 15th, transplant to the coldframe, placing the plants about twelve to fifteen inches apart each way in well prepared soil. A little commercial fertilizer strewn over the surface and well watered in will greatly assist the plants. When the heads are forming, break over them several of the outside leaves to keep the heads white. Early Snowball and Gilt Edge are among the best varieties for early forcing.

Yonkers, N. Y. GEORGE STANDEN.

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New, rare and old-fashioned kinds are found in our collection. During the shipping season, tens of thousands of rose plants can be seen in our store-houses, sometimes more than five hundred kinds.

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Our collection of these is conceded to be the most magnificent ever made in America. The kinds and varieties are all thoroughly tested and hardy. We dig these plants with a ball which is burlapped at the time of digging.

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Are growing by the thousands in our grounds. English and other hybrids. This stock looks so much at home that visitors frequently ask if they are in their native habitat.

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We have four thousand handsome specimens, including several hundred weeping trees, of this now the most popular Conifer ever introduced.

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Are now being used extensively in all kinds of effective planting. We have them in large variety.

7 **Flowering Shrubs**
Are seen in every garden, and no garden can be called a garden without them. Many acres are planted with upwards of three hundred and fifty varieties in our nurseries—kinds that grow everywhere.

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We have many thousands in a great variety which we have collected from all parts of the world. These very striking flowering plants are now being used in all kinds of planting and in gardens of every size.

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Are the most highly ornamental and popular flowering deciduous trees known. We have a large stock in many varieties. A *Magnolia Soulangera* tree, covered with delightful fragrant blooms in early spring, should be planted on every lawn.

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Is so well known that little need be said. The reader will no doubt look back to the old Boxwood bush or hedge at home, and, with some imagination, inhale that familiar and delicate aroma, which, once known, is never forgotten.

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This very attractive Japanese Barberry has become within the last few years one of the most useful of all shrubs. It is now being extensively used for low hedges and boundaries. We have thousands of plants growing in our Nurseries.

12 **Japanese Maples**
We have the finest lot in this country. Have with one bound jumped into popular favor on account of their proven extreme hardness and brilliant coloring of their foliage. We have thousands growing in our Nurseries, both in pots and open ground.

13 **California Privet**
For ornamental planting; clipped in shapes. Ball and Pyramidal forms are becoming very popular for effective planting. We have several thousands from which to select specimens to put in any location.

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14 **Shade Trees**
Are one of our greatest specialties. In addition to having large blocks of handsome straight-stem Norway Maples, Oriental Planes, Pin and Golden Oaks, we have a large quantity of other trees in great variety, that are particularly adapted for ornamental lawn and street planting.

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Are indispensable for covering verandas, walks, fences and unsightly places. Their graceful habit and infinite variety of beautiful flowers and foliage make them charmingly attractive all through the season. We grow large specimens in pots, of all the most popular kinds which can be planted from early spring until late fall.

16 **Hedge Plants**
We can supply all kinds generally used for this purpose. California Privet, the most called for, we have growing in large quantities. We can quote low prices for large plantings.

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IN TRAINED AND ORDINARY FORMS
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20 **Small Fruits**
Have a place in our Nurseries. Everybody having a small strip of land can grow these fruits. We offer a splendid assortment from which you can make your own selection.

21 **Bay Trees**
Were our first specialty and still remain at the head of the list. The illustrations on page 11 of our General Catalogue will give the reader an idea of the immense stock we usually have from which to select trees ordered by our patrons. Many times we have imported between one and two thousand trees at one time. We have upward of two thousand trees in our store-houses at this time.

22 **Old-fashioned Gardens**
The laying out and planting of these favorite old-time gardens is one of the specialties of our Landscape Department. The management of this department has made a life-long study of these popular plants, and knows the practical and artistic value of every plant, and so, as old fashions become new again, we gladly assist in the reinstatement of old-time hardy flowers, ornamental grasses and ferns.

23 **We have Bulbs and Roots**
For every place and purpose. Every flower garden can be enhanced in beauty by free use of Japanese Lilies, Gladioli, Tuberous-rooted Dahlias, Begonias, Tigridias and others.

BECAUSE

24 **Decorative and Flowering Plants**
Our 50,000 feet of greenhouses give us facilities for carrying a magnificent lot of plants for conservatory, dwelling and exterior decoration. The stock of Palms we offer this season has never been surpassed for beauty and perfection in this country. We wish to impress upon the reader that, while we are nurserymen, we are extensively in the florist business.

25 **Hardy Old-fashioned Flowers**
Of these we have the most complete collection in the country, having many acres of plants with hundreds of distinct attractive kinds for old-fashioned gardens, pond-side planting and plants for every position.

26 **Herbs, Kitchen and Salad Kinds**
On account of the constant demand for herbs for cooking and salads, we have raised a large quantity, in many varieties, for all purposes. These are listed in our General Catalogue.

27 **The Peony**
Is the recognized Queen of Hardy Flowers and cannot be surpassed in exquisite beauty and superior usefulness. Its marvelous range of color is infinite, running from the most delicate tints to the most attractive and gorgeous shades. Our immense collection, comprising the richest and most charming varieties, remains unequalled and cannot be fully appreciated unless viewed during the Flowering Season.

28 **Ivies, English and Irish**
Can be seen in our storehouses by the thousand; plants for covering banks and ground where other stock will not grow; also handsome specimen Pyramidal and Globe formed plants that can be used for Formal Gardens and decorative purposes.

29 **Large Leaf Evergreens**
English Laurel, Aucubas and other attractive kinds are features seen only at our Nurseries and which every visitor should not fail to inspect.

30
If you buy from us and want us to do the planting, we have a complete staff of foremen and planters to place at your command. This is important.

31
Increased space, increased facilities and increased stock are seen in every part of our Nurseries in readiness, earlier than ever before, to fill Spring orders promptly.

32
All of this material necessary to beautify the home grounds is growing and can be inspected in our Nurseries with quantities of other stock, and is described in our new General Illustrated Catalogue. Same will be mailed to serious inquirers.

Do not fail to visit us before deciding what class of material you intend to use.

33
Visitors are made welcome at our Nurseries, which are located only eight miles from New York City Hall. The macadamized roads are exceptionally fine leading to Rutherford; an automobile run to our Nurseries is frequently enjoyed by our visitors. Our Nurseries can be reached by electric cars from Hoboken, by taking the Christopher and Barclay Street Ferries, and by the main line of the Erie Railroad from New York City, Rutherford being the first station on the line.

BOBBINK & ATKINS, Nurserymen and Florists

RUTHERFORD, N. J.

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Ordinary barnyard manure is dangerous and a nuisance, because of weed seeds and abundance of refuse.

WIZARD BRAND Pulverized Sheep Manure

has 100 per cent. pure fertilizing strength and is absolutely free from foreign matter, weed seeds or waste. One barrel is equal, in fertilizing efficiency, to two wagon loads of barnyard manure, and is the most convenient of all fertilizers to handle.

Large barrel Wizard Brand Sheep Manure, with full instructions for applying, delivered, freight prepaid, anywhere in the United States east of Denver for \$4.00. Remittance must accompany the order.

Write for quantity, prices and booklet. All kinds of manures for sale.

THE PULVERIZED MANURE CO.
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"Stokes' Standard" Earliest Pea

This is the earliest wrinkled pea grown. Pods are about twice the size of ordinary extra early peas with 6 to 10 large marrow peas. Sweet, and of a delicious flavor. Vigorous and prolific.

15 cts. half pint; 25 cts. pint;
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"Stokes' Standards" represent my new way of selling seeds

They are my selection from the choicest varieties of each kind of vegetable—the result of 25 years of practical experience and constant tests at my Floracraft Trial Grounds. They place you on a level with the most expert gardener, so far as knowledge of varieties is concerned.

Send for my new 1907 Catalogue of vegetable and flower seeds—a book you are sure to appreciate. It not only shows actual photographs of what my seeds have produced, but gives you complete directions for successful growing.

Write for the catalogue now. Write me any time about any of your garden troubles.

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Walter P. Stokes, of the late firm of Johnson & Stokes



Rhododendrons give a touch of life to the landscape in the dreary winter days.

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to appreciate the mistake of not having something evergreen in the garden to relieve the landscape in the cold, dark, dreary days of winter.

In these winter days you can tell just where the perennial cheer of evergreen life in the garden or on the lawn will be most beneficial, and we can help you to add that necessary cheerful note.



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Miracle of miracles! A book on gardening which is actually readable from start to finish, like any other book, instead of being a mere dry, reference book. All through it is a genuine idea; it shows how to make gardens that are really outdoor living rooms, instead of museums, that are merely ostentatious shows to impress one's acquaintances and humble one's enemies. It shows how to bring home feeling into the garden, and how to have comfortable places where one may sit and think, or "just sit."

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SOME varieties of single hyacinths and almost all the double ones have a disappointing habit of blooming before the leaves appear. If each bulb be provided with a pasteboard chimney the moment it leaves the cellar no such trouble will be experienced. Homemade tubes from stout brown paper may be used. It is imperative that an opening be left at the top—it is the flower's effort to reach the light that gives the desired length of stem.

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THE problem of planting the various plots as suggested by Mr. Lieble in his article on page 13, may be easily solved. For a small, 25 x 100 foot, plot, when the expense of fifty dollars is devoted to plants, the cost of planting need not be more than five dollars—say two men for one day. Twenty-five dollars' worth of plants could be handled by one man in a day for, say three dollars, and on the intermediate-sized plot, fifty dollars worth of plants could be handled by two men in one day, and the cheapest allowance of fifteen dollars would not take a good man more than a day. For handling one hundred dollars' worth, two men for two days would be necessary, one expert at three dollars and the other at two dollars, or a total of ten dollars for two days' labor.

In all cases, if only one man is used, by all means get an expert gardener; if he needs assistance, an ordinary day-laborer can be provided, but do not turn over valuable plants to the tender mercy of an ignorant laborer. Many valuable plants have been ruined or lost and the owners hopes and ambitions crushed by the incompetence of the ordinary day laborer. He has no conception of what a plant is or how it should be handled.



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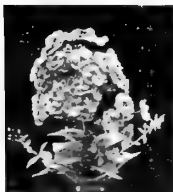
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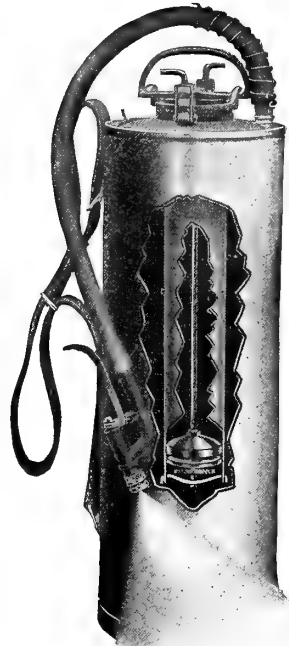
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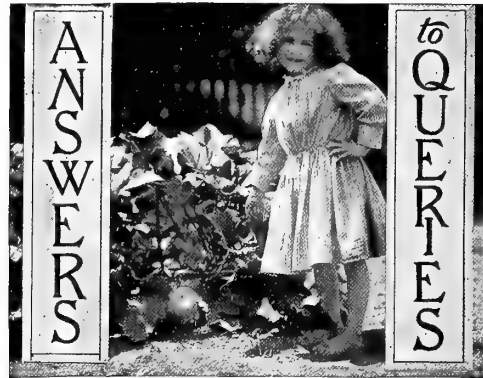
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CARE OF CAPE BULBS

H. S. G., New Jersey—The "Cape" bulbs—freesia, oxalis, etc.—may be saved after they have finished flowering. The treatment is as follows: Continue watering whenever necessary and once or twice a week give the soil a watering with liquid manure. When the leaves begin to turn yellow, gradually withhold water until the leaves die and the soil is dry; then store for the spring and summer in a dry place where the mice cannot reach them. In August, when planting time comes, separate the bulbs from the soil, sort the small ones from the big ones and plant. The small bulbs will not bloom so they may be grown in flats planted an inch apart.

THE BEST ONIONS

R. W., Ill.—Everything depends on the market and the soil. The most profitable onion to grow in many localities, if there is a market for it, is Prizetaker. It is of the Spanish type. Many acres of it are grown in the South each year and sold in our Northern markets as Bermuda onions. These must be started in a hotbed not later than the first of February. Mr. T. Greiner says, "Sow the seed rather thickly in drills an inch and a half or two inches apart, using about an ounce of seed to ten square feet of bed surface." Transplant to the open when the ground can be worked but not until the plants in the hotbed have been hardened off. Set the plants about four inches apart in rows, which are fourteen inches apart. Onions prefer a rich sandy soil.

CULTURE OF GARDENIAS

F. L. F., New York—Gardenias grow best in a house that is devoted entirely to them. They demand a night temperature of 75°. Cuttings are made in February of the tips only. These cuttings are two inches long, and are put into sand to strike. For soil use a mixture of two parts leaf soil and one part of a compost of turfy loam, sand, and charcoal in equal parts. This means that the gardenia likes a free, open, cool, moist but rapidly drained soil. You cannot grow really good gardenias without bottom heat. Plant out in May for flowers from September to Christmas. In the winter time, or when the temperature falls, withhold water, otherwise they will be sure to produce a yellowish appearance of the leaves, and small flowers. The best cultivators find they get the best results by planting in a shallow soil at the first, and gradually adding in a top dressing until the bench is full.

SOIL DISTINCTIONS

B. A. B., W. Va.—There are no absolutely clear distinctions between the general classes of soil texture. They are all comparative. The general acceptance of the terms used in Mrs. Barron's article is about as follows: *Deep soil* is one having a depth of at least eight inches from the surface to the less productive subsoil. *Rich soil* is one capable of maturing a full yield of a variety of crops without the aid of additional plant food (fertilizer). *Loam* is a soil in which the particles of sand, silt and clay are evenly balanced, making it mellow and friable. A loam stands midway between the extremes of loose sand and heavy clay soil, in texture. A *sandy loam* is a loam in which the sand content is prominent, constituting at least half of the soil by weight. Sandy loams are more mellow and friable than loams, also naturally warmer and earlier. A *light soil* is a term which does not refer to weight of the soil, but when qualifying other textural means more loose or sandy—open textured. A *sandy soil* is a grade next heavier than sand—one in which sand is most prominent, but not so loose as to shift and blow about, like sand. Write to the Chief of the Bureau of Soils, Washington, D. C., for bulletins on soil texture and crop adaptation. Ask the Secretary of Agriculture, Washington, D. C., for the Farmers' Bulletins on Fertilizers. "The Soil," by F. H. King, 75 cents, and "Fertilizers," by E. B. Voorhees, \$1.00, are good books on these subjects. They may be obtained through us.

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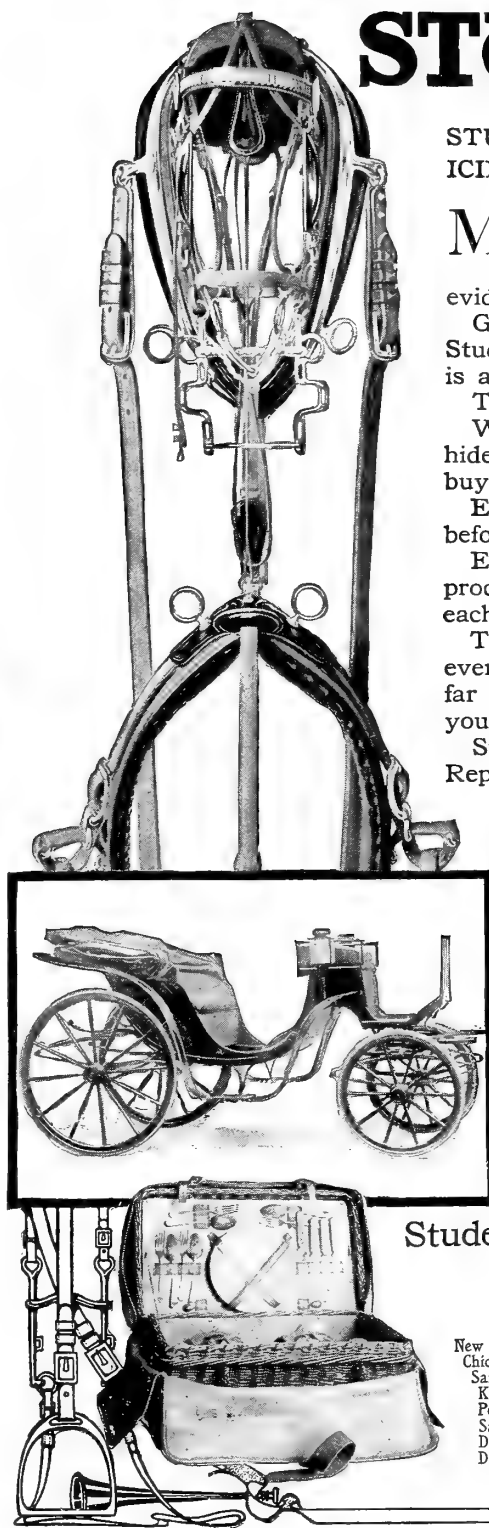
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"VAUGHAN'S BEST" MIXTURE OF VERBENAS

1729. This mixture embraces all that is choice and desirable in Verbenas. It includes the Mammoth Flowered strains of three celebrated Verbena specialists, the beautiful and dazzling Defiance, the New Mammoth Snowball, Purples, Striped and all the Auricula-Flowered varieties, the New Giant Striped, the new "May-flower," the new Mammoth Reds and Pinks, and Howard's "Royal Splendor" Verbenas. We feel perfectly safe in stating that this mixture of Verbenas will eclipse every other strain offered by any other house, and it will produce flowers that will delight all beholders throughout the whole summer. Pkt. (125 seeds), 15c; extra large pkt., 25c; ¼ oz., 50c; 1 oz., \$1.00.

VAUGHAN'S SPECIAL MIXTURES. Because the regular flower seed mixtures as imported from the best sources are often improperly balanced in composition of colors and lack in the newer, rarer kinds, therefore we have found it best for our trade to prepare Vaughan's Special Mixtures exclusively. We make these up in separate colors from special strains and from the newest, rarest and most exclusive novelties. They are put up separately from carefully calculated formulas, and results are bound to be most satisfactory to the buyer. Remember that seeds can be sown most successfully at only one time in the whole year and the best to be had with the highest germination is none too good for any planter.



VAUGHAN'S INTERNATIONAL PANSIES

1190. Vaughan's International Pansy Mixture was first prepared and offered by us in 1889. We imported from all the best European sources and personally inspected the fields of French and German specialists for their finest strains. These with best American types made up the collection. Each year has added to the quality of its flowers, the variety of its colors. We buy every year novelties of known merit to improve the mixture. This is the reason it is always complete, always the latest and always the best mixture **AS WE BELIEVE**. We add to all the Pansy Mixtures which we now buy more than fifty per cent. of choicest named kinds obtainable, each in rightful proportion. We thus know what it will produce. This is one of the **SPECIALTIES** which has established and held the reputation of Vaughan's Flower Seeds and this is one which we maintain most carefully, not alone as to quality but in vitality and germination. You are beginning right in Pansy growing when you start with Vaughan's International Mixture. Pkt. (250 seeds), 25c; 3 pkts. (750 seeds), 65c; 5 pkts. (1,250 seeds), \$1.00.

"VAUGHAN'S BEST" MIXTURE OF LARGE FLOWERING PETUNIAS

1271. This mixture is made by ourselves and includes, besides the Giant Ruffled, the Giant Emperor and the California Giants, all the colors of the Large-Flowering and Fringed sorts and the unsurpassed Superbissima varieties, with their delicately veined throats in various colors, and their truly mammoth flowers. We are positive that no other Petunia mixture can produce flowers with as wide a range of colors as "VAUGHAN'S BEST." Pkt., 25c; 3 pkts. for 60c.

VAUGHAN'S EXCELSIOR MIXTURE TALL ASTERS

300. This is a mixture of the most beautiful, striking and distinct colors of all the above tall growing Asters, selected from the cream of the Truffaut's, Victoria, Crown, Giant, Comet, Hohenzollern, Ostrich Plume, Carlson, Branching and other desirable sorts, and includes many kinds specially purchased for this mixture; also the kinds listed in the Novelties. **This is the finest mixture of Tall Asters in existence** and the most critical lover of this flower will be astonished at the wide range of colors and varieties given in this truly Excelsior strain. Pkt. (250 seeds), 15c; extra large pkt., 25c; ¼ oz., 50c.

VAUGHAN'S SEED STORE

CHICAGO, 84-86 Randolph Street

Greenhouses, Trial Grounds and Nurseries, Western Springs, Ill.

14 Barclay Street, NEW YORK

March

The Opening of the Spring Season

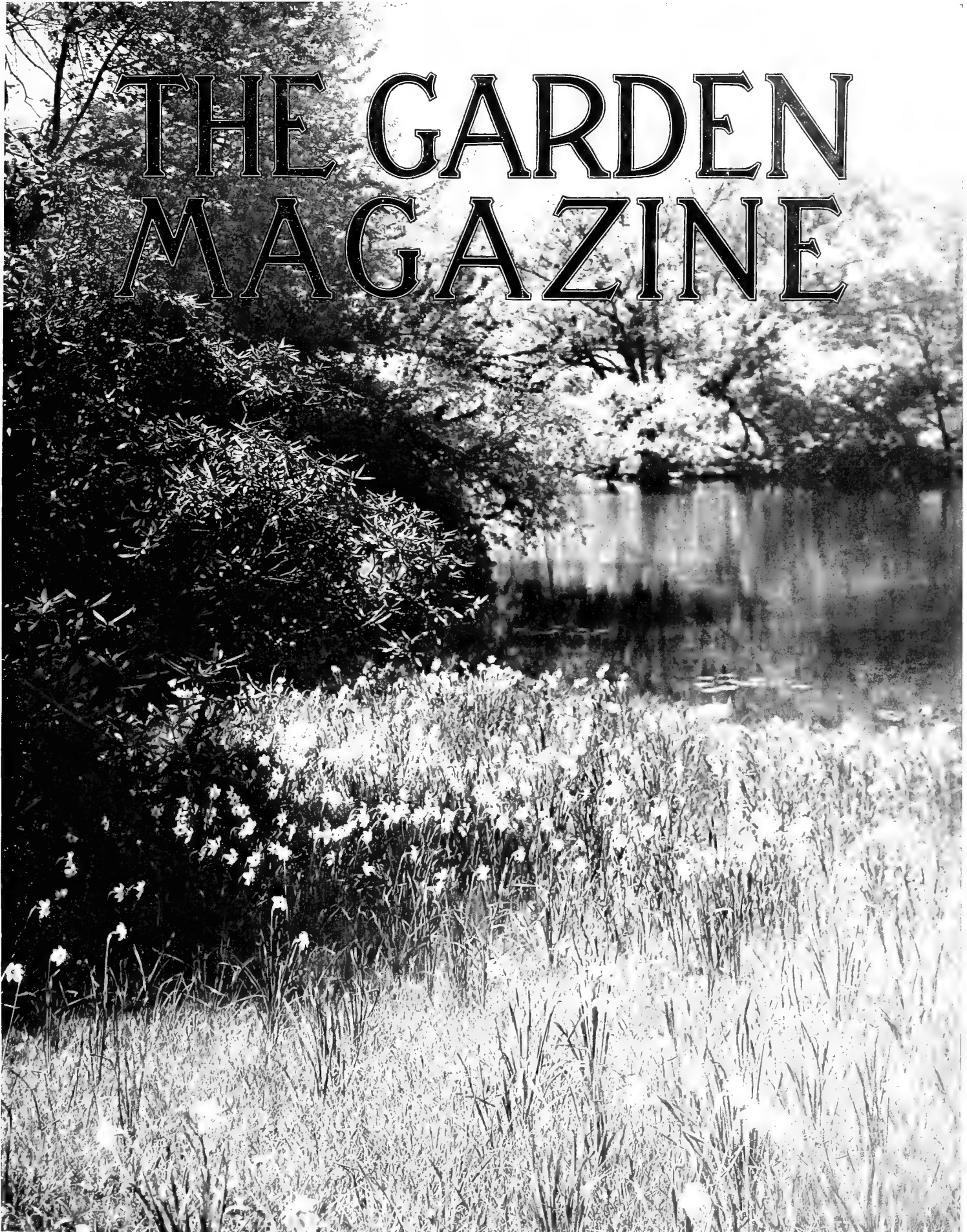
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1907
Vol. V. No. 2

The Secret of Managing Coldframes
The Fine Art of Sweet-Pea Culture

Perennials Grown as Annuals
Easter Plants and Flowers

\$1.00 a Year



THE GARDEN MAGAZINE

The World's Work



Country Life in America



Farming

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DOUBLEDAY, PAGE & COMPANY

NEW YORK

133-137 East Sixteenth Street



“What do you mean by such an unusual proposition?”

“DO you give new rose bushes to take the place of all that do not grow or bloom?”

We certainly do. Or if you'd rather have your money back you can have it for any rose that doesn't grow or bloom.

So many people have been writing to us asking questions like these, and wanting full information about our offer, that we give here the full details of our new way of selling roses.

It is an unusual proposition for a rose-grower to make, we admit, and it means a great deal more than any rose-offer you ever heard of before. It means good roses to start with. The very fact that we offer your money back shows that they *must* be extraordinary.

We know what we're about. We haven't been forty-eight years in this one business of growing roses, for nothing. We have been working with roses, studying roses, growing roses, perfecting roses all these years, and have made roses the one business of our life, so that if there is one thing that we know better than anything else, it is roses.

We have had experience enough to enable us to know which roses produce the choicest buds, which grow with the least care, which are best for different localities, and which are *sure to bloom*.

Next, it means that you run no risk whatever. Whether you buy one rose or a thousand, you lose absolutely nothing.

Perhaps the uncertainty of roses growing and blooming has kept you from reveling in an abundance of this “queen of flowers” up to this time.

Now, you need not hesitate about ordering all the roses you want.

Not only does our proposition open the way for you to transform your garden into a veritable paradise of choicest blooming roses, without risk, but it means a great deal to us besides.

As you will be freer to order roses by this new way of buying them, it will give us a chance to have the quality of our roses tested everywhere, and as soon as people find out C & J Roses are just as good as we say, they will want more—a great many more.

Our stock is not confined to any one kind of roses, but includes the choicest kinds of every class, so that we have

Roses for Every Purpose

Beds, gardens, pathways, arbors, trellises, archways, pergolas, porches, for hedges and fences, for covering banks, stumps and stone walls, for specimen plants and shrubbery effects, for conservatories and greenhouses, for cemeteries, for city, country, mountain and seashore—roses for every imaginable place—we tell you the kinds best suited for each particular purpose, and the varieties best adapted to your own locality.

There are possibilities in your own yard or garden that you never dreamed of. Get good roses and you can transform it into a bower of beauty.



Bloom This Season

While every rose we grow is guaranteed to bloom, there are some kinds that we know will also bloom the first season—we are so sure of it that we have grouped them into a list and will give you your money back for any one that does not bloom by October 15th. (This list of fifty roses appears on pages 30 and 31 of our catalog.)

This means that you can decide now to have a rose bed and actually have it in full bloom this summer without risk.

Our large and varied assortment of roses includes the best of all the old favorites—Hybrid Perpetuals, Teas, Hybrid Teas, etc.—such types as General Jacqueminot, Duchess de Brabant, La France, and hundreds of others.

But that is by no means all we grow. New roses of every class are being added to our stock, whenever we can prove that they are varieties of dependable quality—no others gain admittance. Among the new roses are such kinds as Etoile de France, Killarney, Frau Karl Druschki, Madam Eugene Marlitt, etc.

We are constantly experimenting with new varieties, and have been testing them for years, but they must all stand the rigid quality-test which marks the difference between C & J Roses and other kinds.

Own-root Roses

We make a specialty of growing *own-root* roses. They are almost invariably the best kind to get—they require less watching, and if an unusually severe winter should kill back the top of an own-root rose, the true variety will spring up from the root again as full as ever, whereas a budded plant would have been lost. Own-root roses give by far the most general satisfaction, especially when you get our strong, healthy, vigorous plants to start with.

Don't you want to have a successful rose-garden this year? There is positively nothing to prevent it. A garden of roses is a garden of fragrance and beauty, and a lasting joy for many years.

Designs Furnished at Cost

Our landscape department at this writing is still open for a few more engagements. Special attention is given to making plans and estimates for complete rose gardens. If interested write at once. Entrance doors to this offer close April 1st.

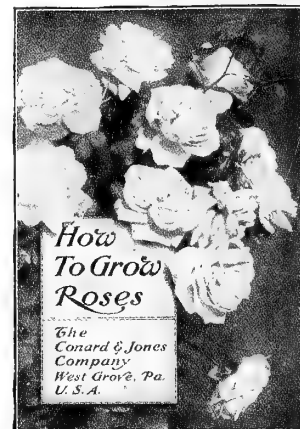
How to Grow Roses

We have a valuable little book “How to Grow Roses,” that should be in the hands of every lover of roses. It tells how to make a success of rose growing—gives suggestions of what kinds to plant and where to plant them; how to care for them; describes the different classes; and names many roses for special purposes.

Our New Floral Guide

not only lists the large variety of C & J Guaranteed Roses and other plants, but it is distinctly practical and helpful in aiding you to select the right plants for your purpose, and in telling how to get the greatest satisfaction and pleasure out of them.

Both of these books are free to readers of THE GARDEN MAGAZINE. Write for them today.



The Conard & Jones Company

“Growers of the Best Roses in America”
Box P, West Grove, Pa.

To Have the Earliest Vegetables

in their neighborhood has always been a source of pride to all progressive gardeners. If you want the choicest vegetables from five days to a week ahead of your neighbors,



Maule's Always Ahead Collection

is what you surely need. The following six Specialties are superlative not only in regard to earliness, but in quality as well. **For 50 Cents** I will send one regular size packet of

Maule's Earliest of All Tomato.—Five days earlier than any other.

New Alpha Beet.—As early as the earliest and twice as large. Cooks fine.

Maule's First Early Cabbage.—Flat headed, but as early as the earliest pointed varieties.

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Maule's Extra Early Cucumber.—A week earlier than the next best and very productive.

New Neapolitan Pepper.—One or two weeks ahead of every other variety. A great yielder.

One packet of each of the above six novelties for 50 cents, postpaid, is an offer worthy the attention of every reader of *THE GARDEN MAGAZINE*. With the seeds, if requested, I will also send you a copy of my new seed book for 1907, pronounced by all the best catalogue I have issued in the past 30 years; it contains 63 Specialties in Vegetable Seeds and 69 specialties in Flower Seeds, many of which cannot be obtained elsewhere. 338,000 copies of this Book have already been mailed, at a cost of more than \$45,000. I merely make this statement to give readers of this advertisement who are not acquainted with Maule's Seeds, an idea of the enormous business I am doing annually with the gardeners of the country. You certainly need this Book before ordering Seeds, Bulbs, Plants or Trees of any description. It is sent free to all ordering the above collection of my choice Novelties, and sending me 50 cents for same.

Address **WM. HENRY MAULE, 1701 Filbert Street, Philadelphia, Pa.**

Poultry, Kennel and Live Stock Directory

Information about the selection or care of dogs, poultry and live stock will be gladly given. Address *Information Department* THE GARDEN MAGAZINE, 133 E. 16th St., New York.

EGGS FOR HATCHING

As an inducement to secure new customers I will sell eggs this spring at the following low prices:

Per Setting	Per Setting
Buff P. Rocks . . . 13 \$1.00	R. I. Reds . . . 15 \$2.00
Barred P. Rocks . . 13 1.00	Columbian W'd's . . 15 2.00
White P. Rocks . . . 13 1.00	Partridge W'd's . . 15 2.00
S. Wyandottes . . . 13 1.00	S. C. B. Orpingtons 15 2.00
W. Wyandottes . . . 13 1.00	S. C. B'k Orpingtons 15 3.00
Buff Leghorns . . . 13 1.00	R. C. B. Orpingtons 15 3.00
S. C. W. and E. L'g'ns 13 1.00	S. C. W. Orpingtons 15 3.00
R. C. B. Leghorns 13 1.00	R. C. W. Orpingtons 13 3.00
Black Minorcas 13 1.00	R. C. B'k Orpingtons 13 3.00

S. C. Buff Orpington Eggs, \$3 for 30; \$8 for 100; R. C. Buff, Black, White and S. C. White Orpington Eggs, \$5 for 30; \$10 for 60. All other eggs, \$6 per 100. Forty years among poultry and now have the largest and best equipped Poultry establishments in America.

CIRCULAR FREE

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RAISE EVERY CHICK



you hatch. Give them the right start in life by feeding CHICK MANNA the chick health food that promotes quick growth and strong development. Other chick foods that you'll need afterwards, are told about in my free Illustrated Poultry Supply Book, which also shows the new Cyphers Incubators and Brooders. Let me help you solve your problems. Write me about anything you want to know. STOKES' SEED STORE Walter P. Stokes of the late firm of Johnson & Stokes 9 Market Street, Philadelphia

GOOD POULTRY FOODS



are necessary for big poultry profits. Harvey's Cut Alfalfa and Cut Clover Hay, Poultry and Chick Foods of all kinds are big profit makers. Write to-day for FREE samples, and our catalogue of full line poultry supplies. Also ask for our Garden Seed Catalog. It pays to buy all your supplies at one place.



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YOUR LUCKY STAR

never brought you greater success than will STAR Incubators and Brooders. They make poultry raising profitable, easy and certain. Sold on a guarantee that makes you safe. Free catalog tells why. Write. STAR INCUBATOR CO. 632 Church Street, Bound Brook, N. J.

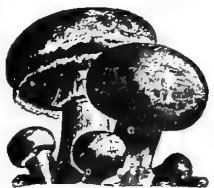


RED HILL FARM

Bridgeport, Pa. Breeders and Exhibitors of White Plymouth Rocks

W. W. Rawson & Co. beg to announce that they are constantly receiving applications from gardeners seeking situations, and they will be happy to supply any lady or gentleman with particulars, etc. W. W. RAWSON & CO., 5 Union Street BOSTON, MASS.

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For Big and Quick Profits Small Capital to Start A Safe Business

I am the largest grower in America. Ten years' experience enables me to give practical instruction in the business worth many dollars to you. No matter what your occupation is or where you are located, here is an opportunity to acquire a thorough knowledge of this paying business. Send for Free Book giving particulars and information, how to start, cost, etc. Address

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Profits enormous! EGGS bring from 50c to \$3 EACH, BIRDS from \$20 to \$150 per PAIR. Large back yard enough space to produce from \$600 to \$1,200 yearly. DEMAND HEAVY. We buy your eggs and youngsters or furnish customers. Our breeders are all RAISED IN CONFINEMENT, are very hardy, WILL THRIVE IN ANY CLIMATE and are NOT SUBJECT TO DISEASE like poultry and pigeons. EXPENSIVE OUTFITS UNNECESSARY. Don't conflict with Game Laws. Send \$1.00 TO-DAY for Book "DOMESTICATED PHEASANTS AND GAME FOR PROFIT" and ask especially for photo "A 7". BREEDING STOCK shipped anywhere in U. S. and Canada; SAFE ARRIVAL GUARANTEED. THE DOMESTICATED GAME CO. LOS ANGELES, CALIFORNIA

Rhode Island Reds



WHITE AND BARRED ROCKS WHITE WYANDOTTES AND LEGHORNS, LIGHT BRAHMAS Hardy, prolific, farm bred, pure stock. For BIRDS (moderate prices) or "EGGS TO HATCH" at ten cents each, write for circular WALTER SHERMAN Meadowslope Newport, R. I.

GREIDER'S FINE CATALOGUE



1907 tells all about pure-bred poultry and describes and illustrates 60 varieties. 10 beautiful natural color plates. Gives reasonable prices for stock and eggs; how to cure diseases, kill lice, make money. This valuable book only 10 cts., postpaid. B. H. GREIDER, RHEEMES, PA.

2 HATCHES FREE A 5 YEAR GUARANTEE

Most liberal offer ever made. Direct from factory to you at about half price for a short time. Gem Incubators and Brooders Are the Best

and most convenient to use. A proven success by thousands of poultry raisers. Catalog explains all. It's worth dollars to you. We send it free. The Gem Incubator Co.



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Globe Incubators



hatch eggs while you sleep. Fine illustrated Catalog of Incubators, Brooders and Poultry Supplies free.

C. C. SHOEMAKER & CO., Box 714, Freeport, Ill.

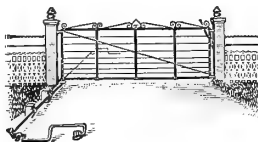
FEED FOR EGGS



when they are scarce and prices highest. Rust's Egg Producer keeps hens laying steadily all winter. Unequaled as an egg and profit-maker. Try it. 24c to 25c per lb. at dealers. Rust's Egg Record and useful booklet of poultry facts both free.

WILLIAM RUST & SONS, Department W. New Brunswick, N. J.

STARK NURSERIES sell DIRECT, pay freight, give FULL value. Founded 1825. Large NEW fruit book free. STARK BROS., Louisiana, Mo.



MANLOVE Automatic Gate

Saves time, adds to value, safety, beauty and pleasure of home.

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Sun=Dials

Furnished by us are correct. Write for free booklet entitled "SUN-DIAL INFORMATION."

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For Sale---Privet Hedge

Pruned and in perfect condition. About 5 feet high and 4 feet wide. A little over 200 feet at \$1.00 per running foot. Address Hedge, P. O. Box 44, Stamford, Conn.

Sweet Corn

If you are fond of sweet corn and would like to furnish your dinner table with the most delicious variety ever offered to the public, you will do well to plant Ordway's Golden, because this wonderful variety has all the characteristics of the ideal corn, being early, tender, juicy, and superlatively sweet, and on account of which it has won favor in many households.

Carefully selected seed sent by return mail, postpaid, at the following prices: Trial packet, enough for 35 hills, 10c; half-pint, 20c; pint, 30c; quart, 60c.

O. P. ORDWAY, Saxonville, Mass.

THE Shetland Pony



A beautifully illustrated book on his breeding, care and training, 25 cts. Ponies for sale. Illustrated circular and price-list on application. Belle Meade Farm BEDFORD, MASS.

Scottish Terriers

Offered as companions. Not given to fighting or roaming—Best for children's pets.



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Squabs Pay



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Advice on What to Plant and Where to Plant It

FRANK HAMILTON Landscape Gardener

Bryant Building, 55 Liberty Street, New York Tel. 1286 Cortlandt

A LIBERAL OFFER TO GARDEN OWNERS

The B. G. Pratt Company, manufacturing chemists, 11 Broadway, New York City, announce this offer:

"To any community that has a duly organized improvement association, spraying commission, etc., or that will organize such an association or appoint such a commission, and secure the necessary apparatus for systematic spraying, we will give absolutely free, freight prepaid to your railroad station, one 50-gallon barrel of 'Scalecide,' which will prepare 800 to 1000 gallons of spray by the simple addition of water; providing you send us a certificate of said organization by your town clerk, and an order, accompanied by cash, for one 50-gallon barrel of 'Scalecide.'"

Gardens that Bloom from April to October

Probably you have a particular part of your garden in which you would like to have something beautiful every day from frost to frost. If you will give us a chance we can bring about that result. We have special collections of herbaceous plants that will give you a garden of beautiful flowers in kaleidoscopic succession.

We have made a hobby of getting together the best of herbaceous plants, with all their new varieties, where newness means something better. We sell only strong field-grown plants, ready to bloom the first season.

Why were these beautiful gardens allowed to become old-fashioned? As well call the forest trees old-fashioned.

We furnish old-fashioned gardens complete in fifty-seven designs. The plants supplied are all of the best possible quality and will give an abundance of bloom this year.

Gardens designed to fit any shape and sized plot or border. Prices range from \$5 to \$250, according to size.

Garden No. 1 contains 62 plants in 15 varieties. Price \$5.
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Garden No. 48 contains 1840 plants and bulbs in 127 varieties. Price \$147.50.

In writing please give size and shape of plot, and details will be furnished immediately, together with our illustrated catalogue of Trees, Shrubs, Roses and Herbaceous Perennials.

THE BAY STATE NURSERIES, North Abington, Mass.



IMPLEMENTS

For any information concerning the purchase or use of any garden or farm implement, etc., address
IMPLEMENT DEPARTMENT, THE GARDEN MAGAZINE
NOS. 133-137 EAST SIXTEENTH STREET, NEW YORK CITY



No. 6 Iron Age
Single Wheel Hoe, Hill and
Drill Seeder

3 GARDEN TOOLS IN 1

The No. 6 Iron Age is the simplest, most complete, most useful and convenient of all garden tools.

It is a single wheel hoe, a double wheel hoe, hill and drill seeder — whichever way you want to use it. All combined in one tool, but all distinct and thoroughly practical; easily changed from one form to another in a very few minutes.

IRON AGE Implements

When used as a seeder, it opens the furrow, sows the seed in drills or hills, covers and rolls the ground and marks the next row all in one operation. As a wheel hoe, it works either between or astride the rows, and cultivates the crops in a most thorough manner. Built from the finest materials; light, strong, easy running.

Our new 1907 Iron Age Book tells all about the complete line of time- and labor-saving Iron Age Garden Tools. Write for it.

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The No. 6 in operation as a Seeder

A THRIFTY GARDEN

whether large or small, needs proper tools for seeding and cultivating. We make garden implements of all kinds, a tool for every purpose.

MATTHEWS' NEW UNIVERSAL Hand Seeders and Cultivators

singly or combined with Hoes, Plows, Rakes, Markers, etc. Over 20 styles. FREE BOOKLET giving description, prices and valuable information mailed to any address. Write Now.



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SPRAY It Is Worth While



Buy a machine that does the work right—that cleans its strainer automatically with a brush, mixes liquid mechanically so that foliage is never burned, but gets its due proportion.

EMPIRE KING, and ORCHARD MONARCH

do these things. They throw finest spray, are easiest to work and they never clog. You ought to know more about them. Write for instruction book on spraying, formulas, etc. Mailed free.

FIELD FORCE PUMP CO., No. 48 7TH ST., ELMIRA, N.Y.

HURST POTATO & ORCHARD SPRAYER ON FREE TRIAL



As Potato Sprayer

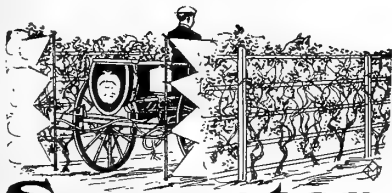
No Money in advance—Pay when convenient. Sprays Everything—Trees, Potatoes, etc., 4 rows at a time—20 acres a day. Doubles your crop. Even 2-acre growers say: "It pays for itself first season," as it has so many uses. A 16-year-old boy can operate it with ease. Brass Ball Valves, Cylinders, etc. Guaranteed 5 years. Wholesale price (where no agent). AGENTS WANTED. After trial, if you keep it, we make terms to suit you.

Special Free Offer TO FIRST ONE in each locality. "SPRAYING GUIDE" and full information free. We pay freight. Write to-day.

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As Orchard Sprayer



Spramotor

Automatic in every section, including pressure, direction of spray and the removing of any sediments that might clog the nozzles.

Has no equal for Orchards, Vineyards or Row Crops. 86-page booklet T free. Agents wanted.

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BUFFALO, N. Y. LONDON, CAN.

RHODES DOUBLE CUT PRUNING SHEAR



RHODES MFG. CO.
Dept. 35.

Cuts from both sides of limb and does not bruise the bark.

We pay Express charges on all orders.

Write for circular and prices.

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SPRAY WATSON The Four Row Potato Sprayer

Covers 30 to 40 acres per day. Straddles 2 rows, sprays 4 at a time. Wheels adjust for different widths. Sprays to any fineness and gearing of pump to wheel of cart gives any pressure desired. Automatic agitator and suction strainer cleaner. It never spoils foliage or clogs. Free instruction and formula book shows the famous Garfield, Empire King, Orchard Monarch and other sprayers. Write for it.

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RHODODENDRON

Maximum

KALMIA Latifolia

Nothing excels this magnificent native plant for massing and grouping under trees and bordering shady drives.

Delivered prices and sizes on application. Supplied by the car load or in lesser quantities.

STUMPP & WALTER CO.

50 Barclay St., NEW YORK.

Catalogue mailed on request.

"SCALECIDE"



will positively destroy all soft bodied, sucking insects, including all forms of San José scale. It is simple, cheap, easily applied and wonderfully effective. Endorsed by government experiment



stations, agricultural schools and thousands of fruit growers

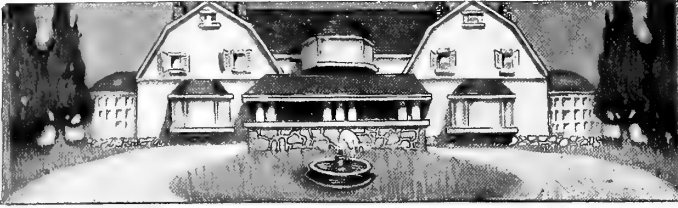
The above pictures are made from photographs taken at Sound Beach, Conn., in June, 1906. They were in a like condition the year before. The right hand tree was sprayed with Scalecide and saved. The other tree was left unsprayed and has been killed by scale. For further information address DEPARTMENT 1.

B. G. PRATT CO., Mfg. Chemists, 11 Broadway, New York, N. Y.

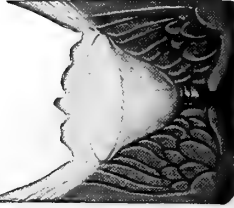
HEATING AND LIGHTING THE COUNTRY HOME



A DIRECTORY OF HEATING APPARATUS



A DIRECTORY OF LIGHTING EQUIPMENT

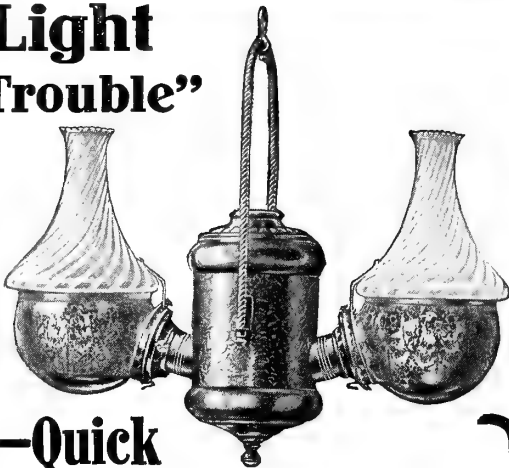


“Too Much Bad Light —That’s Your Trouble”

“YOUR trouble,” said a noted Oculist to a well-known New Yorker, “is from the effects of too much bad-quality light. You use your eyes hard all day and then go home and strain them all the evening in rooms lighted with mantle gas or acetylene or electric lights.

“You are suffering from the same delusion as thousands of others. You think that so long as a light is abundantly brilliant it makes no difference about the quality or color of its rays.

Let me ask you whether you think you would grow fat eating a peck of sawdust three times a day. No? Then don’t starve your eyes with an abundance of “sawdust quality” light. What they need is a soft, yellow, restful light. These qualities are essential to the eyes. Without them “greater brilliancy” merely means quicker ruin of your eyes. If you want to save your sight



Go Back to Oil Lamps—Quick

“Go back to oil lamps quick.” That is the advice being given to and followed by thousands of people in both city and country who have found their eyes being ruined by the harsh, penetrating light of mantle gas or gasoline or the acetylene light. Some, thinking of the smoke, odor and both of the ordinary lamp, hesitated until they learned that now, by using The Angle Lamp one can enjoy the convenience of gas, and the splendid light of oil from the one fixture.

Because The Angle Lamp is not a mere improvement on the ordinary lamp but an entirely new principle of oil light which has done away completely with the smoke, odor and both of the ordinary lamp.

The Angle Lamp is lighted and extinguished like gas. It requires filling but once or twice a week which may be done with perfect safety while the lamp is lighted. It never smokes nor smells whether burned at full height or turned low like gas.

And yet the very features which make The Angle Lamp the most convenient lamp ever invented, make it also the cheapest; for it burns a full 16 hours on one quart of oil, while the ordinary round wick lamp, usually considered the cheapest light in the world, burns but 5 to 7 hours on the same quantity.

Now if you have read this ad closely you understand why we offer to prove what a completely satisfactory light the Angle Lamp is by sending any lamp listed in our catalog, for 30 Days’ Trial. The Angle Lamp will please you as it does thousands of others. Write for our catalog for listing 32 articles from \$1.80 up, and giving you information about all lighting methods that would cost you hundreds of dollars to collect.

The Angle Mfg. Co., 78-80 Murray St., New York.

HOME HEATING



KELSEY HEATED HOUSE at Pelham Manor, N. Y. OSWALD C. HERRING, Architect New York City

Suburban

house owners requiring new heating plant in their homes can

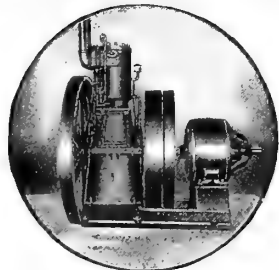
Avoid Cold or Stuffy Rooms

By installing the modern fresh air system, THE KELSEY WARM AIR GENERATOR

- (1) Brings assured warmth to every room.
- (2) Introduces fresh air continually.
- (3) Requires no water pipes or radiators.
- (4) Costs less for fuel, management and repairs than any hygienic system.

Send for descriptive booklet, showing some of the 30,000 homes where it is used, and telling “All about the Kelsey.”

KELSEY HEATING CO. 336-8 Fayette St., Syracuse, N. Y. New York Office: 154 Fifth Avenue



NASH GASOLINE ENGINES

Are used extensively for furnishing ELECTRIC LIGHTS, for PUMPING WATER and for the FIRE PROTECTION of COUNTRY HOMES. Complete plants installed. Send for catalogue.

NATIONAL METER CO. 84-86 Chambers Street NEW YORK Chicago Boston



A SUBSTANTIAL, ornamental house lamp, solidly made of brass, finished in finely burnished bronze, and burning ACETYLENE GAS, generated WITHIN ITSELF. Without wick, odor or smoke, turning on and off like city gas, but giving more than TWICE as much light, and a SOFT, WHITE LIGHT that never tires the eyes.

Costs no more than other good lamps and burns at less expense.

Let us send you complete description of this newest and best house light. Write for Booklet No. 11.

ACETYLENE LAMP COMPANY 50 University Place, New York 86 Notre Dame St., West, Montreal, Canada

MONARCH

ACETYLENE GENERATORS ARE GUARANTEED TO BE ABSOLUTELY RELIABLE

Find out what you want to know about lighting your home, by writing to us.

Our system is the acme of successful suburban lighting.

Now is the time to investigate.

MONARCH ACETYLENE GAS COMPANY OMAHA, NEB. BUFFALO, N. Y. Write nearest office for booklets and prices.



Exterminates field mice, house mice, and other rodents in houses, greenhouses, hotbeds, barns and stables. Package (containing enough Ubet Kill to kill 1,000 mice) 60 cents, carriage paid.

STUMPP & WALTER CO., Distributing Agents 50 Barclay Street, New York City

MADE BY J. D. AUG. HARTZ COLLEEN POINT, QUEENS BOROUGH, NEW YORK

HEALTHY, NATIVE-GROWN FRUIT TREES

Ornamental Trees, Vines, Shrubs, Etc.

We offer for Spring of 1907 the finest and most complete list of Nursery Stock we have ever grown. Our stock can always be relied upon, for it is all selected and grown on our own grounds under constant expert inspection. We guarantee every specimen true to name and free from disease. Give us a chance to figure on your list of wants before ordering elsewhere. We do Landscape Gardening in all its branches. Write for our free illustrated catalogue.

T. J. DWYER & COMPANY, Box 4, Cornwall, N. Y.

QUALITY SEEDS, BULBS, PLANTS

Send for Catalogue.

ARTHUR T. BODDINGTON 342 West 14th St., New York.



SPECIAL booklet showing a number of beautiful sun-dials, pedestals and garden furniture will be sent free on request. Ask for catalogue H 29.

Hartmann Bros. Mfg. Co.
Mt. Vernon, N. Y., and 1123 Broadway, N. Y.
Also Henry Sanders Co., Elston and Webster Aves, Chicago, Ill.

FOR THE OLD-FASHIONED GARDEN



Plant the stately Iris and Foxgloves, the graceful Columbines, the beautiful blue Delphiniums, and Canterbury Bells, as well as other good Hardy Perennials.

We can help you with expert advice and planting plans.

Write for catalogue.

Shatemuc Nurseries

Barrytown, Dutchess County, New York

Comtesse Bijou Poudre
PARISIAN DRY SHAMPOO

Invaluable for travelers. May be applied to the hair with a puff and when shaken out removes all dust and oil.

Used before curling the hair it insures the staying qualities of the wave. It is recommended for use at the seashore and aboard ship where it will positively prevent damp, stringy locks, as its chief purpose is to make the hair light and fluffy. Daintily perfumed with wood violet.

Price 50 cents the box, postpaid
HAIR FLUFF CO., 219 West 106th St., New York City



Amatite Roofing A Free Sample to Everyone

In order that you may be able to prove for yourself that all the claims we have made for Amatite are true, we wish to send you two things—a Sample of Amatite Ready Roofing and a Booklet about it.

We believe that if you once see a sample you will be convinced that a mineral surface roofing, such as Amatite, is the only kind to buy.

The advantage is that the mineral surface never needs to be painted or coated to keep it tight.

It resists rain, snow, heat and storms of all kinds, and causes the roofing to wear indefinitely.

Ordinarily roofing has to be painted every year or two. This means that you practically pay double the money that you would have to pay if you bought Amatite. You pay not only for

the original roofing, but also the cost of the paint and the work of painting.

Remember that Amatite never requires painting or coating. Once on your roof troubles are over.

As compared with Shingles, Tin and most Ready Roofings, the price of Amatite seems ridiculously low. We are able to sell at this low price because we are the largest manufacturers in the world and have factories and offices all over the country.

FREE SAMPLE

Send for Free Sample to-day and see for yourself how much better Amatite is than the "paint me every two years or leak kind."

The nearest office mentioned below will be glad to give your request immediate attention.
Address,
BARRETT MANUFACTURING CO.,
New York, Chicago, Kansas City, St. Louis, Philadelphia, Cincinnati, Allegheny, New Orleans, Minneapolis, Cleveland, Boston.



Know Paint
—before you Paint

PAIN'T, to give right results, must be purchased and put on intelligently. You must have a good painter—there is no quality in paint that will replace his skilled knowledge—experienced judgment. But the quality of paint used is a vitally important consideration to your purse and your pride.

You want the paint that has the greatest covering power, spreading capacity, beauty, wearing quality. In meeting all these requirements—

Lowe Brothers "High Standard" Paint
Gives Best Results

It is the paint for you to use, whether the contemplated job is a small or a large one, however experienced may be your painter. "High Standard" Liquid Paint is made of the materials that thirty years of go-ahead paint-making and earnest search after the real paint truth have proved to us to be the best. It contains nothing that does not need to be in paint for actual working purposes. It does contain the necessary materials to give it body, life, elasticity, beauty and wear-resisting qualities.

Mixed and ground by the "High Standard" Machine Process which insures the finest paint texture—the most thorough mixing of pigment with oil. "High Standard" Paint has been proven by actual test to cover thirty to fifty per cent more square feet to the gallon than white lead and oil, and lasts from two to three years longer.

Because of these qualities, it is acknowledged to be the most economical. Other famous Lowe Brothers' products are Vernicol Enamel White, for bathrooms and finest finished surfaces, and "Little Blue Flag" Varnish—the world's best.

Write today for the book, "Paint and Painting"—a whole library on the paint question—and name of the dealer nearest you handling "High Standard" Paint.

The Lowe Brothers Company, 450-456 E. Third St., Dayton, O.
New York Chicago Paintmakers, Varnishmakers. Kansas City



"The Little Blue Flag"

—Your Protection

STEVENS



You "get the jump" on frogs if you use a quick-acting, straight-shooting Stevens Rifle. Its records for accuracy in official tests is unapproached by any other make. Use a Stevens and get

results in frog shooting—the severest test of reliability in firearms. Here is a list that should interest you.

RIFLES FOR BOYS	
Little Scout	\$2.25
Stevens-Maynard, Jr.	\$3
Crack Shot	\$4
Little Krag	\$5
Favorite No. 17	\$6

Send 4 cents in stamps to cover postage for our FREE CATALOGUE—it tells all about guns, rifles, pistols, ammunition, sights, targets, reboring old barrels, and a hundred things a sportsman wants to know.

For 6 cents in stamps we will mail our artistic ten-color lithograph. It is an attractive hunting scene worthy of space on any wall.

Don't let your dealer persuade you some other is as good. Insist on "Stevens." You can order direct from us if you find any difficulty. We send any "Stevens" firearms express prepaid, on receipt of catalogue price.

J. Stevens Arms and Tool Co., 420 Pine St., Chicopee Falls, Mass., U.S.A.

Moon's Trees Grow



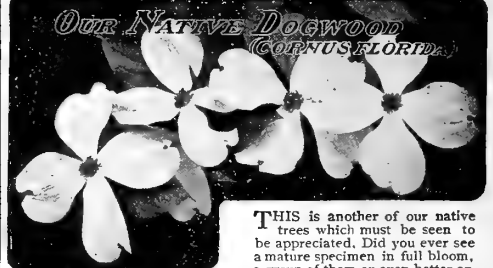
Illustrating the perfect form of our Retinosporas

OUR NEW HORTICULTURAL ART BOOK for 1907 is now ready. To those who are going to plant Nursery Stock of any kind it is an invaluable Catalogue, just filled with illustrations, descriptions and prices of the immense assortment of Shade Trees, Flowering Shrubs, Vines, Perennials and Evergreens that we offer. Write for it now.

THE WILLIAM H. MOON COMPANY
Makefield Terrace, Morrisville, Pa.

Philadelphia Office, 21 South Twelfth Street

THE ELM CITY NURSERY CO., New Haven, Connecticut



OUR NATIVE DOGWOOD (CORNUS FLORIDA)
THIS is another of our native trees which must be seen to be appreciated. Did you ever see a mature specimen in full bloom, a group of them or even better an avenue where they have been planted alternating with fine old elms? Perfectly hardy, easily transplanted, beautiful from babyhood to old age, and every day of the year.

We have a large stock, sizes from two feet up to ten feet. Prices listed in our new 1907 catalog which is yours for the writing.

THE ELM CITY NURSERY CO.
New Haven, Connecticut.
SPECIAL: 100 yards Box Border, 15 inches high



Landscape Designing

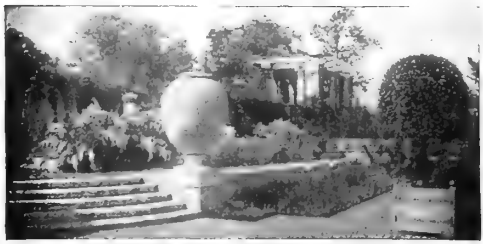
SUCCESS in the treatment of your grounds means that each tree and shrub must be properly placed as well as perfectly grown. Our trees and shrubs are perfect when they leave the nursery. We like to help you place them through our Landscape Department.

We offer suggestions from your own sketch or take entire charge, from the topographical survey to the personal selection and placing of the stock from a wealth of native and imported shrubs and trees in our nurseries.

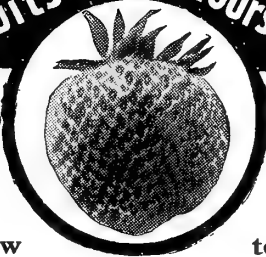
New Nursery Book—beautifully illustrated—brimming with things that will interest all lovers of Trees, Shrubs, and Herbaceous Plants—just out. A post card to the following address will bring one to you FREE.

COTTAGE GARDENS CO.
Room 2, QUEENS, LONG ISLAND

Landscape Department Offices, Rooms 9094-95 Metropolitan Building, Madison Ave. and 23d St., New York, N. Y.



Queen of Fruits Grow it Yourself



We'll Tell You How

Not Hard to Learn

ANY GARDEN, farm or piece of land may be made a constant source of profit with strawberries. Our method of teaching the work makes it easy sailing to grow big crops and get big prices. The demand for fancy strawberries is far greater than the supply; this fruit is welcomed and relished by everybody. We publish a monthly magazine devoted to its culture called

THE STRAWBERRY

It's printed on fine paper; handsomely illustrated. Has a special Correspondence School Department, where all questions pertaining to strawberry growing are answered without charge by an expert who has been "through the mill." It teaches how to avoid mistakes. Costs \$1.00 a year.

Our SPECIAL Introductory Offer—Send to-day 10c. (silver) for postage and packing. We'll send sample copy of Strawberry magazine and our famous egg separator. Separates yolk from white.

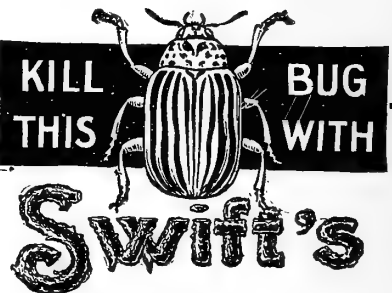
KELLOGG PUB. CO., Box 50, Three Rivers, Mich.

Pedigreed Strawberry Plants Extra Choice

For the family garden. A quart to the plant of big red berries. Twenty years' experience growing strawberries. Booklet, "Strawberry Culture," free.

CHARLES WILLEY

East Patchogue, L. I.



Arsenate of Lead

and save your potatoes

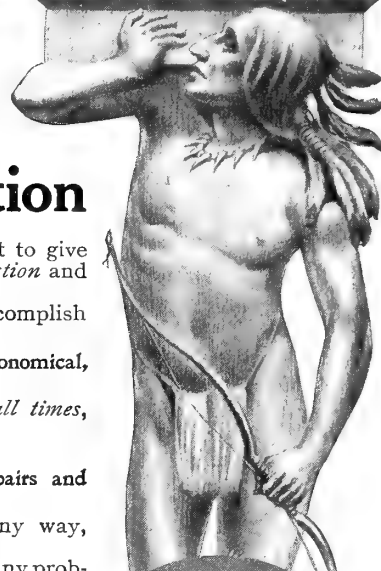
Destroys also the Codling-Moth, the Elm Beetle and all other leaf-eating insects. Swift's Arsenate of Lead sticks to the foliage, saving respraying after rains, and never burns or scorches, no matter how strong the solution. Swift's Arsenate of Lead is endorsed by leading fruit growers, truck farmers and horticultural experts. Our booklet, sent free, tells more about Swift's Arsenate of Lead, and gives testimonials from your own locality. Write for it.

MERRIMAC CHEMICAL CO.
59 Broad St., Boston, Mass.

WATER SUPPLY

THE KEWANEE SYSTEM

FOR COUNTRY AND CITY



We Absolutely Guarantee Every Kewanee System of Water Supply to Give Satisfaction

When you purchase a Kewanee System of Water Supply, we fully *guarantee* it to give you a *first-class water supply*, to create sufficient pressure for *ample fire protection* and to do *all we CLAIM* for it.

The successful operation of over 7000 Kewanee Systems proves that they accomplish everything we claim for them.

We guarantee the Kewanee System of Water Supply to be the most efficient, most economical, most compact, most convenient.

We guarantee each Kewanee System to give you a supply of aerated water *at all times*, delivered at an *even temperature during all seasons*.

We guarantee every Kewanee System, with ordinary care, to last a lifetime.

We guarantee against freezing, leaking, collapsing, constant necessity for expensive repairs and other annoyances common in other systems of water supply.

We guarantee that the Kewanee System will not disfigure your property in any way, We guarantee the Kewanee System to be *sanitary* and *absolutely safe*.

We offer the services of our Engineering Department free of charge in solving any problem of water supply for City and Country Homes, Farms, Public Institutions, Office Buildings, Manufacturing Plants, Villages and Small Cities.

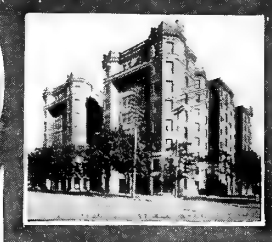
Our catalog No. 16 tells you *why* the Kewanee System is so satisfactory and why we are able to make such a broad guarantee.

KEWANEE WATER SUPPLY COMPANY

Drawer S Kewanee, Illinois

New York - Chicago

Buildings illustrated in this advertisement are equipped with The Kewanee System.



? \$ Would You \$? Like a Few \$?

I WANT EVERY PERSON who is interested in any sort of gardening, or who has any ground about his or her home to know what THE GARDEN MAGAZINE really is.

WILL YOU HELP ME in this work, which will take very little of your time and will pay you well? You cannot make a fortune at it, but you can make a few dollars just as easily as not. Also, if you can give me some information I want, you can earn several dollars' worth of our books in a few minutes, without stepping outside your house.

THIS IS NOT A CANVASSING PROPOSITION, and only the first person heard from in any locality will be able to take advantage of it. BE THE FIRST IN YOUR LOCALITY. Let me hear from you TO-DAY on a postal card, and I will tell you what I want to know. Do it to-day. Address

Circulation Manager
THE GARDEN MAGAZINE
133 East 16th St. - New York City

Old-Fashioned Flowers

Vines and Plants Like Those Our Grandmothers Grew

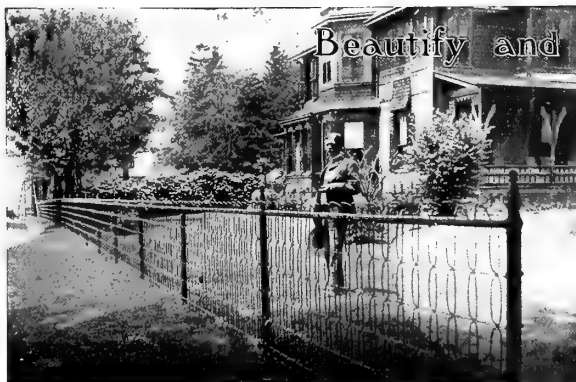
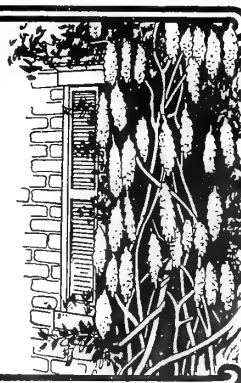
Our collection of Fruit and Ornamental Trees, Shrubs, Roses, Vines, Perennials, etc., is complete. Grown under the most advanced and skillful methods, acquired by an experience of over twenty years, and nurtured by the most favorable conditions of climate, soil and location, our stock is *hardy, vigorous, healthy, free from scale*, and is graded up to the highest standards.

LANDSCAPE WORK A SPECIALTY

We will prepare, without cost to customers, plans and sketches for proper planting large or small grounds, gardens or parks. Intending planters should write for plans, catalog and estimates. Remember, you can buy direct from the grower at wholesale prices. Send to-day for handsome illustrated catalog; it is free.



GROVER NURSERY CO., 94 Trust Bldg., Rochester, N.Y.



Beautifully and

Protect Your Home

by inclosing your grounds with the strongest, most ornamental and durable fence on the market. This illustration can give you but a faint idea of the beauties of

ROSSMAN STEEL & IRON WIRE FENCE

It has all the advantages of any other form of fence without their disadvantages, and is made in several sizes and styles to meet all requirements. Complete illustrated catalogue mailed on request. Kindly ask for Catalogue D.

SLEETH-BROOK & SEAMAN CO.
253 BROADWAY NEW YORK CITY

Chickering

pianos



A DEPARTURE IN TONE PRODUCTION. ¶ Recent experiments in the direction of tone production made by us have resulted in the perfection of a notable Grand Piano, the Style X (next in size larger than the famous Quarter Grand). ¶ It is an instrument of rare and exquisite tone, in which quality and not quantity has been the first consideration. ¶ It is a new departure in modern piano building, and in inviting attention to it we do so with much pride in the success of our efforts.

CHICKERING & SONS, 827 Tremont St., BOSTON

Established 1823

Catalogue upon request

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Entered as second-class matter January 12, 1905, at the post-office at New York, N. Y., under the Act of Congress, March 3, 1879.

Your bathroom equipped with "Standard" Porcelain Enameled Ware is an absolute guarantee of perfect sanitation in the home. Wherever "Standard" Ware is installed hygienic conditions and immaculate cleanliness follow.

Its one-piece construction, without joints or crevices, insures immunity from the accumulation of impurities. Its snow-white surface prevents the adhesion of dust and dirt. Its iron strength and china smoothness are an assurance of life-long service and make it the most economical ware to install.

Our book "MODERN BATHROOMS," tells you how to plan, buy and arrange your bathroom, and illustrates many beautiful and inexpensive as well as luxurious rooms, showing the cost of each fixture in detail, together with many hints on decoration, tiling, etc. It is the most complete and beautiful booklet ever issued on the subject, and contains 100 pages. FREE for six cents postage and the name of your plumber and architect (if selected).

These FIXTURES, Design No. P-25, can be purchased from any plumber at a cost approximating \$175.00—not counting freight, labor or piping—and are described in detail among the others.

CAUTION: Every piece of "Standard" Ware bears our "Standard" "GREEN and GOLD" guarantee label, and has our trade-mark "Standard" cast on the outside. Unless the label and trade-mark are on the fixture it is not "Standard" Ware. Refuse substitutes—they are all inferior and will cost you more in the end. The word "Standard" is stamped on all our nicked brass fittings; specify them and see that you get the genuine trimmings with your bath and laboratory, etc.

Address **Standard Sanitary Mfg. Co.** Dept. 37, Pittsburgh, U.S.A.

Pittsburgh Showroom, 949 Penn Ave.
 Offices and Showrooms in New York: "Standard" Building, 35-37 West 31st St.
 London, England, 22 Holborn Viaduct, E. C.
 New Orleans, Cor. Baronne and St. Joseph Sts.
 Louisville, 325-329 West Main St. Cleveland, 208-210 Huron St.



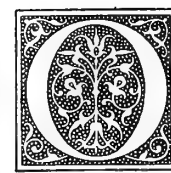
"Standard" Plate P. 503







PHLOXES



OUR STOCK and collection of these splendid and popular hardy plants we believe to be the largest and finest in America. We have every good variety obtainable in Europe and this country including some splendid novelties of our own raising. Our collection includes the best of the early and late tall varieties and an exceptionally complete list of dwarf and creeping sorts which are so valuable for naturalizing as well as for ordinary gardening uses. For full descriptions get our Spring Catalogue.

PRICES:

	<i>Per Dozen.</i>	<i>Per Hundred.</i>	<i>Per Thousand.</i>
Early and Late Tall Varieties.....	\$1.50	\$10.00	\$95.00
New and Rare " ".....	2.50	.....	.....
Phlox Maculata, a splendid tall species for naturalizing	1.25	7.00	65.00
Phlox Subulata,	1.00	5.50	45.00
" " The Bride.....	1.00	6.00	.....
" " Model.....	1.00	5.50	45.00
Phlox Divaricata (Wild Sweet William).....	1.00	6.00	50.00
" " Alba, new white variety.....	5.00	.....	.....

All of the above strong field-grown plants.

We have the largest, finest and most comprehensive stock of Hardy Plants in America, including three hundred varieties of the choicest Peonies, one hundred varieties of Japanese and European Tree Peonies, and also the largest collection of Japanese Iris in the world and an unsurpassed collection of named Phloxes. Our illustrated catalogue describing these and hundreds of other Hardy Plants, Trees, Rhododendrons, Azaleas and Shrubs, will be sent on request.

"A PLEA FOR HARDY PLANTS," by J. Wilkinson Elliott, contains much information about Hardy Gardens, with plans for their arrangement. We have made arrangements with the publishers of this book to furnish it to customers at a very low price. Particulars on request.

ELLIOTT NURSERY CO., 315 Sixth Ave., PITTSBURG, PA.

The Garden Magazine

VOL. V—No. 2
PUBLISHED MONTHLY

MARCH, 1907

{ ONE DOLLAR A YEAR
{ FIFTEEN CENTS A COPY



[For the purpose of reckoning dates, New York is generally taken as a standard. Allow six days' difference for every hundred miles of latitude.]

Before March First

Order seeds, trees, plants, tools, fertilizers and spraying outfit.

You have four things to gain by ordering now instead of April:

1. You have the leisure now to plan a better garden and learn the "quality" varieties.
2. You run no danger of substitution now—an odious disappointment. No other variety is as good as the one you want.
3. You avoid the spring rush on your own place.
4. You avoid the risk of late planting. Thousands of trees and shrubs are ruined every April and May by delays in transit.

Think of the poor clerks who work every night during April until midnight, and be merciful!

Make or buy a hotbed and coldframe.

Plan your garden on paper.

Rearrange your shrubbery. Give every plant room to develop into a perfect specimen.

Draw diagram of the hardy border showing how gaps are to be filled.

Save wood ashes in a dry place for fertilizer.

Clean and sharpen tools and invent a perfect system of keeping them in order.

Look at the potatoes, dahlias, cannas, gladioli and other roots in the cellar.

Bring up cacti, geraniums, chrysanthemums and other plants that have been wintered in the cellar.

Cut twigs of fruit trees and flowering shrubs and put them in a jar of water in the window.

MARCH 1ST TO 15TH

(or before frost is out of ground)

Sow vegetables in hotbeds and gain four to six weeks on the season.

Sow vegetables in coldframes and gain two to four weeks.

Start a few boxes of vegetables and flowers in the windowsill, if you have no coldframe.

Clean up and resolve to stay clean.

Tie up vines on porch.

Train your berry bushes.

Rake, fertilize, repair and roll the lawn. Sow grass seed. Do sodding.

Gradually lift the heaviest part of the covering from bulb beds and the hardy border. Harden the young growth. Replace some litter if a freeze threatens.

Partly uncover hardy roses.

Graft old fruit trees of poor varieties with cions of good varieties and they will bear better fruit in three years.

Transplant deciduous trees from the wild.

Cut back shrubs that have been moved to new positions.

Prune all shrubs after they flower.

Prune fruit trees.

Remove water sprouts and suckers from fruit trees.

Remove all dead wood from trees, shrubs and vines.

Fill holes in tree trunks with cement. Cut out rotten wood and singe cut surfaces with blast lamp.

Remove and burn twigs infested with eggs of plant lice, tree cricket and Buffalo tree-hopper.

Destroy cocoons of fall webworms.

Put bands on fruit trees if canker worms troubled them last year.

Destroy egg masses of tent-caterpillars.

Scrape off loose bark from trunk and large limbs of apple trees with a sharp hoe.

Spray scale-infested trees and shrubs with a lime-sulphur wash.

Spray pear trees for psylla and blister-mite with a lime-sulphur wash when buds are swelling.

Spray plums for soft scales with kerosene emulsion.

Cut off strawberry runners, if you failed to do so last season.

Make bird houses. Birds eat insects.

Make veranda and window boxes.

Manure trees, shrubs and vines.

Put manure, or nitrate of soda, on the lawn, asparagus, rhubarb, and strawberry beds.

Scatter salt on your asparagus bed—half a pound to the square yard. It is not necessary near the seaside.

See the best snowdrops in town.

Who has the earliest garden in town? Why? Isn't it because of his windbreak? Order evergreens for windbreaks now.

ABOUT MARCH 15TH

(or as soon as frost is out of ground)

Sow mignonette the first day the frost is out of the ground.

Plant sweet peas.

Beat your neighbors on gladiolus by planting a few as soon as the soil can be worked

and for succession make a planting every two weeks until July 1st.

Finish pruning hardy roses already planted.

ABOUT MARCH 20TH

(or as soon as the soil is mellow)

Plow and harrow the garden, or spade and rake it.

Remove from the garden bricks, stones, and other rubbish that will not decay.

Spread coal ashes over the vegetable garden and plow them in. They add no plant food, but improve the texture of the soil.

Put new gravel on walks and drives and roll them.

Buy sand to lighten your heavy soil.

Dig out the bad soil in your city yard and replace it with good soil.

Plant magnolia, tulip tree and rose of Sharon, none of which may be safely moved in fall.

Plant golden banded and speciosum lilies.

Who has Siberian scillas naturalized in his lawn?

Try to find some one who has the Taurian scilla. Flowers earlier and more on a stalk.

Who, in your town, grows those lovely blue flowers of March called "glory-of-the-snow," or *Chionodoxa*?

ABOUT MARCH 25TH

Plant new hardy roses.

Prune newly planted roses a little more severely than established ones.

Get acquainted with the giant snowdrop.

Study the best collection of crocuses in town. Note the best varieties.

Which lawn in your town contains the prettiest scattering of crocuses?

Ask your neighbors to let you see these March-blooming flowers: spring adonis (*Adonis vernalis*); Grecian and Apennine windflowers (*Anemone blanda* and *Apennina*); winter aconite (*Eranthis hyemalis*); and the winter heliotrope (*Petasites fragrans*).

MAKE THESE RESOLUTIONS

To do fewer things this year and have a higher standard.

To get one boy or girl started in gardening.

To try one new vegetable. Do you know okra and gumbo soup?

To go to the teacher who has charge of your children and help her make the school grounds more attractive.

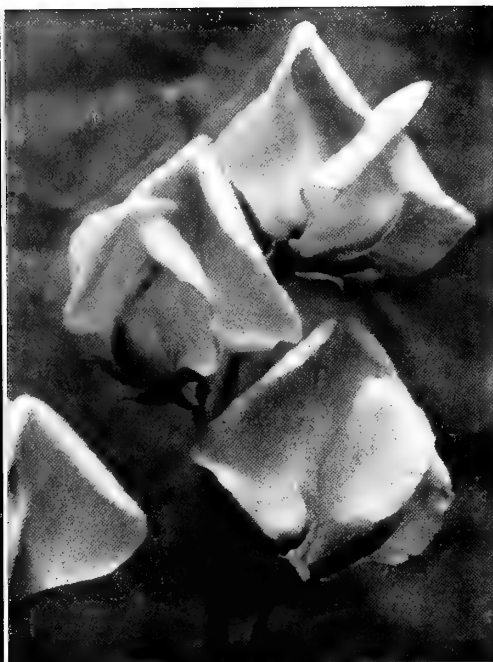
To give a year's subscription to THE GARDEN MAGAZINE every year to some person whom you wish to interest in gardening.

To join your local improvement association or horticultural society.

To combine with your neighbors to beautify the vacant lot in your block.



Folded



Hooded



Type

Class I. *Grandiflora*. The common important group containing nearly all of the old favorites. The flowers are large, on long stems, and all fall one way

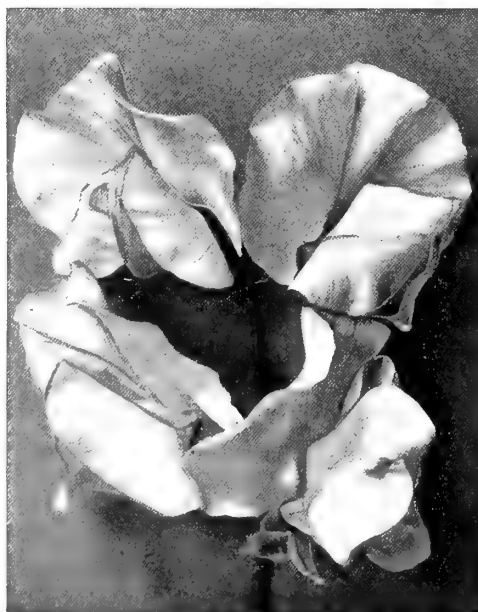
The Fine Art of Sweet Pea Culture—By E. D. Darlington, ^{Penn-}sylvania

THE EXPERIENCE OF A VARIETY-TESTER WHO HAS GROWN EVERY KIND FROM THE BEGINNING OF THE "CRAZE" AND HAS EXAMINED COUNTLESS REPORTS FROM ALL PARTS OF THE COUNTRY

THE conditions for success with sweet peas are practically the same as for the common garden or culinary peas. Where the garden peas can be had only during the earliest part of summer, the flowering period of the sweet pea will be correspondingly short and only early-flowering sorts should be chosen, and the seed should be planted at the earliest possible date. Where good garden peas can be produced throughout the summer, the sweet peas may be had in flower from early in the summer until killed by freezing in the fall, and the largest flowered and most refined varieties may be planted with the most gratifying results. In the warm South, fall plantings of early varieties only should be made, or early spring sowings of the dwarf extra-early bloomers, but in well-drained soils, compact dwarf types of the Cupid and Bush class will do well as bedding plants during the hottest summer months.

The sweet pea prefers a rich, deep loam, but it will grow well in almost any well-drained soil. The plants can absorb and use large quantities of moisture, but they do not like "wet feet." Too often the mistake is made of planting the sweet pea in a trench which is slightly hollowed below the surrounding surface. Then, when the young plants are well started, there will come a heavy rain and they will be given a too liberal watering, or the water remains standing about the plants and the soil becomes sodden and sour. Under these conditions, the vines turn to a sickly yellow and rot just below the surface. This is the sweet pea blight, and when it

appears, plant your sweet peas in a fresh location another year. The best preventive is to draw loose earth up in a slight ridge over the row after planting the seed, and to keep hilling up to the vines as they increase in growth. This method, in connection with a slight slope to the ground, will ensure good surface drainage, and cause the surface moisture to drain away rapidly. If in a dry season it is desirable to water or irrigate the



Class II. The orchid-flowered sweet pea *Coun-*tess of Spencer. The edges of the standards and wings are wavy or fluted

rows of sweet peas, make a shallow drill or furrow on each side of the row and run these trenches full of water, instead of putting it directly on the root stems. After a heavy watering of this kind, allow the surface soil to dry out, and work it as soon as it will crumble readily into small particles.

Sweet peas may also be grown in warm, sandy soil, if the seed is planted very early, and they will flower freely until hot weather sets in, but the flowers will not be as large, nor the stems as long as when planted in cooler, heavier soils. The period of flowering may be prolonged when grown in light soils by placing a mulch about the roots to keep the soil cool and watering the row copiously at frequent intervals during dry weather.

With me, paradoxical as it may seem, I secure the best flowers and longest season of flowering in a comparatively dry, warm summer. Under these conditions, the vines make a moderate growth during the cool spring months, and blossom profusely from the latter part of June until the vines and foliage are destroyed by the small mite, known as the red spider, during the hot weather in August,

On the other hand, if the summer season is cool with continued heavy rains the vines make a large, soft growth of foliage, are late in making flower buds, and if a heavy rain-storm comes in the afternoon or evening, so that the buds do not dry off before nightfall, the buds blast and drop from the stems without opening. For this reason, I would caution sweet pea growers against syringing

their vines in the evening. It is much better to syringe the vines in the early morning.

HOW AND WHEN TO PLANT

Satisfactory results with the sweet pea may be had by planting the seed at the earliest possible opportunity in the spring. The plants are quite hardy and no injury will result if the soil should become slightly frozen after the seed is planted. It is the practice of the most successful growers to prepare the ground for the sweet pea rows in the fall. Then, as soon as the surface soil dries out in the spring, the furrows or drills are made about three inches deep, without digging or reploting the ground. This plan permits of a much earlier planting, as where the ground has to be dug or plowed it must dry out to a greater depth to be put into the proper condition for planting.

Arrange the rows to give the maximum of sunlight and fresh air. Where more than a single row is planted, have at least four feet of clear space between the rows.

Do not plant the seeds too thickly, or the vines will be crowded and slender in growth. One ounce of seed to fifteen feet of row is sufficient under ordinary conditions.

The seed may be covered from two to four inches deep in planting, but for quick germination, I would advise making a drill two inches deep, and covering the seed with fine soil level with the surface, hilling up to a further depth of two to four inches with fine soil drawn up about the young vines as they become established in growth.

Provide support of brush, or a trellis of poultry netting, or of stakes and twine for the vines, and set this either when the seed is planted or at some time before the vines are more than four to five inches in height, for if the vines are allowed to fall over on the soil, it is a very difficult matter to get them to attach themselves to the trellis, or brush, and to assume the desired erect position.

Varieties having pure paper-white flowers, and also some of the varieties with flowers of light shades of color, have white-skinned seeds in contrast to the black or dark brown skin of the seed of the darker colors. These light-colored seeds are more tender than the dark seeds and are likely to rot in the ground if



Class III. Dwarf early-flowering. Blooms in sixty or seventy days. Only fifteen inches high

planted too early, while the soil is still cold and wet. This trouble is due to the tender character of the outer covering of the seed, and as it is not always desirable to wait until later in the season to plant the white-flowered sorts, it is best to follow the "Hutchins" method with these. This consists simply in placing the paper bag containing the seed two or three inches deep in the ground and covering it with earth. Treated in this way, the seed absorbs moisture and swells more gradually, and will be ready for planting in the regular manner in about a week's time.

For the warm South and the moderate winters of the Middle States, the plan of a

late fall planting of sweet pea seed gives very satisfactory results, the seeds being sown in drills two inches deep in well drained ground, late in the fall, to lie dormant in the ground through the winter. This fall planted seed germinates much earlier than the earliest spring planting that can be made, and comes in flower at least a month earlier, giving larger and better flowers. I have also found that a late spring planting, made about the last of May or early in June, will produce very good flowers, but not nearly as many of them, during the cool fall months.

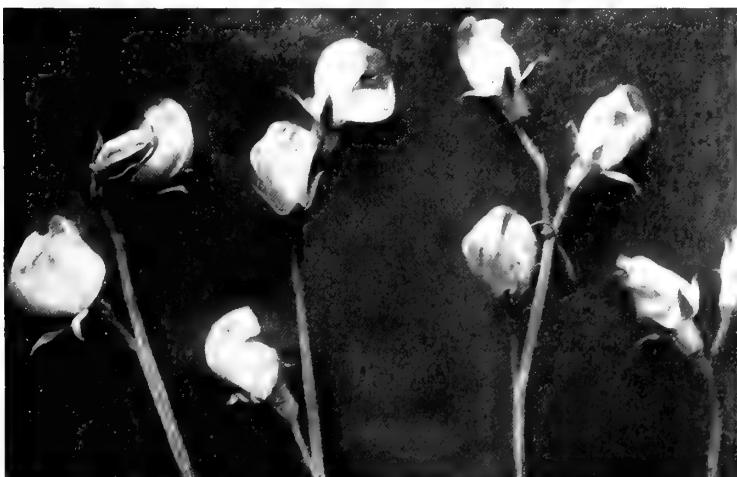
In these late spring and fall plantings, I make the rows four feet apart and have the plants stand six to twelve inches apart, allowing the vines to run at will over the ground. This plan seems to greatly prolong the life of the vines and gives a correspondingly longer period of bloom, over those grown on a trellis or brush in the ordinary manner.

In the late fall planting, I sow the seed quite thickly, an ounce to ten or fifteen feet of row, and ridge the earth slightly above the row when covering the seed. The germination is not as even as from the early spring planting, but this quantity of seed will give an ample stand for good results, as where the vines are left spreading on the soil they will branch much more freely than when grown on a trellis.

FERTILIZERS AND CULTIVATION

The best fertilizer for promoting the growth of the sweet pea is barnyard manure, which should be dug or plowed into the ground the preceding fall, but well-rotted or decayed manure can be used in the spring in liberal quantities. Next to this comes finely ground, pure raw bone as a high-grade commercial fertilizer, which must be well mixed with the soil before the seed is planted.

As soon as the young plants are well above the ground, begin cultivation. Keep the surface soil loose and fine to a depth of two or three inches by frequent hoeings or workings with a cultivator. This not only keeps the soil free from weeds, but greatly assists the growth of the vines by admitting a good supply of air to the roots, and ensures the moisture of the soil. After the vines commence flowering place a mulch two inches



Class IV. Freaks are abortive forms and desirable only as curiosities



Class V. Doubles. Not a distinct class, but appears in the grandiflora type



Class VI. Cupid and Bush. Compare with the tall or normal kind at the right

thick of straw and lawn clippings on the soil. The mulch will keep the soil cool and moist and do away with the necessity for continued cultivation.

SWEET PEA ENEMIES

Only two insects infect sweet peas, the small green plant lice (aphides) and the red spider. The aphides appear on the young shoots, and suck the juices from the plant. They can be kept in check by spraying the vines with soap-suds, or any of the special insecticides offered for this purpose, but as satisfactory a way as any for home use is to brush them from the vines with a small evergreen branch and rake them into the fine, dry surface soil with the garden rake.

The red spider is a very minute insect which works on the undersides of the leaves during hot, dry weather, sucking the juices from the leaves, and causing them to take on a grayish or dead color. These insects cover themselves with a fine web and are quite difficult to exterminate, but can be held in check by frequent spraying with a suds, or solution, made from some neutral soap, which must be applied in a fine mist-like spray and with considerable force to the under sides of the leaves.

To keep the vines in bloom as long as possible, remove all flowers as soon as they fade; do not allow them to make seed. If the flowers are desired for decorative purposes, they should be cut early in the morning, when freshly opened, and if they are to be sent away, the stems should be placed in fresh, cold water for ten or twelve hours, or overnight, before shipping them, as they wilt very quickly if shipped when freshly cut from the vines.

Always use a sharp knife, or a pair of sharp scissors in gathering the flowers, as pulling the stems from the vines bruises or injures the vine and will frequently cause them to die out and leave vacant places in the row.

CLASSES AND VARIETIES

Class I. *Grandiflora*.—In this class we have the best of Henry Eckford's novelties, as well as varieties originating with other sweet pea specialists. The vines are of strong, vigorous growth, very free flowering, but rather later in flowering than the early-

flowering class. The flowers are of large size, good form and substance, coming three and four on a long stem and all facing one way. While the flowers of this section are uniformly large and good, there is a slight variation in form with different varieties. In some, the large standard is slightly folded (like the leaves of a book) in the centre, and as the flowers remain open, the upper edges curl over slightly, giving the flower a pointed effect; in others, the wings are very widely spread, and as the broad, rounded standard becomes older, it curls down to meet the wings, producing what is known as the hooded flower. In this class, the most satisfactory varieties in the different colors are: Dorothy Eckford, purest white; Mrs. Joseph Chamberlain, white with rosy pink stripes; Pink Friar, silvery white with



Class VII. Notched. In the older varieties there was a nick in the standard

watered veinings of soft rose; Aurora, salmon pink stripes on silver white; Dainty, silvery white with pink edges; Hon. Mrs. E. Kenyon, deep cream; Janet Scott, soft clear pink; Lovely, soft pink with white edge; Senator, dark purplish maroon stripes on white; Gray Friar, watered purple veinings on silvery white; Apple Blossom, blended pink and white; Hon. F. Bouverie, salmon pink; Royal Rose, deep pink; Sybil Eckford, rich apricot; Miss Wilmott, rich orange pink; Majestic, deep rose; Mrs. Dugdale, rosy carmine distinctly shaded; Queen Alexandra, intense scarlet; Henry Eckford, orange scarlet, but fades badly under hot sun; King Edward VII., rich, deep red; Duke of Westminster, dark claret; Othello, deep brownish maroon; Mrs. George Higginson, pale lavender or "sky-blue;" Lady Nina Balfour, soft lavender, or "mouse" tint; Captain of the Blues, bright bluish purple.

This list comprises an almost complete assortment of the most distinct and desirable shades of coloring, but where a varied coloring is desired, without any special regard as to the names of the varieties, the seed of this class may be purchased more cheaply in the

better mixtures offered by leading seedsmen, and no matter how the coloring varies, it always blends harmoniously where the varieties are sown together in long rows.

Class II. *Orchid-flowered*.—This is the most recently introduced and the best, as well as largest-flowered, of all the sweet peas. The flowers are very large, much larger even than those of the *grandiflora* type, and are produced in threes and fours on a long, stiff stem, are of distinctly crystalline finish, like frosted silver, and where they develop slowly in a cool location, the edges of the standards and wings have a beautiful wavy, or fluted effect. This type is of English origin and has shown a strong tendency to produce new and distinct colorings from the original or parent variety, the Countess Spencer; but while the vines are of vigorous growth and free-flowering, they produce very little seed and are still expensive. In this type are: Countess Spencer, a soft rosy pink; Gladys Unwin, a lighter pink than Countess Spencer; Florence Spencer, a deeper, richer pink than Countess Spencer; Helen Lewis, bright salmon orange; John Ingman, deep rose.

Class III. *Dwarf Early-flowering*.—This class has been developed by continual selection for earliness in flowering. The entire plant is only fifteen inches in height when in full bloom, and it will come into flower in sixty to seventy days from the time the seed is planted. Such plants make a very pretty effect when seen in long rows, and in cutting for house decoration, the entire stem of the plant is cut off just above the ground, giving a very pretty spray with the green leaves and two or three stems of bright, fragrant flowers. The flowers of this class are rather small in size and have a slight notch at the top of the standard, but their very early flowering habit, and the ease with which they may be grown in any section, make them most desirable. In this class there are as yet but three distinct varieties, namely: Earliest of All, with bright pink standards and creamy white wings; Earliest White, a pure paper white; Sun-



The side notch occasionally appears in the new large-flowered Eckford varieties

beams, a deep primrose or creamy yellow tint.

Class IV. *Freaks*.—These are abortive forms and are only desirable as a floral curiosity. The standards are shortened or poorly developed, and the flowers have a closed or bud-like form. In this class the Red Ridinghood, White Snapdragon and Salvation Lassic are the most distinct and desirable.

Class V. *Doubles*.—Double-flowered sweet peas are not a distinct class as the double flowers are likely to come on many of the grandiflora class when grown under exceptionally favorable conditions, but a number of the seed houses have special stocks of seed saved from double flowers only and these, of course, are more likely to produce the double flowers. In these the Double White, Double Apple Blossom, or Bride of Niagara, Double Captain of the Blues, Double Splendor and Double Boreatton not only produce

the largest and most double flowers, but come almost uniformly double.

Class VI. *Cupids and Bush*.—These make dwarf, compact plants, the deep green foliage of the Cupids spreading like a mossy carpet on the soil, while the bush plants are erect but compact, and only eighteen inches in height. These do well in dry or rainless locations, as the plants root deeply and flower freely during the hottest weather, but if cool rains prevail, the dense foliage is liable to mildew or rot off; hence, they are not satisfactory for growing where the ordinary tall or running varieties succeed. Both classes have almost as many distinct varieties as the tall type, but the best results are generally had with those of early-flowering habit, such as Pink Cupid and Blanche Ferry Cupid, or by sowing the seed in mixture of the different kinds.

Class VII. *Notches*.—In the older varieties those having the short, erect standard were

likely to have a slight notch, or nick, in the centre of the standard, while in the blue-edged section, like the Butterfly, the notches were at the sides of the standard and near the base. The notch in the centre of the standard has been entirely bred out of the grandiflora type, but the side notch occasionally appears in some of the new, large-flowered Eckford novelties. The best and most distinct sorts having the notch in the centre of the standard are: Emily Henderson, pure paper white; Blanche Ferry, pink standard, white wings; Coccinea, bright cherry red; Scarlet Gem, bright scarlet; American, heavily striped with bright red on silvery white.

In the type having the standards notched at the sides, the best varieties are: Lottie Eckford, large silvery white, with soft lavender shaded edges; Maid of Honor, a larger, better flower than the Butterfly, with blue shadings on silver white.

The Whole Art of Managing Coldframes—By George Standen, Yonkers, N. Y.

EXPLAINING JUST HOW TO GAIN FOUR TO SIX WEEKS ON ALL IMPORTANT VEGETABLES, AT SMALL EXPENSE—ALSO HOW TO HAVE THREE KINDS OF VEGETABLES THE BEST PART OF THE WINTER

EVERY family ought to have a coldframe because it can gain from four to six weeks on the season of early vegetables, merely by sowing seeds in a coldframe on the first of March, as is indicated in the accompanying table, which shows for each vegetable how much can be gained over the regular outdoor cultivation by the aid of coldframes.

TABLE SHOWING GAIN MADE BY COLDFRAME

Sown March 1st (in Coldframe)	Transplanted	READY TO EAT	
		Coldframe	Outdoors
Bean		May 8th	June 15th
Beet	Mar. 25th	May 20th	June 25th
Cabbage	April 1st	June 8th	April 1st
Carrot		May 15th	June 15th
Cauliflower	April 1st	June 8th	April 1st
Kohlrabi	April 1st	May 15th	June 15th
Lettuce	Mar. 20th	May 1st	June 1st
Parsley		May 15th	June 15th
Pea		May 8th	June 8th
Radish		April 15th	May 15th
Spinach		May 8th	June 15th

There are three other reasons why you should have a coldframe:

1. You can have lettuce, radishes and spinach a good part of the winter.
2. You can have the choicest foxglove, larkspur and cosmos only by aid of a coldframe.
3. The highest qualities of pansies, violets, English daisies, polyanthus, and auricula are flowered only in a coldframe, where you may have them between February and April.

Coldframes can be used to good advantage for a number of early vegetables. A spot that is sheltered from north and west winds and facing south is preferable, in order to obtain all the sunlight.

If coldframes have been idle all winter, take off about two inches of the old surface soil and spade the balance up well with a spading fork. Give it a good sprinkling of air slaked lime to sweeten it. If the days are mild, remove the sash, putting it on again at night; let it remain in this condition until ready for planting. Just before planting, spread a dressing three inches thick of well-decayed manure and a sprinkling of commercial fertilizer over the surface of the soil, and thoroughly work them in. With an iron-toothed rake smooth the surface until the soil is rather fine. Warm up the soil for a day or so by keeping the sash on tight, and this will greatly assist the germination of the seeds.

A most important point for success is in properly sowing the seeds; put in drills which are one-half an inch deep, cover, and firm the soil. After this is completed, the sash may remain on and a close atmosphere be maintained until the young seedlings appear, which will be in about ten days. Have the sides and ends of the frames banked with good stable litter or leaves to keep out the cold, and cover the sash with salt hay, mats or shutters at night, and at other times when the mercury goes below the freezing point, which is often the case; sometimes the mercury will go as low as 10°. Remove the covering on all bright and mild days. A good indication of the proper time to cover the frames is when the glass begins to frost over.

Airing or ventilating should be watched for the weather in March is very uncertain. Some days, the temperature outside will be as high as 55° in the shade, and other days will be dull and cold, with the temperature below the freezing point. As soon as the seedlings are up air the frame on all days when it can be done without submitting

the plants to danger of frost and avoid cold draughts, and close them about fifteen minutes before the sun is off them. While the seedlings are small, keep the temperature of the frames from 55° to 65°.

WATERING

Water the plants in the frame between ten and two o'clock, so that they may have a chance to dry off before the frames are closed for the night. Young seedlings need watering as soon as the surface of the soil looks dry; use a fine-rosed watering can and give a thorough soaking, taking care not to wash the seedlings out of the soil. Examine the condition of the soil by taking it in the hands and squeezing it; if it holds together the beds will not need water, but if, on the other hand, the soil falls apart, like ashes, then it needs a thorough watering, not merely a surface wetting. Always watch the top end of the frames, as that part always dries out more rapidly, because it has more sun and a better circulation of air.

When the seeds have made their first true leaves, transplant them into other frames, for if they are not separated, they will crowd one another. Set the plants about four inches apart each way, shade for a day or so or until they take hold of the new soil, then gradually inure them to the sunlight. Sprinkle the plants frequently to keep them from wilting. Stir the surface of the soil at least once a week, and remove all weeds as they appear.

HARDENING OFF

Before transplanting the seedlings to the open ground, they must be hardened off. This process needs one to two weeks. To do this, air is admitted in larger and larger quantities until the sashes are removed

entirely during the day, and during the night ventilation is given by leaving the sash open, at first only a small crack, which is increased gradually until it is four or five inches wide. The handiest thing with which to prop the sash open is a block of wood.

Lettuce, cauliflower, cabbage, onions and leeks can be subjected to airier conditions than peppers, egg plants and tomatoes. Lettuce, cauliflower and cabbage may be planted out about April 20th. Onions and leeks are better not disturbed until they attain the size of a lead pencil. Peppers and egg plants require a frame having a slightly warmer temperature; they may be planted out about May 20th. Syringe egg plants occasionally for red spiders. Tomatoes will make a stronger, sturdier growth if kept a little on the dry side.

LETTUCE

Sow March 1st and for succession sow every two weeks. Varieties: *Private Stock* and *Trianon Cos.*

Lettuces are divided into two classes, the cabbage with the round head, and the Cos with long, hard and narrow leaves. The cabbage variety is the most tender, and the Cos the best flavored. Sow the seed in finely raked soil and give them a very thin covering. After the young plants have made their true leaves, transplant to other frames, placing the plants nine inches apart each way. These may be grown on in the frames for the earliest crop, which will be ready for use about April 20th.

The plants raised from the second sowing may be transplanted to 4 x 4 inches. Transplant to the open ground about April 15th placing the plants nine inches apart, in rows which are twelve to fifteen inches apart. When transplanting lettuces, always select the strongest plants, discard all the weaklings, secure all the roots possible and all the soil that will adhere to them. When planting, keep the leaves well up from the soil, firm well the earth about the roots, water and shade for a day or so, or until they take hold of the new soil.

As long as the plants are in the frames, give them plenty of air. Stir the soil at least once a week to keep it mellow and to keep down the weeds. As soon as the ground can be worked outdoors, make the successional sowing there, rather than in the frames. If the weather should be dry, keep the ground constantly hoed and watered. In the extreme hot weather, grow lettuce in a partly shady place, as it runs to seed very quickly.

Good lettuces can be had in the late fall and early winter, if occasional sowings of seed are made in coldframes from August 15th to September 15th. If the frames are protected from the extreme cold, good heads may be had up to Christmas. In order to insure good heads of lettuce, keep water from the heart, and heading will be materially assisted by an application of nitrate of soda, which may be applied by strewing it over the surface of the soil, or it may be given in liquid form by dissolving a 3-inch potful in twenty gallons of water. When thoroughly dissolved this will water about 162 sq. ft. of



Coldframes protected from winter winds by high fences, which are screened in summer by grape vines

soil. Two applications, at intervals of ten to fourteen days, will be sufficient.

TOMATOES

Sow March 1st, and for main crop April 15th. Varieties: *early, Dwarf Champion* and *Earliana*; *late, Stone and Table Queen.*

These two sowings will keep up a supply from June 20th until November.

Sow the seed in drills six inches apart, cover lightly and water to settle the soil. When the plants are about three inches high, transplant to other frames, placing them from four to six inches apart each way. Set the plants so that the seed leaves will be just above the surface of the soil, and shade for a few days. Keep the soil a little on the dry side to encourage a short stocky growth. Until ready to harden the plants, keep a temperature of from 50° to 55°. Transplant to the open ground about May 15th, in soil which is not rich, or they will make too much growth and few fruits. Set the plants four feet apart each way (*Dwarf Champion* needs only two and one-half feet), support the plants with a trellis or stakes and train about five stems, selecting the strongest shoots and removing all weak ones and laterals, or side shoots, tying them as they grow to protect them from wind, etc. In the fall, should there be danger of frost, tomatoes may be picked in the green or half-ripe state and put on straw or boards, and be ripened in coldframes.

PEPPERS

Sow March 15th. Varieties: *Bull Nose* and *Red Cayenne.*

A few plants of peppers will supply a good-



The commonest and cheapest type of coldframe. Lettuce is perhaps the most important winter crop

sized family. They require a temperature of from 60° to 70°. Sow in drills which are three inches apart and water very sparingly until the young plants attain a height of three inches. Transplant to other frames, putting the plants three inches apart each way, and transplant to the open ground about May 20th.

Peppers prefer a deep rich soil and are ready for use about July 15th. They may be planted fifteen inches apart in rows which are two feet apart.

BEETS

Sow March 1st, and for succession every two weeks until August 15th. Varieties: *Bassano, Eclipse.*

Sow in drills which are one inch deep and ten inches apart. Maintain a temperature of from 50° to 55°, and when the plants are three inches high, thin them out to two or three inches apart. The surplus plants may be transplanted outdoors, setting them three inches apart, in rows which are twelve inches apart. The first beets in the coldframe will be ready to eat about May first. Beets delight in light, rich soil and require an abundance of water. The leaves may be used for greens.

CARROTS

Sow March 1st, and for succession every three weeks until July 15th. Varieties: *Parisian, Scarlet Horn, Half Long Danvers.*

Sow in coldframes in drills four inches apart. When three inches high, thin the plants to about one inch apart. Early Parisian is the best for coldframes, as it is a small carrot and one which matures quickly. It is ready for use in about six weeks. Later sowing outdoors of Early Scarlet Horn and Half Long Danvers may be made as soon as the ground can be worked, in drills which are one inch deep and fifteen inches apart. Thin out as directed above, and keep the surface of the soil frequently stirred to keep it open.

EGG PLANT

Sow March 15th. Varieties: *New York Improved, Black Beauty.*

Egg plant needs a hotbed. Have a rich, light seed soil and keep it rather dry, as the seed will not germinate if it is kept too wet. Maintain a temperature of about 80°. When about three inches high, transplant to another hotbed, setting the plants six inches apart each way. Syringe the plants frequently, especially the under sides of the leaves, to keep down red spider, and avoid cold draughts. About June 1st, transplant to open ground in very rich soil, setting the plants two feet apart in rows which are three feet apart. Water freely during dry weather, and dust lightly with an insecticide to destroy the potato bugs. The fruit will be ready for use about the middle of July.

ONIONS

Sow March 10th. Varieties: *White Globe* and *Prizetaker.*

Onions require a very rich soil, liberal and frequent dressings of manure, and

fertilizers are also essential to insure success. Sow in drills which are four inches apart, cover and firm the soil with a board, in order that it shall retain the moisture. As soon as the young onions appear above the soil ventilate the frames giving an abundance of air on all fair days. Frequently stir the surface of the soil and remove all weeds as they appear. As the onions increase in size, give them air at night, and if the weather is mild, the sash may be left off entirely. When about the size of a lead pencil, transplant to open ground, which will be about May 1st. Put them in rows, setting the plants three inches deep, five inches apart and sixteen inches from row to row. Onions may also be sown outdoors and thinned to three inches apart. The young onions can be used as they are, or the thinning transplanted to other rows, as has been described. Onions may also be grown from sets planted one inch deep, three inches apart and one foot from row to row. Sow the seed, or plant the sets, in March, as soon as the ground can be worked.

For a more detailed description of how to grow the best onions see the January GARDEN MAGAZINE, page 306.

LEEKS

Sow March 10th. Varieties: *American Flag and Large Carentan*.

Leeks are greatly prized for soups and when cut into small pieces and cooked as onions they make a delicious vegetable. Sow in coldframes and give the same care as recommended for onions. They will be ready for use in September. Transplant when the size of an ordinary lead pencil to trenches which have been dug eight inches deep and one foot wide, into which has been put a 3-inch layer of manure and one and one-half inches of soil to plant in. Set them about two inches deep, so that the neck is covered, and draw a little soil up to them from time to time, as they grow, to blanch them. They may be grown in a double row,

the individual rows being nine inches apart, and the plants six inches apart in the row.

BEANS

Sow March 20th, and for succession every two weeks. Varieties: *Triumph of the Frames, and Early Mohawk*.

Beans require a light, not over-rich soil. For early use, sow *Triumph of the Frames* in coldframes, in drills two inches deep and one foot apart. Maintain a close atmosphere until the young plants show through the soil, then air and water carefully, and on no account let cold draughts strike them. Beans require a night temperature of 60°, with a rise of ten degrees on bright days. They should be ready for use in six weeks from the date of sowing. Pick when young and tender. From about April 10th, on, make the successional sowings in open ground, planting seeds of *Early Mohawk* in rows eighteen inches apart and two inches deep until August 15th.

PARSLEY

Sow March 1st. Varieties: *Moss-curl'd, Fern-leaved*.

Sow the seeds rather thickly in drills one-half inch deep, which are three inches apart. Parsley germinates very slowly. When two inches high, transplant to the open ground. For succession, sow April 1st and again on July 15th, in drills one-half inch deep and one foot apart. The latter sowing can be kept over winter by covering with salt hay, or leaves, when cold weather set in.

SPINACH

Sow March 1st, and for succession every two weeks until May 15th. Varieties: *Prickly, and Savoy Leaved or Bloomsdale*.

The early sowings of spinach in the frames should be in drills which are one-half inch deep and six inches apart. Keep the soil on the dry side until the seeds germinate, as they are liable to rot if kept too wet. A temperature of from 45° to 50° is sufficiently high. As soon as the seeds are up nicely,



Celery. At right, plant twice transplanted and ready to set outdoors. At left, plant has not been transplanted. Centre plant ready for second transplanting

give plenty of air; and a light dressing of nitrate of soda strewn over the surface will hasten growth. It should be ready for use in six weeks from planting. For succession, sow every two weeks until May 15th. As soon as the ground can be worked, make the successional sowings outdoors in drills which are one inch deep and one foot apart. For summer use, sow *New Zealand* spinach June 1st in hills at least four feet apart, and one inch deep. For fall use, sow *Bloomsdale* again on August 1st and 15th, and for late fall use, make a sowing in the coldframes on September 8th. This last sowing will make good spinach for Christmas. Another sowing may be made about September 21st, this can be wintered over and will be ready to gather the following March.

CELERY

Sow April 1st. Varieties: *early, White Plume; second early, Fin de Siecle; mid-season, Giant Pascal; late, New Rose*.

Sow the seed in finely raked soil in drills which are four inches apart. Firm the soil well with board by walking on it. Give an abundance of water, and as soon as the plants are two inches high, transplant in other frames, in soil that has been enriched with a layer of manure, three inches deep, and which has been thoroughly dug into the soil. Set the plants four inches apart, alternate them in the rows and do not plant too deep, firm the earth well about the roots, water thoroughly to settle the soil, and shade for a day or two, until the plants have taken root in the new soil. They will now grow very fast and will need an abundance of water at least once a day. The first sowings will be ready for the trenches, or cultivation on the level, about July 1st.

Dig trenches fifteen inches wide and eight inches deep and four feet apart. Put about



Showing how coldframes are ventilated—by raising top end of sash with a wooden block

four inches of good cow manure in the bottom, treading it down firmly with the feet. Add about two inches of soil to plant in, so that the roots do not come in contact with the manure. When ready for planting, secure a good ball of earth with each plant and set them in double rows, which are about ten inches apart, and six inches apart in the row. Set firmly, taking care not to bury the heart. The best time to plant celery, unless the day be dull or there is a sign of rain, is in the afternoon from three o'clock, as the sun is not so strong. From this on, the celery should be constantly watched, keeping it free from weeds and watering thoroughly and frequently if the weather is dry. For celery which is wanted for early use, earthing up is necessary about the middle of August. Pull the soil up to the plants with a hoe, breaking all lumps, gather the leaf-stalks tightly together with the left hand and press the soil closely around them with the right hand, using care to prevent the soil from falling into the heart of the plant, for it will rot it. Two earthings will suffice for White Plume and Fin de Siecle, then hemlock boards may be placed on edge on each side of the row and supported with stakes. This will help to blanch and whiten the celery. In this manner, White Plume will be ready for use September 15th, Fin de Siecle following after in about four weeks. Giant Pascal is a large celery and one of the very best flavored varieties grown. It will be ready for use about December 1st. The late variety, New Rose, can be kept in trenches until May. Have the rows of Giant Pascal and New Rose from six to eight feet apart, so that there may be sufficient earth to protect them during the winter.

As fast as these two late varieties grow, bank them up, always doing it when the earth and the celery are dry, otherwise it is liable to cause the heart to rot. When the mercury indicates a temperature of 22°, it is time to put on the winter covering. This is done by placing boards as described for White Plume. The boards should reach to within three inches of the tops of the celery; then take two boards nailed together like a trough, with cleats projecting two inches over



Permanent coldframes of brick and cement. If frames are wanted next to greenhouse, provision must be made against snow falling on frames



Parsley. A winter's supply for a family of five. Very easily raised. All that is necessary is to keep the frost out of the frame

the sides, and place them on top of the celery. This forms a sort of box with a lid. Bank the dirt up to the top of the boards, with a layer of leaves about a foot thick and a sufficient quantity of stable manure to keep the leaves from blowing away. Celery protected in this way keeps to perfection, and will have that rich nutty flavor so often desired and seldom had, and it may be dug any day during the winter.

Level cultivation is practised by a number of growers, but I have always found celery to do better when planted in trenches, as I believe the roots remain in a cooler condition.

CAULIFLOWER

Sow March 1st, and for succession sow every three weeks until April 15th. Varieties: *Early Snowball*, *Gilt Edge*.

Sow in drills which are one-half inch deep and four inches apart. As soon as the plants have made their first set of true leaves, transplant to another bed, setting the plants about four inches apart. Water and shade and give all the air possible. About April 15th, transplant to open ground in good rich soil. Set the plants about two feet apart each way, water freely at all times and stir the soil frequently. A little nitrate of soda or commercial fertilizer strewn around the plants will hasten their growth, and when they show signs of heading, break over the centre a few of the leaves to keep the flower white and to protect it from the sun. Cauliflower cannot be raised in the hot weather. For fall use, sow the seeds of *Snowball* and *Large Algiers* in the open ground on June 20th and July 11th, transplanting as already described. The latter variety is the largest and best variety grown

but is good only for late crop. Cauliflower takes from twelve to fifteen weeks to mature.

CABBAGE

Sow March 1st, and for succession June 1st. Varieties: *early*, *Wakefield*; *second early*, *Succession*; *late*, *Flat Dutch*, *Savoy Autumn King*.

What has been said of the culture of cauliflower is equally true of cabbage. Both need the same treatment. Give good cultivation and for cabbage worm, dust the plants with an insecticide.

Cabbage can be kept through winter by digging a trench about six inches deep, setting them roots up, and covering with soil and litter sufficient to keep out the frost.

PEAS

Sow March 1st, and for succession sow every two weeks outdoors until June 1st, beginning as soon as the ground can be worked. Varieties: *extra early*, *Nott's Excelsior*, *Daniel O'Rourke*, and *Gradus*; *second early*, *Duke of York*; *medium and late*, *Champion of England* and *Telephone*.

Fresh, home-grown peas in the middle of May are a luxury, yet they may be had by sowing *Nott's Excelsior* in coldframes early in March. Sow in drills, which are one foot apart and two inches deep. They require a cool, moist situation. After the plants have attained a height of six inches, give a light dressing of commercial fertilizer strewn over the surface of the soil, so that it may be washed in when watering. It will materially help the plants. They will be ready for use in about ten weeks. Peas sown after June 1st will not do well; as the weather is too hot they are liable to mildew. To grow the best peas, give them a deep, rich loam. For outdoor culture, *Nott's Excelsior* and *Daniel O'Rourke* can be sown in drills which are three inches deep and two feet apart; the later varieties, *Champion of England*, *Duke of York* and *Telephone* must not be less than four feet apart. When the plants have attained a height of about six inches, pull about their stems about two inches of earth, and the plants must be supported by chickenwire or brush.

A few drills of radishes may be sown between the peas in the frames. They will be ready for use in about four weeks; gather when crisp and tender. *Early French Forcing* and *Ne Plus Ultra* are good varieties for outdoor culture. Sow every two weeks until September 1st. *White Summer* and *Chartier* are good varieties for summer sowing.



A portable frame pinned together—not nailed. Can be taken apart in summer and stored elsewhere

Make a Hotbed Now for Annuals—By John Dunbar, Rochester, N. Y.

HOW TO RAISE MORE, BETTER AND EARLIER ANNUAL FLOWERS WITHOUT A GREENHOUSE—A NEW WAY OF GROUPING THESE FLOWERS WHICH GIVES MUCH PURER AND STRONGER MASS-EFFECTS

EVERY home ought to have a hotbed in order to gain a month on vegetables and annual flowers. A hotbed enables you to overcome the chief drawback to annuals, viz. that they do not, as a rule, bloom before July. Moreover, you can really lengthen the season of petunias, verbenas and a few other flowers, because with good management they will bloom until frost.

The accompanying picture shows a novel method of grouping annuals, which secures greater purity and strength than mixed beds ever have. We use only one variety in a bed and are careful to place the plants far enough apart for each one to become a perfect specimen, without leaving any bare ground. Thus we get more and better flowers than if several plants were allowed to occupy the space which one will cover if grown to perfection.

THE BEST WAY TO GROW

At Highland Park, Rochester, I use annuals in large masses as foregrounds to shrubbery, instead of isolating them in formal flower beds, which is often distracting and inharmonious. I believe that this idea will be welcomed on country estates and that the following practice may be adapted to places of any size.

Most of the annuals are raised in hotbeds from the end of March until the middle of April, according to the varieties and the time they take to attain the necessary size to plant out. Space cannot be afforded for them in the greenhouse, and even if space could be spared, I think that better annual plants can be raised in hotbeds for planting out, as the plants are grown close to the glass and are not liable to be spindled or drawn out as they are apt to be under greenhouse treatment. I sow the seeds in small flats which are about three inches deep. The soil is specially prepared, being a mixture of well-rotted light sod, leaf-soil, and well-rotted manure and a little sharp sand incorporated.

The soil should always be light enough not to bake or cake on the surface. Sow the seeds thickly on a very smooth surface of finely sifted soil. Fine seeds, such as petunia, lobelia and tobacco (*Nicotiana*) should be pressed firmly in the soil, and receive only the merest dusting of soil covering. I prefer to use a flour sifter for this operation.

Carefully shade the seeds until well germinated, with newspapers on the tops of the boxes, or thin muslin screens, on the outside of the sashes. Great care has to be exercised in ventilating hotbeds where annuals are germinating. A well made hotbed generates large quantities of ammoniacal vapor and, if the frame is not carefully ventilated to allow this vapor to escape, thousands of seedlings may damp off in a few hours. Even with the best of care a web of fungus threads will appear amongst the seedlings; hot sand or

wood ashes should immediately be sprinkled freely on the flats wherever it is seen. Stirring the soil also helps to check the progress of the fungus. This fungus is a most insidious enemy and constant vigilance must be exercised against it.

As soon as the plants are large enough to handle conveniently they are transplanted into flats of a uniform size. The size I prefer is fifteen inches wide, twenty-two inches long and three to three and one-half inches deep. A flat of this size usually holds about 150 plants. If only a small quantity of annuals are used is it a good plan to pot them in small flower pots, but as I raise from 50,000 to 60,000 annual flowering plants, potting them off is out of the question. I find that flats are the most convenient and the easiest way of handling the seedlings. They must never be allowed to suffer from the want of water and as soon as they are well rooted in the second flats, they should receive abundance of air to keep them stalky. Toward the first of May the sashes should be gradually removed and on mild nights left off entirely. About the middle of May, many annuals will be in good condition for planting out.

HOW TO PLANT

Enrich the areas, spaces, or beds which the plants are to occupy with a liberal dressing of well-rotted manure, and thoroughly spade or fork it in to a depth of one foot. In planting it is always important to thoroughly soak the flats to saturation. To remove the plants from the flat place the point of a trowel down the side of the flat, between the wood and the soil, and as the plants usually form a solid mass of roots, the mass of plants will raise in such a way that they can be easily separated with a small ball of earth, and all the roots intact. A beginning made in a flat in this way, the other plants are easily removed. One good workman, expert in the use of the garden trowel, can handle and plant from 2,500 to 3,000 plants in one day.

The distance apart must be regulated entirely by the nature of the plants. No arbitrary rules can be laid down for distances, as the vigor and size of the plants will depend entirely on their food supply and care. The main consideration is to plant them far enough apart to allow independent individual growth, but yet sufficiently close to form a solid mass not too late in the season.

As soon as a group is planted immediately soak the ground. No mere wetting or sprinkling of the surface should be tolerated. If the soil is in a dry state saturate it before planting, and allow the soil to get into condition to handle before putting the plants in.

The plants I sow in the hotbeds are salpiglossis, salvia, vinca, ageratum, stock,

verbena, rhodanthe, Swan River daisy, nicotiana, thunbergia, pennisetum, petunia, etc. Some of the above are not really annuals but treat them as such.

On the other hand there are some annuals such as the poppy, portulaca, and eschscholtzia, that do not bear transplanting well; they are best sown broadcast where they are intended to flower and thinned out. The annual poppies are nearly all hardy, and they do well if sown very late in the fall.

KINDS TO GROW

In procuring or buying seeds of the most popular and showy annuals, such as the



To break the line between the shrubbery and the lawn use annuals. Use a single variety or color: mass the plants but give sufficient room for individual development

petunia, aster, verbena, stock, zinnia, calendula and Drummond's phlox, distinct varieties or colors should always be obtained. Mixtures are never satisfactory. A bold group of Countess of Ellsmere petunia with its pink red corolla and white throat, is worth a dozen groups of mixed petunias, in its effectiveness. A mass of yellow and orange-colored zinnias flanked in the rear with the foliage of dogwoods is an effective picture, but if the zinnias are of all the colors of Joseph's coat it would be another story.

Careful judgment should be exercised in planting low and tall growing annuals proportionally to the heights of the shrubs beside or behind them. *Nicotiana sylvestris*, *Helianthus cucumerifolius*, and cosmos planted in front of low growing shrubs would hide them entirely when they attain full size. Whatever the shrubs are that stand in the rear, or whatever is intended for a background, it should form a proportionate relief to the mass in front.

Perennials that Bloom the First Year from Seed—By P. T. Barnes, ^{New York}

MOST perennial flowers do not bloom until the second year, but a few can be induced to flower in the autumn of the first year if you will take the trouble to start them in a coldframe in March. If you want only a few you can start them in boxes or pots in the house.

Sow the seed about the first of March. Use a good seed soil—such a soil may be made by thoroughly mixing together equal parts of sand, leaf-mold, well-rotted sod and well-rotted horse-manure. In rows about four inches apart, place the seeds and cover lightly. As a general thing it is a good plan not to cover over seeds thicker than the seeds' diameter. Water with a fine-rosed watering pot to firm the cover.

It is a good plan to keep the seed-bed shaded until the first leaves show above the

ground, when the light should be admitted gradually.

In preparing the seed pans and flats, cover the holes in the bottom with pieces of broken pots, stones, or anything which will keep the soil from running out. Next screen some of your soil through a riddle; put about an inch of screenings in the bottom—this is for good drainage. Next fill to about half an inch from the top with the prepared soil and firm it—not hard. Now fill your box nearly full with the screened soil, firming it with a board so as to get an even surface.

It will be found better to sow the seed in rows where flats are used. This is best done by having a piece of board as long as the box is wide to which a little strip one quarter of an inch square has been fastened. This is pressed into the soil to make a drill.

For “pricking out” or transplanting the seedlings the first time, the flat should be made up in the same way as for sowing the seed. It will be necessary to do this as soon as the young seedlings have grown enough to commence crowding one another. Place them about two inches apart each way, which will give them sufficient room until they are planted in the open, and water carefully to settle the soil.

It will be advisable to harden off the plants before planting in the open. This is done if you have a hotbed by giving them plenty of air, both day and night, except in case of frost. If you have started the plants in the house place them out on the back porch in a sunny place, but be careful they do not dry out. They will need more water here than in the house.

COMMON NAME	SCIENTIFIC AND TRADE NAME	HEIGHT IN FEET	TIME OF FLOWERING	COLOR	CULTURAL NOTES
Snapdragon	<i>Antirrhinum majus</i>	1—3	July—Aug.	Red and purple to white	For July and August bloom sow outdoors in May; for spring bloom sow in coldframe in February. Forces well. Flowers an inch long, excellent for cutting.
Blue-flowered cupid's dart	<i>Catananche cœrulea</i>	2—3	June—Aug.	Blue	Flowers like a blue daisy, 2 inches across. Var. <i>alba</i> has white flowers; Var. <i>bicolor</i> white margin, blue centre. Of easy culture, especially in light soil.
Mouse-ear chickweed	<i>Cerastium tomentosum</i>	$\frac{1}{2}$	All Summer	White	No use for cutting but invaluable for edgings and for carpeting rocks. Attractive woolly foliage all season. Flowers very small, on stalks 6 inches high.
Perennial coreopsis	<i>Coreopsis lanceolata</i>	1—2	Aug.—Frost	Yellow	One of the best yellow flowers; admirable for border, bedding or cutting. Sometimes needs staking. Set plants about one foot apart. Flowers $1\frac{1}{2}$ to 2 inches across.
Larkspur	<i>Delphinium formosum</i>	$\frac{1}{2}$ —6	April—Sept.	Blue, scarlet, yellow	Among the best of hardy plants. <i>D. Zaili</i> is yellow; <i>D. nudicale</i> , <i>D. cardinale</i> , scarlet; others blue. If in rows set 3 to 5 feet apart. Give winter covering of coarse litter.
Sweet William	<i>Dianthus barbatus</i>	$\frac{3}{4}$ — $1\frac{1}{2}$	June—July	Many colored	Excellent for beds, border, and cutting. Grow seedlings in 3-inch pots, plant in open 10 to 12 inches apart in rich soil. Renew every two years by seeds.
Scotch pink	<i>Dianthus plumosus</i>	1	May—June	White, pink, and purplish	Flowers double or single, sweet scented; petals fringed $\frac{1}{4}$ — $\frac{1}{5}$ depth of blade. Attractive foliage. Good for edgings, border and cutting. Flowers borne on stems 6 to 8 inches long.
Moldavian balm	<i>Dracocephalum Moldavicum</i>	2	Aug.—Sept.	Blue	For damp, shady situations with rich, sandy loam. Flowers are small and do not last long; are at their best in moist seasons. A good addition to the border.
Blanket flower	<i>Gaillardia aristata</i>	2	June—Sept.	Yellow varying to red	Noted for profusion of bloom. Flowers 3 to 5 inches across, yellow varying to red. Thrives in light, open, well-drained soil with full sun; winter kills in damp places.
Horned poppy	<i>Glaucium luteum</i>	$\frac{1}{2}$	July—Sept.	Yellow or orange	Has flowers 2 to 3 inches across, borne in rapid succession. Remove seed pods each day to secure flowers until frost. Glaucous-blue foliage.
French honey-suckle	<i>Hedysarum coronarium</i>	2—4	Aug.—Sept.	Red	Give a sunny place in light, open, well-drained soil. Its pea-shaped flowers are borne in showy spikes, are fragrant, and in variety <i>album</i> , white.
Rocket	<i>Hesperis matronalis</i>	2—3	June—Aug.	White to purple	Vigorous plant, forming clumps 2 to 3 feet high, covered with showy spikes of flowers like stocks. Single forms good for rockery.
Sunset hibiscus	<i>Hibiscus Manibot</i>	3—9	July—Aug.	Pale yellow	Flowers 4 to 9 inches across, pale yellow or sometimes white with large purple eye. In Northern states store root in warm, dry cellar. Very ornamental.
Man-of-the-earth	<i>Ipomœa pandurata</i>	2—12	May—Sept.	White	Flowers 2 to 4 inches across, white with dark purple throat. Excellent for covering unsightly objects. Has been sold as “Hardy Moon-flower.” Grows anywhere.

Perennials that Bloom the First Year from Seed.—Continued

COMMON NAME	SCIENTIFIC AND TRADE NAME	HEIGHT IN FEET	TIME OF FLOWERING	COLOR	CULTURAL NOTES
Column flower	<i>Lepachys columnaris</i>	1—3	June—Sept.	Yellow	A composite flower 2 to 3 inches across. In var. <i>pulcherrima</i> , rays have large brown spots. Excellent for cutting or border. Season prolonged by later sowing of seed in open.
Flax	<i>Linum Lewisii</i>	1—2	July—Aug.	Sky blue	Flowers 1½ inches in diameter; each lasts but a short time, but they are borne in rapid succession. Give an open, warm place with full sun.
Honesty	<i>Lunaria annua</i>	1½—2½	May—June	Pink, purple	Grown for the large, flat pods, the broad satiny white partitions of which remain after the outsides have fallen and which are used in winter bouquets.
Musk mallow	<i>Malva moschata</i>	1—2	July—Sept.	Rose or white	Flowers showy, 1½ inches across. Does well in any situation. Shapely plant good for border or as a specimen.
Red monkey flower	<i>Mimulus cardinalis</i>	1—2	All Summer	Red and yellow	Hardy in Mass. with good mulch. Native of water courses but makes a good bedding plant if well watered. Good on rockeries and north side of walls.
Monkey flower	<i>Mimulus luteus</i>	1—3	All Summer	Yellow	Usually treated as an annual. Flowers 1 to 2 inches long. Single forms are better than double or hose-in-hose. Needs plenty of water. Nearly all have brown-spotted yellow throats.
Forget-me-not	<i>Myosotis palustris</i>	½	May—June	Blue	Bright blue with yellow eye; prefers damp, shady ground but sunny border will do if not dry. Excellent for border, rockery, bedding and cutting. In favorable situation, self sows.
Iceland poppy	<i>Papaver nudicale</i>	1—1¼	May—Oct.	Yellow	One of the best perennials in cultivation. Remove capsules daily to insure succession of flowers. Old plants winter kill, start new every two years.
Polyanthus	<i>Primula Polyantha</i>	¼	April	Yellow and red-and-yellow	Protect from noonday sun. Flowers borne in a head on upright stem above the leaves. Admirable for rockeries, and beds on north side of walls.
Silver sage	<i>Salvia argentea</i>	2	May—June	White	Entire plant covered with dense coating of beautiful woolly hairs, making it valuable for foliage effects.
Sidalcea	<i>Sidalcea malvæ-flora</i>	1—6	Aug.—Sept.	Purple	Showy flowers 2 inches across. Var. <i>Listeri</i> (<i>S. Listeri</i>) has satiny pink flowers and known as "Pink Beauty."
Throatwort	<i>Trachelium cæruleum</i>	1—3	Aug.—Sept.	Blue or white	Flowers small. Young plants said to bear more flowers than old ones. Plants grown from cuttings said to be dwarf.



The tall blue-flowered larkspur (*Delphinium*) is one of the most satisfactory of all perennials. A second crop of flowers is induced by cutting down the spikes

The Sweet William is one of the best sweet-scented perennials. It has flowers of many colors. Both these plants may be flowered the first year from seed



Huge azalea plants like this may be grown without artificial heat by wintering them in a pit. This one is taller than a man

Easter Plants and Flowers—By Harold Clarke, New York

WHICH ONES MAY BE KEPT OVER TILL NEXT YEAR AND HOW TO TREAT THEM AFTER EASTER—ALSO HOW TO GROW PLANTS FOR THE GREAT FLORAL FESTIVAL OF THE YEAR AND PUT PERSONALITY INTO EASTER GIFTS

EASTER is the great floral festival of the year. No other holiday is so intimately connected with flowers. There are two reasons for this: The return of flowers in springtime after the dead of winter symbolizes the Resurrection. Moreover, long centuries before the Christian era the necessity of a spring flower-festival was felt by humanity, simply because the return of spring is so joyous an event that a day must be set apart so that we may all celebrate it, rich and poor alike.

The practical lesson, then, that comes home to every individual is this: *we ought to give flowers to some one on Easter.* The very best thing we can do is to give plants that we have grown ourselves, because these have our personality in them and therefore mean more to the recipient. The next best thing is to buy flowering plants for some one, because plants last longer than cut flowers, and because the person who receives them must do something for their welfare daily and think of the giver when this slight

service is performed. The third best thing to do is to give cut flowers.

But the essential thing is the *giving*; every year when you give flowers to someone at Easter, you are privileged to receive a certain spiritual experience which becomes richer year by year. To omit this giving for a single year is to miss something out of one's life that is very precious. One cannot grow without giving, and of all forms of gifts, flowers are the least tainted with commercialism, because flowers are symbolical; and of all flower-giving on holidays, Easter-giving has, or may have, the highest and best significance.

The favorite color at Easter is white, just as red is the dominant color for Christmas flowers. Red stands for warmth and happiness in the dead of winter; white stands for purity and for the Resurrection.

IMPORTANT GENERAL DIRECTIONS

To keep plants or flowers that come from the florists is more or less of a problem,

because they have been grown in a much more humid atmosphere than the living room where the flowers must be kept to be enjoyed. This can be overcome, however, by having a large bowl of water in every room, a practice which should usually be adopted whether we grow plants or not.

Most of the cut flowers which one may buy at Easter will last from four days to a week if the florist who grew them has grown them as cool as possible, has cut them in the early morning while they are full of sap and given the different kinds any little attention which they particularly need to prolong their life for a few days.

The first thing to do with cut flowers is to put them in water without delay. Use a deep receptacle like a water-pail, deep pitcher or wash bowl, so that the entire stem clear up to the flower may be under water. Let the flowers soak for several hours before you arrange them in vases.

Be sure the vase or other receptacle is clean; the water also must be clean and fresh.

Take the trouble each evening before you retire to replace the flowers in the deep dish and put them in a cool place over night and the chances are your flowers will last a day or two longer. In the morning when rearranging the flowers, cut a quarter of an inch from the bottom of the stem, because the ends seem to get clogged, thus reducing the amount of water which the flower can absorb. If the flowers cannot get enough water they will wilt.

The chief drawbacks to keeping plants or flowers in our modern dwellings are dry air and illuminating gas. The dry air causes cut flowers to transpire more water than they can absorb; hence they wilt. If your house is heated by a hot-air furnace keep the water receptacle, with which all good furnaces are supplied, full of water. This is no great task because a pailful or two a day, put in in the morning when the furnace is being given its daily overhauling, requires only a couple of minutes. If hot water or steam is used a dish of water on the radiator in each room will make conditions healthier for people as well as plants by restoring the degree of humidity of outdoor air.

Illuminating and coal gas are deadly poisons to plants, even when present in such small quantities that they can not be smelled.

I. The Best White Flowers

SAVE THESE PLANTS

The most appropriate flower for Easter is unquestionably the lily, because it has been associated for the longest time with Easter. The Easter lily of to-day is not the lily of history and of religious painting. It was not until the early eighties that the Madonna or Annunciation lily was displaced as an Easter flower by the Bermuda lily. The Madonna lily does not bloom outdoors in northern United States at Easter time, as it does in southern Europe, and it is not so easily forced into bloom as is the Bermuda lily. Moreover, the Bermuda lily is generally considered to be a more beautiful flower. It is a longer and larger flower and shaped like a trumpet, whereas the Madonna lily is bell-shaped.

The marguerite or Paris daisy makes an excellent cut flower if cut with stems long enough to have some of its own foliage. If you have a plant, however, remove the flowers as they fade and new ones will be produced. If this is given ordinary care it will last in the house until all danger of frost is over. Then plant it outdoors, and it will give scattering blossoms all summer. Do not try to bring it in the house next fall, but as soon as the frost has killed it pull it up and throw it away. If it is convenient to grow a few plants of the marguerite for next winter's flowers make tip cuttings of the ends of the branches in the early part of May and as soon as rooted, plant outdoors and pot early next September. As it is rather difficult to lift considerable care must be exercised, but it can be safely done.

The Indian azalea is one of the most decorative plants and Deutsche Perle is one of the best white Easter flowers. It lasts well—two

weeks—when brought from the florist's shop. It may be had in white or shades of pink or red. When through flowering pick off all the seed pods which are commencing to form and, if the plant is a little out of shape, prune it to make it symmetrical. Then keep it in a light window. Care must be taken not to over water. As soon as warm weather comes plunge the plant in a place where it

cool place where there is no frost, e.g. in the cellar near a window for instance, and water sparingly. I doubt if you will need to water the plant oftener than once in two or three weeks. Keep the plant here until along in January; then bring it into a living room and watch the flowers develop.

Some of the plants which may be had at this season are perfectly hardy outdoors,



The Bermuda or Harris lily (*Lilium longiflorum*, var. *extimium*) the most easily forced lily for Easter

will get the morning and afternoon sun, but is shaded during midday. Watering once a week with a weak liquid fertilizer will help make a better growth but the effect is not as noticeable as in soft-wooded plants. In the late summer move the plant to a light,

e. g. the florist's spirea, lilac, and Madonna lily.

The Bermuda and the hydrangea are less hardy, but worth saving for outdoor culture.

When any of these plants are through flowering continue to grow them in pots,



Made-up baskets or centre pieces like this are attractive presents. This contains spirea and mollis azalea, with ferns to fill in the bottom

watering carefully and in the case of the lilies, give a little manure water once a week. As soon as all danger of frost is passed, plant them in the border. Here they will ripen their growth and the tops die down.

The hydrangea may be forced year after year without much effort or injury to the plant. When it is through flowering cut back, say in May, about half the growth. If you cut back more than this there is likely to be a strong growth from the roots which will not flower the following year. The plants may be either set in the open ground or repotted and plunged outdoors. Grow them outdoors until danger of frost; then bring them in and store them in a very cool and light place. All summer the plants will need an abundance of water, twice a day at least on sunny days, for they are thirsty plants. During the winter, while stored, give them only enough water to keep the wood from shriveling. To get the plants



The best lilac for forcing is Charles X (dark lilac-red). If forced too hard it will lack color

in flower for Easter start them early in January as they need about twelve or fourteen weeks to force properly.

This hydrangea is not perfectly hardy outdoors unless given a warm covering. The best way is to lay down the canes on the ground and cover them with several inches of soil. Do it before the hard frosts come.

The lilacs that are forced for Easter are usually named varieties. If they have been somewhat hardened off after forcing they last in good condition in the house about a week. After flowering grow the plant in a sunny window and plant in the open when danger of frost is passed. There is only one disadvantage to these named varieties when planted in the open. They are grafted plants and the stock will sucker in spite of anything you may do. As fast as the suckers



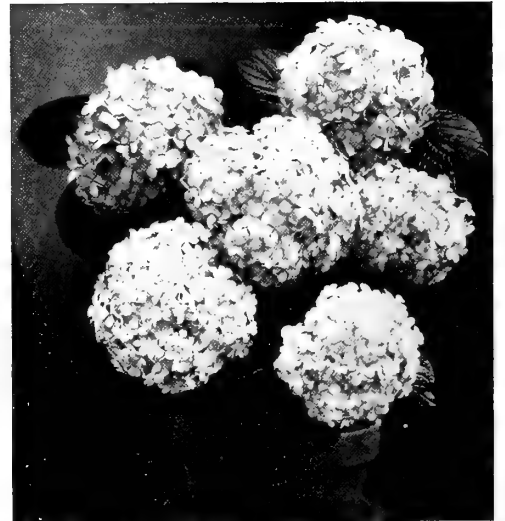
The florist's spirea (*Astilbe Japonica*). The best forms of which are compacta and Gladstone

show remove them or they will choke the plant and eventually nothing will be left but the stock—the common lilac.

The cyclamen may be grown on for another winter's flowering. It will need resting during the summer months (June to August) but do not let the bulb dry up completely or it will be spoiled. Keep it outdoors during the summer plunged in coal ashes or similar material so that the earth worms will not get in the pots.

THROW THESE PLANTS AWAY

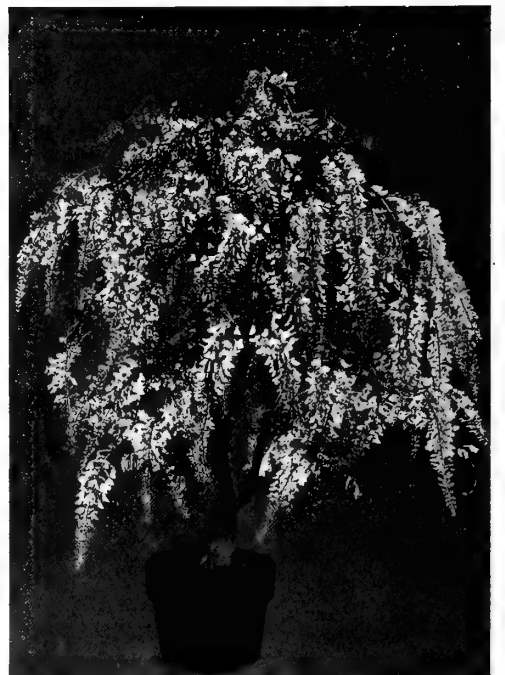
Throw away cinerarias and primroses as soon as they have finished flowering. It is no use trying to carry them over to another year. In greenhouses, a particularly well-marked strain of the cineraria is sometimes carried over by means of cuttings and an especially good double variety of the Chinese primrose is saved and the plants divided.



The best hydrangea for forcing is *H. hortensis*, var. *Otaksa*, because of its dwarf habit

Personally I am very fond of Chinese primroses (*Primula Sinensis*). They are compact little plants with prettily shaped leaves all covered over with soft fuzzy hairs. The flowers are white or shades of red, pink, or purple and are borne in round-headed clusters. They will last two weeks easily.

The baby primrose (*Primula Forbesii*) will last a long while in the house because when the flowers die new ones take their place. In the baby primrose the flowers come in tiers. The plant sends up a stem on which a whorl of flowers is borne. When these are fairly well developed the stem starts growing again and after three or four inches of growth has been made another whorl of flowers is produced. Soon the flowers of the first whorl drop, leaving only bare stem. They commence blooming when only two or three inches high and continue flowering



A well-flowered plant of *Wistaria Chinenensis*. Has drooping spikes a foot long with purplish pea-shaped flowers. Lasts a week in the house. Fragrant



Prince Camille de Rohan rhododendron is a good variety for forcing. Very early, with blush flowers

until a height of ten or twelve inches has been attained and several whorls of flowers produced. The individual flower is small—one-fourth to three-eighths of an inch across—and light blue in color.

Primula obconica is equally as good and lasts a long time in flower. The flowers are pale blue, almost a white. The leaves, however, are poisonous to the touch for some people.

There are several species of heath (*Erica*) in the florist shops at Easter. These have masses of small white or pink flowers which last in good condition about one week. The small plants, in 2½ or 3-inch pots, are particularly useful for making up little centre pieces. It is however a plant for the gardener with a greenhouse, so either throw it away when the flowers fade or get some florist to board it until it comes in flower another season.

One may purchase orchids at this season. As cut flowers, they last a week but if the whole plant is bought they will last longer if kept in a cool room where there is no illuminating gas. Do not try to carry these over; dispose of them as soon as out of flower.

II. The Colored Flowers

The commonest house-plant and the easiest cared for is the geranium. This may be had in white but is more usually seen in the flower markets in some shade of pink or red. If in flower when received there is no reason why it should not continue to bloom until warm weather when it may be set outdoors in the flower bed. The temperature of an ordinary living room suits it admirably. If the soil in which a geranium is growing gets slightly dry, less damage is done than would be the case with most plants. A gardener usually keeps geraniums on the "dry side," which means they are grown in a porous soil—one having free drainage—

and while they are watered whenever it is needed, there is never a surplus of moisture.

The Ghent and mollis azaleas (*A. Gandavensis* and *A. Sinensis*) both flower before the leaves have developed to any extent, but their gorgeous colors make them very desirable plants. The Ghent azalea varies in all shades from white to red and lilac, while the mollis has only yellow, orange, and pink flowers.

A near relative of the azalea, the rhododendron, is also much forced for Easter. The flowers are borne in great roundish clusters five or six inches in diameter. In color they vary from white to red and purple. The gorgeously colored flowers have an effective background in the deep green of the thick, leathery leaves.

Both the rhododendron and the azaleas will remain from a week to ten days in good condition. When they are through flowering

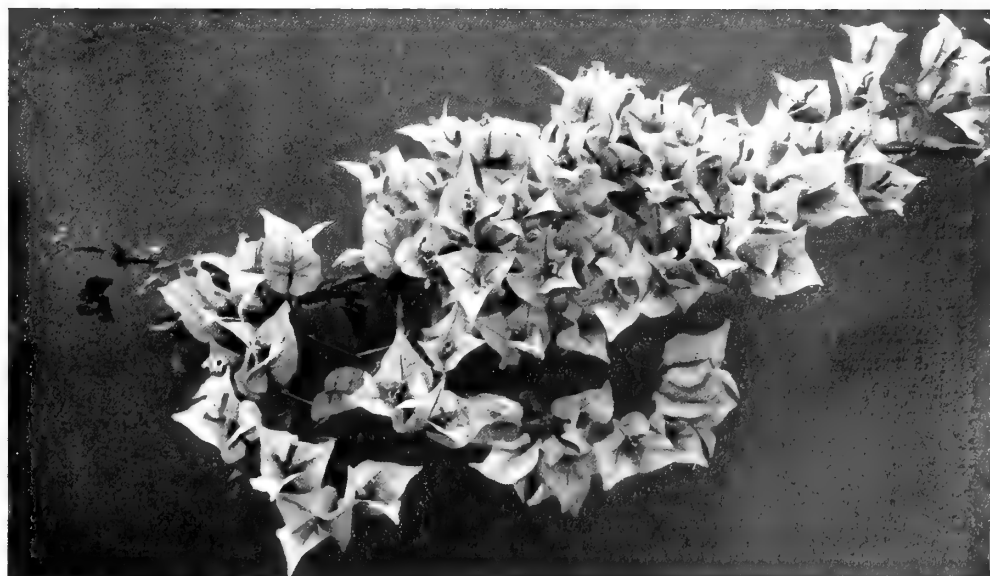
pick off the dead flowers, and the incipient seed pods as well, and keep them growing. All that is necessary is to keep them in a light window and water. In late May plant them outdoors in a place where they will get morning and afternoon sun but be shaded during the middle of the day. The soil should be fine, free from lime and enriched, but there should not be any manure anywhere near the roots.

If in a congenial situation and the roots protected by a mulch and the tops by pine boughs or something of that sort the azaleas will flower each spring. The rhododendrons may disappoint you, however, for in the spring there may be nothing but a few branches to which some brown leaves are clinging. This is because the varieties of rhododendron forced in the greenhouses are varieties and hybrids of *R. Catawbiense*, many of which are not thoroughly hardy in the North. It is, however, well worth trying because unless the name of the variety is on the plant you will have no clue to its hardiness.

Hardy roses are also forced in pots. The more common ones seen in the florists' shops are Crimson Rambler, Baby Rambler and Dorothy Perkins. These are trained on forms and make a very pretty appearance. They will last a week in flower in the house.

The Crimson Rambler has double flowers of a very bright crimson color. So striking are they that a well-flowered bush has been called a fire alarm. It bears a profusion of flowers. Dorothy Perkins has all the good qualities of the Crimson Rambler, with a more delicate color—shell pink. If planted late in May these roses will make a good growth. Set them where they can be trained up the side of a house or over a pergola.

The genista (*Cytisus Canariensis*) bears a profusion of beautiful yellow, pea-shaped flowers. This will last from a week to ten days in good condition. After flowering give the plant a light pruning, just enough to keep the shape of the plant symmetrical, and grow it on. Set it outdoors during the summer and store for winter in a cool light place.



Sander's variety is the best Bougainvillea for forcing, because it blooms freely when grown in pots

The Best Weeping Trees—By Thomas McAdam, ^{New Jersey}

THE FIRST CANDID DISCUSSION AND REAL CLASSIFICATION OF THESE MUCH OVER-PLANTED TREES—THE BEAUTIFUL KINDS, THE FREAKS, THE FLOWERING FORMS, AND THE ONES FOR SUMMER HOUSES

WEEPING trees are very much over-planted in this country. They belong in the same class with cut-leaved and variegated plants. During the '70's and throughout the period of the plush album and Pullman car, no yard was complete



The Camperdown elm (winter view). The favorite tree for children's playhouses. *Ulmus scabra*, var. *pendula*

without a collection of these curiosities. Even to-day you may often see a place that is nothing more than an outdoor museum composed of such oddities, which are scattered indiscriminately through the yard.

It would be a great mistake, however, to suppose that all these weeping trees and shrubs are freaks. There is nothing freakish about the weeping birch; on the contrary, it has long been considered one of the most refined plants in cultivation. We now know that horticultural spice should be used like any other kind, with restraint. These plants of striking character should never be put in the middle of a lawn but should be used as accent marks for the border. Every home yard should have a central open lawn, with massed planting at the sides, and this side planting should usually be irregular, rather than straight. Such borders will naturally have bays and promontories; and cut-leaved, variegated or weeping plants will usually look best when emphasizing these promontories. It is often well to set such plants six or ten feet away from the border, in order that they may have a chance to develop into perfect specimens, but from every point of view on the place that may be fifty feet or more away, these accent marks should seem to be an organic part of the border.

I have never seen any classification of weeping trees and shrubs, but I believe we must have one unless the truly refined kinds are to be degraded to the level of dime museum atrocities. It seems to me we have four distinct groups.

First comes what may be called the decorative section, of which the weeping birch is the best example. This includes the most beautiful, dignified and refined members—the ones that are nature-like, not artificial.

Second, we have the freaks, such as Tea's weeping mulberry, which are so unlike anything we see in nature as to instantly challenge the attention. Such plants are usually smaller than a man, formal, and impossible to harmonize with a genuine landscape picture.

They ought to be planted in an enclosed garden, or in some secluded part of the grounds.

Third, come the flowering trees and shrubs that we value, primarily, for their bloom rather than the beauty of the branches, as in the first group. The best of these is the Japanese weeping cherry. As these are for brilliant display for a short period (unlike those of the first section, which are quietly decorative throughout the growing season), they should be placed in nooks with an evergreen background.



The Kilmarnock willow, most objectionable of the common barnyard freaks. Grows four feet high

Fourth, we have weeping trees that make arbors or playhouses for children, of which the Camperdown elm is the commonest. These, also, ought to be placed in the garden in a secluded spot, if they are really to be used. It is obviously foolish to put them in a shallow front yard, where any privacy can be enjoyed.

I. THE DECORATIVE SECTION

The most beautiful of these is the cut-leaved weeping birch (*Betula alba*, var. *pendula laciniata*). Although it is cut-leaved, it is not offensively so, like Wier's cut-leaved maple and other extremists. The pendulous character of the branches is thoroughly nature-like, and is only carrying out to its logical conclusion the ideal of the whole birch family—namely, a certain feminine slenderness and grace. It also has the whitest bark of any tree in cultivation. Unfortunately, the weeping birch has two drawbacks. It is short-lived, lasting about twenty years, and small boys will sometimes

peel off strips of the bark, which destroys the beauty of the tree and sometimes kills it. Therefore it is best not to plant it right on the street or in a small unprotected front yard.

The common weeping willow is the *Salix Babylonica*, often called Napoleon's willow. This grows thirty or forty feet high and vies with the birch in slenderness of its branches and their naturally pendulous character. It has the common virtues and defects of the willow tribe; namely, quick growth, rather characterless branches, thin foliage and an uninteresting winter aspect. It is a native of the Caucasus and unfortunately it is not as hardy as could be desired in our northernmost states, where three substitutes for it are commonly cultivated. The variety *Salix amonii* is rather popular in New England, while the Wisconsin weeping willow (var. *dolorosa*) is a favorite in the Northwest. Thurlow's weeping willow is a Japanese species (*Salix elegantissima*) which is considerably more hardy than the preceding species, from which it differs in having a more spreading habit, larger growth and yellowish-green branches—those of the Babylonian willow being olive-green.

The weeping beech and linden have been included in this section, because they are trees of dignity which are cultivated for the beauty of their branching habit rather than their flowers, but they are more obviously horticultural varieties and less nature-like than the birch and willow. They are most beautiful when trained to present a picture



A weeping tree that looks like a wild animal should be trained like the one pictured on the next page



A vegetable elephant like this ought to be kept in a secluded part of the grounds, not the middle part of the lawn. Weeping linden.

like that at the bottom of this page, because when the branches come right down to the ground, the whole tree has a billowy effect and there is an easy transition from lawn to tree, which is not the case when the trunk is visible.

II. THE FREAKS

Of these, the worst is the Kilmarnock willow (*Salix caprea*, var. *pendula*) which is usually allowed to grow about four feet high. At first it forms a ball on a stick, like an "all-day sucker," later the branches droop dolorously to the ground. Its grief is exaggerated, like that of a hired mourner. It has a certain formal beauty, and is rather pretty in the spring when the catkins, or "pussies" are out, but nobody takes it seriously except hod-carriers, who plant it in their front yards or over their graves, where it weeps so hard as to be ridiculous.

I know some estimable nurserymen and country gentlemen who would be deeply offended at classing Tea's weeping mulberry (*Morus alba*, var. *Tatarica pendula*) under the freaks, for the mulberry has a singularly interesting leaf and Tea's variety will grow to a considerable height, but it is essentially artificial and exotic. It stands up like a sore thumb and is difficult to harmonize with other planting. Whenever you see one in the middle of a front yard, you may know the owner has not grasped the first principles of landscape gardening.

Wier's cut-leaved maple (*Acer saccharinum*, var. *Wieri*) is one of the most popular of the weeping trees, but its leaves are so deeply and sharply cut that this characteristic is more noticeable than the pendulous habit of the branches. It is a variety of the silver maple and is therefore fast growing but short-lived, because the wood is weak and easily broken by heavy storms. In the South, it is ravaged by the cottony cushion scale. Personally, I would not accept a Wier's maple as a gift because its cut-leaved character is too pronounced, and as a young tree, at least, its head of foliage is too thin. It is said that this defect can be easily overcome by cutting back the tree occasionally and making it a dense bush, just as one may do with the willow. Many people admire this

maple for the silvery under-surfaces of the leaves and the long leaf-stalks which are tinted with red.

III. THE FLOWERING SECTION

In this section, the palm belongs to the Japanese weeping cherry (*Prunus pendula*, but known to nurserymen as *Cerasus Japonica*). This has single rose-pink flowers from three-quarters to one inch across, which appear before the leaves in early spring. This tree rarely grows as tall as a man, and when well grown, the blossoms hang in perfect strings down to the ground. It is sometimes rather wayward and grotesque in its growth, and the whole plant seems to bear the label "made in Japan." It differs from the famous ornamental cherry of Japan in having unbranched, stalkless flower-clusters. It has a certain gem-like beauty and deserves as good a setting as a precious stone. Put it in a corner of the house or in some other nook and give it an evergreen background to set off its extraordinary beauty while in bloom.

There is not so much point in growing the weeping dogwood (*Cornus florida* var. *pendula*), because the pendulous habit is extraneous and only distracts attention from the overpowering splendor of the bloom. Personally, I should rather put my money into the ordinary dogwood and have more of it.

IV. THE ARBOR OR PLAYHOUSE SECTION

The most familiar example of this is the Camperdown elm (*Ulmus scabra*, var. *pendula*, but known in the catalogues as *Ulmus*



A good place to serve tea on a hot summer's day—shady, but airy

montana, var. *Camperdowni*). This makes a famous playhouse for the children and even adults have been known to take tea under its grateful shade. It is generally grafted at the height of six to eight feet, and the branches zig-zag outward and downward until they reach the ground.

A less common but more distinguished tree for this purpose is the Japan pagoda tree (*Sophora Japonica*), a tree which attains sixty feet and has yellowish-white, pea-like flowers, one-half inch long, in loose panicles fifteen inches long. The pendulous variety has tortuous limbs and lets its branches drip down somewhat like the Japanese wistaria.



An ideal weeping tree—a tumbling, billowy mass of foliage; looking like a tree and not an animal; and with all the lower branches preserved



Figs. 1, 2, 3. Pot-layering is one of the simplest methods of making new plants. Score the bark, put a pot around the stem, fill it with moss, which must be kept moist. As soon as the moss has become full of roots, remove by cutting the stem just below the pot and repot in good loam

Multiplying Your Own House Plants—By Luke J. Doogue, Massachusetts

PROPAGATING BY MEANS OF LEAVES, STEMS, OFFSETS, POT-LAYERING, PUTTING IN WATER, ETC.—WHAT TO DO WITH RUBBER PLANTS THAT HAVE GROWN TOO BIG

ONE of the keenest pleasures in window gardening is the propagation of plants by methods other than seed-sowing. The fact that a begonia can be propagated by cutting up a leaf never fails to arouse wonder in every new observer, and newspaper writers often envelope this subject with a false atmosphere of allurements, as if initiating the reader into the mysteries of Nature. As a matter of fact, the underlying principle is readily grasped: Theoretically, *any plant may be propagated by cuttings of some part*. The only reason why all plants are not propagated by cuttings is that it is often easier to raise them from seeds.

The methods here mentioned are not mere "stunts," such as newspapers exploit, but are the sensible and customary methods for their respective subjects. They require neither a greenhouse nor extraordinary skill. But there is no denying that they are interesting!

PROPAGATING IN WATER

Nothing could be simpler than to cut off a piece of plant, put it in water and let it send out new roots. Forget-me-nots will do this, even in the form of cut flowers. The umbrella plant (*Cyperus alternifolius*) is a decorative plant of the sedge family which is commonly grown in water gardens and makes an excellent house plant. You may separate a plant by dividing the root and put each piece into a glass of water, as shown in Fig. 7.

Cut off the stems just below the leaves and put the tip that is left into water. The cutting quickly makes roots and you may either pot it or leave it in the tumbler, where it will make a vigorous growth.

PROPAGATION BY LEAVES

The showy-leaved begonias are generally multiplied in this way; also succulents, gloxinias and that strange plant, the bladder-leaf, or bryophyllum. This method is mostly for plants with thick, heavy leaves that are not easily or quickly raised from seeds.

Let us suppose that you have some Rex begonias that you want to increase. Select a healthy, well-matured leaf, and after making a number of incisions in it, lay it down so that it will be in contact with the sand all around. Keep the sand moist and warm. This does not mean that you should shut out all air, but keep the leaves out of draughts while allowing a circulation of air. In the course of a few weeks, you will be pleased to see little plants starting from the incisions you made in the leaf. These will grow rapidly, and when they have made sufficient roots to sustain themselves, you may cut them off and pot them.

To judge when this should be done, lift the leaf carefully, and if you find roots in abundance, then potting may be done with safety. That pretty little house plant with marbled foliage, *Peperomia marmorata*, can

be easily multiplied by the leaves. Lay the leaves, stems and all, on sand and cover the end of the stem with the sand. The roots will form in abundance at the end of the stem buried in sand. When ready to pot, put them in a small pot of sandy loam—about one-fourth sand. The gloriously colored gloxinias will respond to this treatment, but instead of the sand, it would be better to use a light, leafy soil—one-third each of sand, leaf mold, and loam. Keep it on the dry side, and in a short time a small bulb will form at the end of the leaf.

The most interesting begonia of the last decade is Gloire de Lorraine, which is popularly supposed to be difficult to propagate. Nevertheless, an amateur may get dozens of plants from a single one by simply taking some of the well-matured leaves and putting them in sand. When you take off the leaf, shorten the stem about half and then lay the leaf on sand. If conditions are right, you will get a new growth from each leaf which will develop into a new plant. Don't take leaves that are too old or too tender. The former will be hard to strike, and the latter are likely to damp off. This is the best way to propagate this famous begonia.

PROPAGATING BY OFFSET

Such plants as make offsets are easily multiplied by the method which nature suggests. An offset is a crown or rosette of



Fig. 4—The dracaena (Cordyline) is easily propagated by cuttings of the stem

leaves which eventually detaches itself and becomes an independent plant. Offsets are usually formed above ground near the surface. The hen-and-chickens houseleek is probably the most familiar example.

One of the best house plants that is propagated by offsets is *Pandanus Veitchii*, a favorite house plant with beautifully striped leaves. If you have a fair-sized plant of this kind, you will notice the little sprouts shooting out along the stalk. These are the future plants. There are large and small ones on the same plant. The very small plants root very quickly, but the large-sized offsets, though slower, are quite as sure. Merely trim the stump of the offset by taking off the ragged edges, and put it in a pot of sand. Keep it in a warm place out of draughts, with the sand moist, and you will have no trouble in growing them. If you examine the offsets after they have been in the sand about a week, you will find that the end has hardened and swelled a little; In



Fig. 5—Remove the new growths with a "heel" and put in the sand to root

from two to three weeks tiny roots will be found in quantity. The plants are then ready for potting.

PROPAGATING BY RUNNERS

The Boston fern is perhaps the best all-round house plant there is, but it is most satisfactory in the form of young plants. When specimens get old and shabby, it is better to use them for propagating purposes. The old plants send out little string-like runners that hang over the pot and grow to a considerable length. Put these runners in loamy soil and they will root and make little plants which will make rapid growth. When well established, they can be cut off from the runners and potted. Young plants grown in this manner always do well.

PROPAGATING BY STEMS

The dracaena is perhaps the commonest house plant propagated by stem cuttings, as shown in Figs. 4, 5. If you have an old dracaena that has lost most of its lower leaves and looks thoroughly disreputable, cut the stem into small pieces, two to three inches long. Barely cover these with coarse sand and keep them damp. If you put them too deep and keep them very wet, they are very



Fig. 6—If the runners of the Boston fern are kept in soil they will root

likely to "damp off." When the new growth is about two or three inches high, you can put the whole piece in a pot, cut off the new growth and immediately put both the stem and the new plant into the sand again. The old stem will throw up more sprouts and the little plant will make roots of its own. In taking off the cuttings from the old stem, be sure to get a small part of the hard wood.

THE RUBBER PLANT PROBLEM

What to do with a precious old rubber plant, rich in personal associations is often a distressing problem. The plain truth is that rubber plants are always best when young. It is their nature to grow lanky, make no branches and lose their lower leaves as they grow older. The best rubber plants are the "branched" specimens, which have been propagated in a special way for this purpose. But if you have an old rubber plant, there are only three things to do.

The most sensible plan is to cut off the tip of the plant, root it like any other cutting and make a new plant of it. In this case, be sure to make the cutting close to an eye. Wrap a little moss about one end, tie it lightly and put it into the sand. Many



Fig. 7—To make more umbrella plants, cut the bunch of leaves off and put them in water

prefer to make a split in the end of the cutting and wedge in a piece of moss to keep it open.

The second way preserves all of the plant except the unsightly lower portion, but requires more skill and care. If you value your plant highly, pay a florist or gardener to do it for you. However, amateurs who have the knack of growing things need not be afraid to try it. Bind a ball of moss about the stem you want to shorten, forming it about an eye, and at a distance from the end of the branch to be determined by the size of the plant you want, for you can have your plants six inches long or two feet. The moss must be kept moist and the plant kept in a warm atmosphere. In time, according to conditions, roots will form in the moss. The new plant can be then taken off and potted.

Now for the third possibility. If you have treated the plants by either of the ways suggested, they must naturally look in a rather

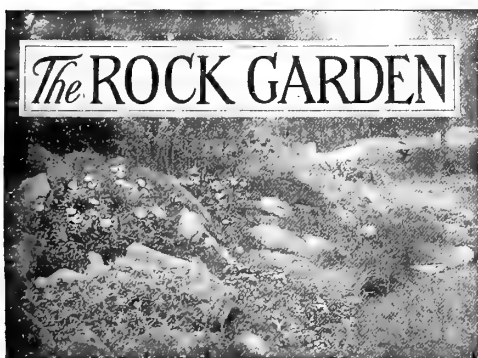


Fig. 8—Strawberry geranium (*Saxifraga sarmentosa*). Easily grown window plant. Multiplies by runners

sad condition—all stumps. If you don't care to root the cuttings, that you have taken off, in sand, you may graft them on the old stumps of the parent plant. This sounds as if it required great skill, but if you cut a slit in each of the old stumps and into these slits insert the ends of the cuttings taken, having first made these wedge-shaped, you will probably succeed.

The mossing method means salvation for an old favorite which is in great demand about Christmas time—*Ardisia crenulata*, which holds its red berries two years or more if well grown. With the lower leaves gone, the plant loses half its beauty. By the mossing method, you can retain all the best part of the old plant.

A modification of this method is to put a pot around the stalk. To do this, you must have a pot large enough to allow the head of the plant to go through the bottom of it. The bottom of the pot must be broken out, carefully of course, and then the leaves of the plant must be gathered into a small space and the pot, already prepared, slipped over it. Tie the pot to the stalk of the plant at the height you want it, first filling it with moss and loam. Keep this moist continually and in a short time the pot will be full of roots. Where the leaves spread too much to allow the pot to be slipped over them, it will be necessary to divide the pot in halves and then to bind it, filled with moss, where you want it. See Figs. 1-3.



Rockery Making in California

ROCKERIES must be distinguished from rock gardens. The latter name implies extent and landscape effect; the former may be a foot or more across.

In the Eastern States and Europe, both rockeries and rock gardens are given up largely to alpine plants, but in California these plants are practically unknown on account of our extremely dry climate. Our rockeries are generally filled with a jumble of all sorts of plants, with little regard to size, form or color, but few have been planted with one kind of plant only, such as ferns, begonias, etc.

The rocks are of numerous kinds and unfortunately, occasionally mixed. The best rockeries I have built are of red sand stone. It is a soft, porous stone which absorbs and retains moisture; a very necessary quality in our semi-arid climate.

When planning or building rockeries make the projections, recesses, and undulations



The larger rockery is filled with ferns such as *Nephrolepis*, *Polypodium* and *Dicksonia*

few and pronounced, rather than many and "tame." In no part should the work look smooth, but have all just as rough and rugged as possible. Always see that the under-drainage is perfect. If these few precautions are kept in mind, success will inevitably be attained.

A soil which is sure to give satisfactory results is composed of two parts good garden loam, one part leaf-mold and one part sharp sand.

I have found that the following way is a satisfactory manner of building rockeries; the first tier of rocks is placed, then earth is filled in up to the level of their tops and plants set in the interstices. Layer after layer is put on until the desired height is reached.

In rockeries of mixed plants, almost anything may be used and some plant will always be in bloom. In California we do no seasonal planting, as much better results are obtained by striving for foliage effects, the flowers being an incidental. Among the plants best suited for rockeries are, for creepers, coral gem (*Lotus Bertholetii*), ground ivy (*Nepeta Glechoma*), strawberry geranium (*Saxifraga sarmentosa*), Indian strawberry (*Fragaria Indica*) and several species of stonecrop (*Sedum*).

For taller plants I use the cigar plant (*Cuphea*), fleabane (*Erigeron mucronatus*), periwinkle (*Vinca*), windflower (*Anemone*), Lady's Slipper (*Cypripedium*) and aspidistra (*A. lurida*); the latter makes an ideal rockery plant. Ferns and begonias are also very desirable plants for rockeries.

For hard-wooded plants I use St. John's-wort (*Hypericum*), diosma, daphne, heath (*Erica*), dwarf barberry (*Berberis*) and sweet briar rose (*Rosa rubiginosa*).

For the first year, while the plants in the rockery are small, I often sow broadcast seeds of the California poppy (*Eschscholzia*) and rose moss (*Portulaca*). These fill up the



This is made of granite stones and is filled with begonias, ricinus, agapanthus and strawberry-geraniums

vacant spaces during the first season or until permanent plants are large enough to be effective. They self-sow, yet are easily weeded out when no longer needed.

In the first illustration a rockery is shown which has been planted for five years. It is filled with sword and holly ferns which have made a very strong growth. The sun never shines in this corner which gives conditions peculiarly adapted to fern culture,

The small rockery to the right of the path is filled with begonias, and so luxuriant has been their growth that at present no rocks are to be seen.

The second illustration shows a low rockery built close to the house to break the ground line. It is filled with ferns, iris, agapanthus, and *Cypripedium insigne*. The rocks are a black-flecked, gray granite from a quarry. They are rough, which enables them to hold a little earth and moss.

The last picture shows the largest rockery I know of; it contains many tons of granite boulders or "nigger-heads." It was built partly to obscure the vandalism some one had perpetrated on a beautiful Bunya-Bunya tree (*Araucaria Bidwillii*) of more



A huge pile of stones about the base of a large evergreen to hide its unsightly trunk

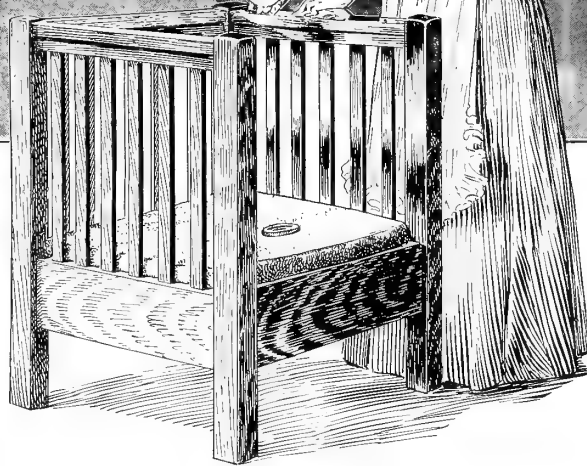
than a quarter-century's growth, and partly to connect a stone-based summer-house or pavilion with the landscape. The base line is over sixty feet in circumference and in parts the rockery is over six feet high. Around the base of the tree, and two feet greater in diameter, is placed a headless barrel six feet high made of 2-inch redwood planks. This allows air and water to reach the roots. This rockery is filled with more than a hundred species of plants, such as sweet briar rose, *Azalea mollis*, tree and other ferns, bulbs—a veritable horticultural museum. Yet each kind is massed by itself, no jumbles being allowed. A water pipe was built into the rocks, with an outlet whereby the water drips into a cement-lined pool which may be seen just to the right of centre in the illustration. This pool is filled with aquatics and the overhanging rocks are planted thick with ferns which droop over the water making a most charming effect. The stones composing this rockery are totally unfitted to the purpose, being polished by the action of the water—not rough enough to gather moss—and by their reflected heat cause the foliage to burn at times.

California.

ERNEST BRAUNTON.



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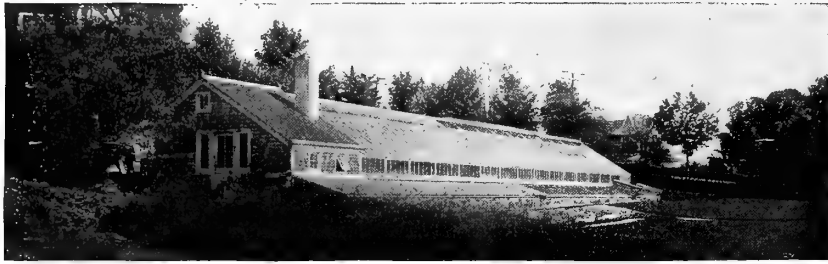
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Where Shall We Place the Greenhouse?

JUST where to place the greenhouse is a considerable quandary to many, but the solving of such problems is just the sort of thing we are doing every day—the more complex the problem the more interesting to us. We call to mind a place in Rochester, N. Y., where the only possible spot was a very limited one directly between the porte-cochere drive and the property line. To meet this difficulty we designed a house having three compartments, which now adds greatly to the charm and interest of the place—it seems to lose the usual greenhouse look and impresses one as an actual part of the grounds—a real garden of glass.

In the cut shown the ground had a sharp slope to the south so the greenhouse was placed on the highest point, bordering on the flower garden—this placing gives the effect of its nestling among the trees at the back which are really several feet higher up.

Perhaps the question of situation has been bothering you somewhat. If it is possible for you to come to our Sales Office and talk it over with us we can show you numberless photographs where we have overcome difficult problems—or write and tell us something about your proposed location—in either case we can help and build for you an every way up-to-date greenhouse.

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The Californian's Reminder

THE gardens in every part of California need special attention in March, the soil must be well cultivated to enable it to retain moisture.

Roses will need attention, but the different sections of the family need different treatment. Tea roses will need a light pruning; cut out any weak growths that are crowding together in the centre of the bush and remove all the hips (seed pods). Do not make a skeleton of the bushes if tea roses of the best quality are wanted. Hybrid teas, like La France, are best if not pruned much, as they are much weaker growers than the pure teas. They are much benefited by allowing the blind wood to remain until strong healthy shoots are formed. Then a part of the blind wood may be cut away, but always keep enough wood to create a healthy root action.

Hybrid perpetuals are strong growers, but owing to their deciduous tendencies are best if severely pruned. As soon as the growths have ripened cut them back, leaving only two or three eyes to a cane.

Climbing varieties will need a light pruning according to the variety. Such kinds as Lamarque, Rêve d'Or, and the Banksias if circumstances permit, should never be pruned, while the climbing varieties of the bush kinds are best pruned more severely. Cut the growths that grow from the main shoots back to two eyes after the plants have produced their spring and winter crop of flowers.

Annuals: Where summer flowers are wanted, an assortment of these easily grown plants may be sown. There is no garden so small, but that a few of these can be grown. They should be sown this month (March) or not later than the second week in April.

Asters sown now will make a splendid showing in the early fall. If the flowers are wanted for cutting select the tall branching varieties, but all the varieties are beautiful.

Annual chrysanthemums, mignonette and such like are easily grown. Scatter a little seed where the plants are to grow and rake it in. When the plants are two inches high, thin them to ten inches apart. If the weather is dry, a light mulch of worn-out manure spread evenly over the surface of the ground will help retain the moisture and be of great advantage to the plants. The improved varieties of cosmos are very useful for cut flowers. Sow the seed in a seed bed and when the plants are six inches high, transplant them to where they are to flower.

Larkspurs (Delphinium) are very beautiful with their tall branching spikes of flowers. These are best sown where they are to flower

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THIRTY-FIRST ANNUAL STATEMENT, JANUARY 1, 1907, shows

ASSETS, over	- - - - -	127 Million Dollars
LIABILITIES (including Reserve over \$103,000,000), nearly	- - - - -	107 Million Dollars
CAPITAL STOCK	- - - - -	2 Million Dollars
SURPLUS (largely for ultimate payment of dividends to Policyholders), over	- - - - -	18 Million Dollars
INCREASE IN ASSETS, nearly	- - - - -	20 Million Dollars
PAID POLICYHOLDERS DURING 1906, over	- - - - -	16 Million Dollars
INCREASE in Amount Paid Policyholders, 1906 over 1905, over	- - - - -	2 Million Dollars
TOTAL PAYMENTS TO POLICYHOLDERS to Dec. 31, 1906, over	- - - - -	123 Million Dollars
CASH DIVIDENDS and Other Concessions not Stipulated in Original Contracts and Voluntarily Given to Holders of Old Policies to Date, nearly	- - - - -	7½ Million Dollars
LOANS TO POLICYHOLDERS on Security of their Policies, nearly	- - - - -	5 Million Dollars
NUMBER OF POLICIES IN FORCE, nearly	- - - - -	7 Million
NET INCREASE in Insurance in Force, over	- - - - -	82 Million Dollars

Bringing Total Amount of Insurance in Force to over

One Billion Two Hundred and Fifty Million Dollars

The Year's Record Shows:

**Efficient, Economical Administration.
Increased Payments to Policyholders for Death
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**The business operations of The Prudential are con-
fined to the United States and strictly
limited to selected lives.**



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Many letters from Policyholders receiving Dividends demonstrate that the results more than meet the expectations of the Insured.

THE PRUDENTIAL INSURANCE COMPANY OF AMERICA

Incorporated as a Stock Company by the State of New Jersey

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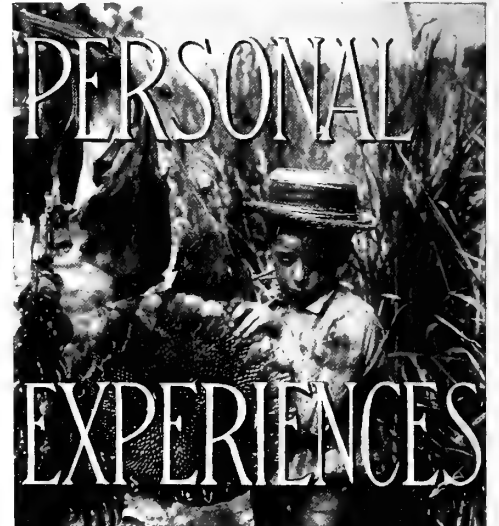
as they do much better than when transplanted.

Dahlias: Plant the tubers now. There are no flowers that pay so well for the small amount of care that is necessary to bring them to perfection as does the dahlia. All they need is a rich soil and plenty of water and their flowers regularly cut in order to make them produce more.

Gladiolus: Plant in full sun light. Set them so that the top of the bulb is three inches beneath the surface of the soil and give plenty of water until the flowers have been perfected.

Santa Barbara.

W. H. MORSE.



A Better Evergreen Vine than the English Ivy

TO THE EDITOR:

On page 287 of the January number of THE GARDEN MAGAZINE I notice that you "damn with faint praise" *Euonymus radicans*. It is perfectly hardy and for covering the walls of a house is very much more effective than English ivy. The vine is really deserving of a greater popularity than Japanese ivy (*Ampelopsis tricuspidata*, *A. Veitchii*), which is used by the hundred thousand. Of course, it takes longer to cover a house than with the ampelopsis, but the effect is ever so much better. In fact, the best effect I have ever seen on any house was obtained by using *Euonymus radicans* on the house of Mrs. H. F. Watson of Erie, Pa. The vines were planted twelve years ago and now almost cover the house, a large stone one, and on one side of the house the vine has grown clear to the top of one of the chimneys.

The curious thing about this vine is that it changes entirely the character of its growth after it is a few years old. The young plants cling closely to the walls, and have small, fine leaves, but after it is a few years old the vine throws out strong branches like a shrub, and the leaves are four or five times as large, being almost identical with those of *Euonymus Japonicus*.

The *Euonymus radicans* on the house shown on page 286 of the January issue has never been protected, and has been subjected to a temperature of 24° below zero.

Pittsburg, Pa.

J. W. ELLIOTT.

Beautiful Asters

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Rawson's Garden Manual

For 1907

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"I now have thirty pieces of your 'Old Hickory' in my home 'The Nutshell,' and should not feel my home complete without it"

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"I have six of your chairs in use on my veranda, and find them not only comfortable but durable, as I have had them in use for five seasons, and good for as many more."

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DOES THOROUGH WORK QUICKLY AND EASILY

because it has more power than any other hand sprayer made. That also gives it a wider range of usefulness than any other small sprayer. Yet it is the easiest sprayer in the world to operate. 15 seconds' work at plunger charges it with enough power to throw the spray for 10 minutes.

The tank holds three gallons of solution and one of compressed air, and two pumpings discharges the whole contents. Our Auto-Pop Nozzle, controlled by one finger, regulates the spray from a stream to a fine mist.

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Rhododendrons on grounds of Walter H. Hunnewell, Wellesley, Mass. (Frontispiece of monograph on Rhododendrons)

IF YOU ARE INTERESTED IN RHODODENDRONS AND MOUNTAIN LAUREL

In their selection; in their planting or their care, you should read the Monograph "Hardy Rhododendrons, Azaleas and the Mountain Laurel" by J. Woodward Manning, who has probably spent more time in their study than any other person in the country, and is a specialist in growing them. Mr. Manning undertook the writing of this Monograph because so many people have suffered serious loss in the improper planting of Rhododendrons, due to the utter lack of knowledge concerning the right varieties to plant under different conditions. His desire was to make it a contribution to practical horticultural literature. It is one of the most comprehensive treatises on the subject that has been published in this country. Among the many interesting chapters are the following:

Hybrid Rhododendrons	A Bit of History
Tender or Obsolete Varieties	Grouping
Varieties of Doubtful Hardiness	American Evergreen Species
The Ironclad List (with descriptions)	Other Evergreen Species
Propagation	Azaleas
	Mountain Laurel

CULTURAL REQUIREMENTS

Soil	Mulching
Exposure	Watering
Planting	Fertilizing
	Protection

A copy of this Monograph will be sent to the readers of THE GARDEN MAGAZINE who are really interested, on receipt of four cents to cover postage.

A word about the Reading Nurseries. We control the largest collecting area in America, comprising 30,000 acres, and are able to supply the very choicest stock of these evergreens in every size and quantity. There is, we believe, not a more extensive single stock in the world. We have also the best grades of Hybrid Rhododendrons and Azaleas in New England, obtained from the most trustworthy European sources, based on fifty years' experience in the importation of these plants.

THE READING NURSERIES

J. Woodward Manning, Prop. READING, MASS.

In addition to these evergreens, we have a fine stock of Trees, Shrubs, and hardy plants. Our illustrated catalogue describes these in detail.



Starting Tuberos Begonias Indoors in March

I HAVE had much pleasure from growing the tuberous-rooted begonia as a bedding plant. It is also a good cut flower; indeed I do not know a more beautiful one for table decoration. It may be used either with long stalks in tall vases, or for filling large, shallow glass dishes. When used the latter way, beautiful effects may be had by filling the dish with the leaves and putting the flowers in the interstices. The colors are very vivid when contrasted with the foliage.

The single-flowered varieties give me the best effect, indeed they are much better for beds in the open than the double varieties, and the bulbs are much cheaper. Single flowered, named varieties cost me about \$3.75 per hundred.

The bulbs are started March 1st. The soil in which the bulbs are started is made of one-third each of well rotted manure, good garden loam, and sand. The ingredients are thoroughly pulverized and mixed together. The bulbs are saucer shaped and from one and one-half to two inches across. The crown is in the depression, and to prevent the bulbs from rotting, I place them on edge in pots so that the water may drain off. Three-inch pots are plenty large enough for the bulbs. The color of the flower is marked with an indelible lead pencil near the top of the pot so that when planting in the bed, the colors may be placed in the desired position. As soon as planted, the pots are placed in rows in boxes and sand is packed between them, and there is a 2-inch layer in the bottom. A fine-rosed watering pot is used to water them, the sand absorbing much moisture from which the plants draw as they require it.

The boxes are placed in a bright, sunny window and watered every second day. These boxes are 6 x 3 ft. and five inches deep. Supports are put under them to make them even with the window seat and both boxes and supports are shellacked to make them attractive. Some time will elapse before the plants show signs of life, but by May 24th (planting-out time), they will have leaved out and the flowers show signs of color.

It is not safe here to set out tender plants, such as begonias, before May 24th, and as I grow tulips, daffodils and hyacinths in the bed where later I plant the begonias, the early spring has been made beautiful and the bulbs have had their season before the begonias are ready to set out. The plants



The above cut represents our Catalpa Bungeii drive.

Our illustrated catalogue sent free to those interested in Trees, Shrubs, Roses, Vines, and also Fruits.

Over 400 acres in cultivation.

The Elizabeth Nursery Co.

Elizabeth, N. J.

108 Varieties are Enough

Learn what they are in Adams' Little Green Book of Choice Seeds.

Adams' Flower and Vegetable Seeds are for particular people; they never disappoint. What is the Adams Method? Who is Peter the Gardener? Write today, mention this magazine and the Green Book will tell you. : : : : : Henry Saxton Adams, Wellesley, Mass.

Dahlias I grow nothing but Dahlias.

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BURBANK'S BEAUTIFUL SHASTA DAISIES

FREE CATALOGUE of Bulbs, New and Rare Callas, Carnations, Camas, Dahlias, Chrysanthemums, Hardy Perennials, Ferns, etc.

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STRAWBERRIES from August to November

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One mile from creamery, 180 acres, winter 30 cattle, 1000 cords wood, 100 apple trees, trout brook, 2 story house, 11 rooms, approached by maple avenue; 2 barns, silo, etc. Price \$2800, with furniture, hay, machinery and tools. (Pictured catalog mailed by Chapin Farm Agency, 430 Old South Bldg., Boston). Apply to F. F. Howard, Woodstock, Vt.

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For over 50 years we have been selling only tested seeds—seeds that we guarantee to be fresh, pure and reliable. To-day thousands of farmers and gardeners rely upon Gregory's Seeds—know for a certainty they are sure growers. Our free catalogue is now ready. It contains lots of information of value to farmers and gardeners.

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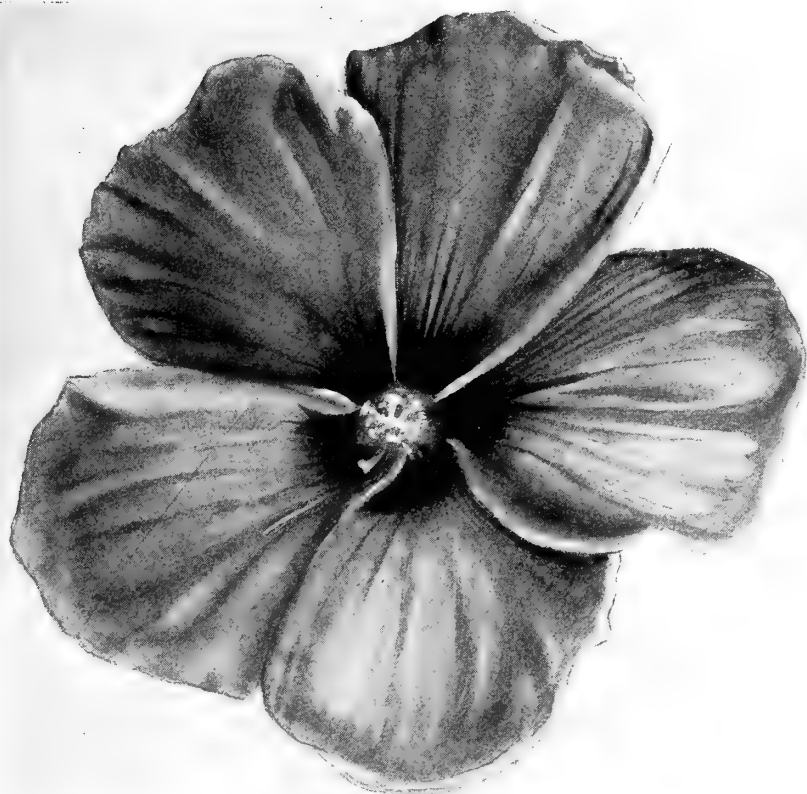
1200 acre nursery and seed farm, founded at Lake City in 1868 by Dr. P. A. Jewell. Send postal card for Free 132-page catalog of Seeds, Plants, Trees, Roses, Evergreens, etc. We grow only Hardy varieties suited to the North.

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Meehans' Mallow Marvels

An entirely new race of Hardy Perennials

The most brilliant creation of scientific plant breeding. Now offered for the first time



A SINGLE BLOOM OF MEEHANS' MALLOW MARVEL, ONE-HALF ACTUAL SIZE

A MEMBER of the Waterer firm, the most famous horticulturalists in England, says this achievement is the most notable for many decades. And so says every expert who has seen *Meehans' Mallow Marvels* in bloom.

Although the cross from which this new race of plants originated was conceived by Thomas Meehan, the founder of our nurseries, thirty years ago, it was not until 1903 that our efforts were crowned with success.

This new creation in herbaceous perennials combines the striking foliage and brilliant blooms of the tender hot-house Hibiscus with the sturdy growth and hardiness of the native Mallow.

It is even a stronger grower than its wild half-parent, throwing up strong stalks 7 to 8 feet high, which from the last of July until September are emblazoned with the most gorgeous flowers (7 to 8 inches in diameter) to be found outside of the

tropics. And *Meehans' Mallow* is entirely free from disease and insect enemies, and it is not particular about soil or location. Perfectly hardy, as the original cross-bred plant stood in our nurseries four years without protection.

The colors are clear, satiny crimson, red and pink; also white.

Prices of Meehans' Mallow Marvels

We reserve the right to refuse orders for more than ten to any one person.

One-year-old roots

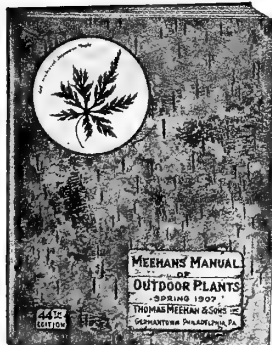
If given good soil will grow from 5 to 8 feet high, have 2 to 5 stems and flower this season.

	Each	Per 10
Crimson Marvel	\$1.00	\$9.00
White Marvel	1.00	9.00
Red Marvel	.75	6.00
Pink Marvel	.50	4.00

Two-year-old roots

Extra strong roots, which, planted in good soil, will form bushes 4 to 5 feet in diameter and positively flower abundantly this season.

	Each	Per 10
Crimson Marvel	\$2.00	\$15.00
Red Marvel	2.00	15.00
Pink Marvel	1.50	10.00



"Meehans' Manual of Outdoor Plants"

contains just the information you need and in concise form. Plants listed in specified sizes and each size separately and reasonably priced. There is a satisfaction when you order one or a hundred plants to know they are the best that can be grown. This is a surety in every plant that leaves our nurseries. We ship all over the world.

As it is impossible to show by photograph or engraving the wonderful brilliancy of the coloring of *Meehans' Mallow Marvels*, we have prepared a color-plate leaflet which we will gladly mail you.

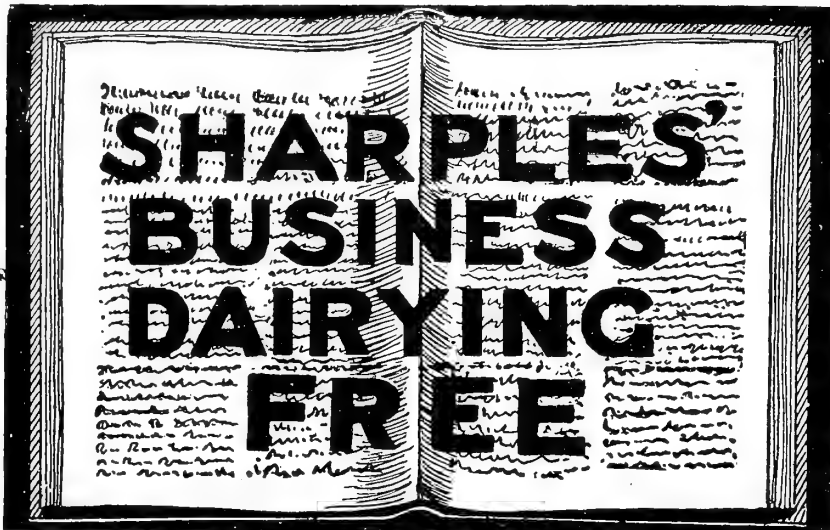
There is a color-plate in our manual of *Meehans' Single-Flowered Variegated Althea*. It is offered for the first time this season. Has lovely large satiny flowers and bright variegated-foliage. It should have a place on your grounds.

Our Information Bureau

was established to help you solve your plant problems, and advise you how to lay out new grounds and improve old ones. Make use of it freely. But anyhow be sure to write for *Meehans' Manual* to-day.

Thomas Meehan & Sons, Inc.,

Box H, Germantown, Phila., Pa.



Contains all the money-making points of dairying. Among the subjects treated you will find How to Feed, What to Feed, When to Feed, What Foods Produce Most Milk, How to Take Care of Milk-Producing Foods, How to Feed Silage, the Care of the Milch Cow, and many other profitable and practical suggestions that help swell the profits of the dairyman. With the book we will send additional information telling you how and why you can get the most out of your milk by using the

Sharples Tubular Cream Separator

We guarantee that with a **Tubular** you can get 50 per cent. more cream over the old pan method of skimming, and 6 per cent. over any other cream separator made. Sharples Separators get all the cream and the **Tubular** is the easiest running, easiest cared for, and easiest kept clean. There is just one tiny piece in the bowl, the milk can is low and handy, the bearings are self oiling. Write for the "Business Dairying" at once stating number of cows you keep. Ask for booklet D 215.



Mr. S. L. Boyer, Venetia, Pa., says "The Tubular makes me \$255.00 yearly."

The Sharples Separator Company
WEST CHESTER, PA.

Toronto, Can.

Chicago, Ill.

are set eighteen inches apart in open ground, after a generous quantity of well-rotted manure has been worked into the soil, for the begonias are great feeders. A great addition to the appearance of the bed may be made by giving it a top dressing of black earth. The foliage and bloom will be brought out in strong relief against the dark background.

Some of the taller plants will require staking, as the blossoms make them top-heavy. I go over the bed daily, removing the fading blooms and discolored leaves, but find the plants remarkably free from the diseases to which other plants are subject. The green aphid and other insects do not appear to trouble them.

A good position for begonias is a half shade; give them, if possible, the morning sun. Last season I had 140 plants in the bed in front of my house where they had the morning sun, and from June 1st until frost they were a mass of bloom.

When the blooms appear, if it is found that a plant is not in the desired position, do not fear to transplant it, for by watering well before and after the growth will not be retarded in the least. In this way, I have transplanted a plant as often as four times in a season without ill effect.

The same bulbs may be used for many years. One of my friends has a bulb which is eight years old and measures six and one-half inches across and is five inches thick. Last season, the plant from it took first prize at our autumn exhibition.

In the autumn, after the plants have been touched with frost, the bulbs are taken up, the foliage cut off, and the bulbs allowed to dry for four days and then packed in dry sand in boxes. This keeps them from shriveling up. They will be as firm next March as when taken from the ground.

Montreal, Can.

JOHN MILLEN.



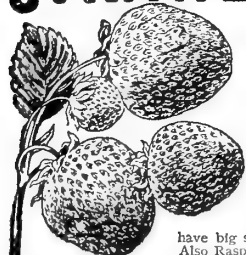
ANNUAL FLOWERS

A Combination Worth Trying
TWO seasons ago my attention was called to a very pretty and satisfactory effect had by planting two or more rows of sweet peas in a wide bed and allowing them to run at will over the ground. Seeds of the climbing nasturtium were also thinly planted in the rows at the same time. The sweet peas flowered very freely during the early summer, while the nasturtiums made a gorgeous display during the fall. Since then we have practised planting both sweet peas and the climbing nasturtiums together along the fences covered with poultry netting. The effect of this combination has been most satisfactory as the nasturtiums cover the fence when the sweet peas die.

Pennsylvania.

E. D. DARLINGTON.

STRAWBERRIES



big, red and luscious are grown from ALLEN'S choice, vigorous strawberry plants. None better. Good Luck, Chesapeake, Virginia and Cardinal, new Glen Mary, Haverland, Dunlop, Marshall, Klondike, Gandy, Babach, Climax, and all best standard sorts, 90 varieties. Prices right. DEWBERRY, Austins, Lucetta and Fremo. I have big stock and they are fine. Also Raspberry, Currant and Gooseberry plants, and Grape vines. In

SEEDS I have the leading varieties for field and garden. My 1907 supply of Peas, Beans, Watermelon, Cantaloupe, and Cucumber seeds is very choice. Millions of vegetable plants in season. My 60-page Catalogue for 1907 tells about lots of good things for the farm and garden and where to get them. It's Free. Send name and address on postal today to

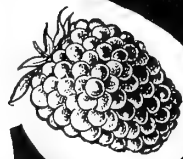
W. F. ALLEN,
Salisbury, Maryland

Dept. 42,

CARFF'S

Small Fruits

THREE SPLENDID
BLACKBERRY PLANTS
FREE—POST-PAID



I have faith in my plants. Hence this offer to introduce into your community absolutely free, post-paid three fine blackberry plants. Get a good place ready—then send your name. I want to prove that I excel in fine blackberries—the money making kind. Many of my customers are realizing \$300 PER ACRE PROFIT

from my blackberries, new raspberries, strawberries and currants. I offer a full line of nursery stock, farm and garden seeds, poultry, etc. 800 acres in farm and nursery—the actual fruit of good plants. Catalog free. Send for it.
W. N. SCARFF, New Carlisle, Ohio



SUPERLATIVE RASPBERRY WILL LEAD ALL OTHER VARIETIES COMMERCIALY

Improved Strain From Puget Sound Achieves Sweeping Triumph Wherever Planted—Larger, Richer and More Prolific—Conceded the Best Red Raspberry Ever Introduced

THE Improved Superlative Red Raspberry, one of the wonderful products from the Puget Sound country—the real home of the red raspberry—is without doubt the most important commercial success achieved in berry-growing for years. As a berry to eat with cream and sugar, it is matchless. Its superior size and appearance and delicious taste make it the best market seller, and growers are obtaining a premium price for it. Its shipping qualities are not excelled by any other red raspberry. At the Lewis and Clark Exposition the Superlative was awarded the Gold Medal, the highest award, over all other red raspberries. This new variety is being substituted for all others, wherever introduced, and growers are plowing out old strains to make room for this more profitable variety.

The Improved Superlative Raspberry is controlled exclusively by the Chas. H. Lilly Co., the largest and best-known plant and seed house in the West. The following interesting extracts from letters written by some of the most extensive growers in the country describe its qualities:

BEST SHIPPER OF ALL

“Hang on the canes well—Are remarkably firm and prove to be fine shippers—Are much larger than any other variety. Am convinced they will prove larger producers and better shippers than any other variety. Will be good seller. I have no plants for sale.”—D. F. Sexton, President Snohomish Country Horticultural Association and President of the Snohomish Valley Growers’ Association.

WHAT LARGEST GROWER SAYS

The Snohomish Berry and Fruit Co. have one of, if not the largest raspberry field in the world. They say:

“Any new item of value in the raspberry from a commercial standpoint is of material value to us. We have several varieties under observation. From our experience with the Superlative we will confine our future plantings to this variety. The berry is very large, nearly double that of other varieties, and yields 50% heavier. Shipping quality is good. Sample crates shipped east attracted much attention. The merits of the Superlative will undoubtedly transform the raspberry industry. No plants for sale at any price, as we need all we can produce to extend our planting.”—Snohomish Berry & Fruit Co., H. S. Wright, Manager.

PRACTICALLY INSECT PROOF

“Superlative is acme of perfection in the raspberry family, excelling all others, and my

50 years of experience covers many varieties. Has hardy and healthy growth. Fruit the largest of any variety. Quality the very best. Very prolific. Core is very small. Flesh very deep. Seeds very small. Believe it will become the best shipper of all and command the highest price. Fruit does not fall from plant when ripe. Leaves are very large and corrugated, making it practically insect proof. Canes mature early. Have no plants for sale at any price.”—Wm. Bennison, a Snohomish County Horticultural authority, and of wide experience both in England and America.

“Do not think I ever saw their equal, and I am an old berry raiser.”—F. Walden, Fruit Editor of *The Ranch*.

“Superlative raspberries shipped in open crates without refrigeration as far as Kalispell, Montana. Very satisfactory results.”—Snohomish Valley Fruit Growers’ Association, per W. P. Dalson, Shipper.

DISCARDS ALL FOR SUPERLATIVE

“Superlative will revolutionize the raspberry industry in the commercial berry sections. In all my experience, testing practically every new raspberry I have never had a variety to equal the Superlative. Have discarded all others for this. It outyields any berry of my experience.”—J. F. Littooy, Horticultural Inspector Snohomish County.

STANDS MOST SEVERE CLIMATE

The hardiness of the Superlative raspberry is conclusive, as it stands the severe climate of Eastern Canada. Wherever introduced it has enthused the growers. It is very difficult to obtain plants of the improved strain. The Chas. H. Lilly Co., of Seattle, have exclusive sale of the Superlative, and the quantity is limited.

ITS SPLENDID CHARACTERISTICS

CANE is smooth—grows erect—matures early—vigorous, strong, healthy—practically thornless.

LEAVES thick, dark green, deeply corrugated or wrinkled—practically insect proof as red spiders or mites cannot travel on the leaf—leaf distinct from any other raspberry.

FRUIT one to one and half inches long—very prolific—ripens simultaneously with earliest varieties and continues to end of season with latest varieties—lobes deep—cores small—seeds small and masticated easily—flavor sub-acid, aromatic—perceptibly sweeter than other favorite varieties—no mustiness—color, delicate crimson—texture, firm—shipping quality, best.

WILL THRIVE ANYWHERE IN U.S.

The fact is well known that berry roots from the Puget Sound country grow better all over the United States than those from anywhere else, but the Superlative will prove this with even added emphasis. Invest in a few Superlative roots now; it will be the leading variety in a few seasons; every one who sees the fruit wants it; your profits will return a hundred-fold. The endorsement of the Chas. H. Lilly Co. is a sufficient guarantee that the Improved Superlative Red Raspberry is all that is claimed.

OFFER OPEN TO EVERY GROWER

It is the desire of the Chas. H. Lilly Co. that the distribution of the Improved Superlative Raspberry shall be as widespread as possible in order that individual growers all over the United States and Canada may be able to make a start with this grand variety, thereby making a far-reaching and perpetual advertisement for the firm. Owing to the great value and limited number obtainable, it has been necessary to fix a price of \$1 each for the roots. Large orders are not solicited, and under the circumstances no reduction can be made in such cases. Improved methods of packing have been perfected whereby the Chas. H. Lilly Co. ship the roots so thoroughly protected that they reach the most distant points across the continent in perfect planting condition.

ORDER THE SUPERLATIVE NOW

In ordering use the attached coupon, writing name and address plainly:

Cut this out and mail to the

G. M., 3.

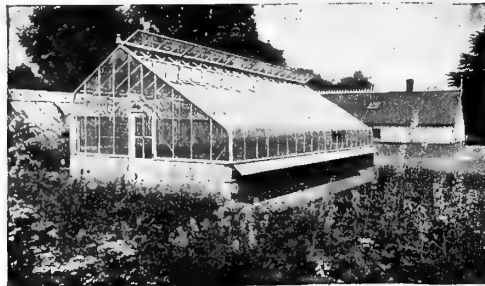


SEATTLE, WASH.

Enclosed find \$..... for which send me
..... Superlative Red Raspberry roots
from the Improved Strain, at \$1 each, postpaid.
Also send free, postpaid, your complete new
Seed and Plant Catalogue.

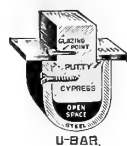
Name.....

Address



Could you wish for anything more pleasing in its perfect fitness for this garden position?

What a Greenhouse Would Mean to you, Now



SUPPOSE you had carried out that U-Bar greenhouse dream of yours, and erected it last fall—just think of the pleasure you would be having now—the fun of picking things in your winter garden! You might have tomatoes, cucumbers or egg plant; for a couple of months fine, luscious strawberries, a quart from every six or seven plants; or if you like flowers best, you could have planted the whole garden out in roses (now in full bloom) along with a few of your bay window favorites. But listen: the same state of affairs will exist next year if you don't build that dream house this year.

The U-Bar greenhouse is constructed differently from other greenhouses—it's lighter, cheerier, and things grow better. You will find them regular "Sunshine Shops"—just the kind of house for you.

Send for our new book catalog. It tells all the particulars in an interesting, to-the-point way.

PIERSON U-BAR COMPANY

Designers and Builders

U-BAR GREENHOUSES

Metropolitan Building, 4th Ave. and 23d St.
NEW YORK



Wild Flowers Worth Improving I. The Hepatica

THE hepatica (*H. triloba*) is one of the most interesting American wild flowers, because it is the first flower that blooms in the spring. Technically, the skunk cabbage is the first, but that is not popularly considered a flower. Occasionally other flowers will bloom before the hepatica, but as a rule



A wild hepatica with sixty flowers—an extraordinary number

the hepatica is first. It usually appears in March.

The great faults of the hepatica, from the garden point of view, are (1) the blossoms are short-lived and (2) the plant must be grown in partial shade during most of the year. Somebody ought to get the purest pink, white and blue varieties that can be found and breed them for size, color and doubleness. It is very probable that doubleness will not detract at all from the beauty of the hepatica (since the flower is not highly distinctive in form, as the violet is), and this would make the flower last longer. It is almost certain that a sun-loving race of

Roses

THE fellow that has the biggest ad. does not always have the biggest and best Roses. My money is put into the stock I sell—not the magazines.

"1514 N. Broad St., Philadelphia, Pa., Feb. 8, 1906.
"Your Roses are as superior as your catalogue. Your bushes were better from first to last than those received from any of the other five firms from which I ordered. The bushes were better to begin with; they grew better, looked better and bore more and better Roses than any of the others.
"The satisfaction derived from 'A Little Book About Roses,' that dares to tell the truth, is equaled only by the satisfaction of having such superior Roses. E. T. FELL."

"144 Ruthven St., Roxbury, Mass., March 1, 1906.
"Thank you many times for your charming 'Little Book About Roses.' It is a delight every moment, from cover to cover, and is exactly what I need. I have all winter been reading books on the Rose and Rose culture, and while I have received much and varied information, nothing has so completely suited me—telling me so plainly what I desire—as your little book. (MRS.) CAROLINE L. SWIFT."

"A Little Book About Roses"

for 1907 is more beautiful and helpful than ever, and IS SENT FREE to patrons and intending purchasers; to anyone (without obligation to purchase) on receipt of 10 cents in coin or stamps, deductible from first order.

GEORGE H. BETERSON

ROSE AND PEONY SPECIALIST

Box 50 FAIR LAWN, N. J.

SUN-DIALS

with or without PEDESTALS
Send for Illustrated Price List
Hartmann Bros. Mfg. Co.
New York Office, 1123 Broadway Mt. Vernon, N. Y.

BERRY PLANTS

We are headquarters for plants of the new "Oswego" strawberry and 50 other best new and old varieties. Also the "Plum Farmer" raspberry and other desirable kinds of Raspberries, Blackberries and other Fruit Plants, etc. 23 years' experience. Highest awards at World's Fair. We invite correspondence. Catalog free.
L. J. FARMER, Box 729, Pulaski, N. Y.

SEEDS AND PLANTS

Grown by specialists from stock of best vitality
quality and production. Catalogue free—
F. D. VAN WAGENEN, DRAWER X, FULTON, N. Y.

A beautiful colored plate of our
NEW EATON
Red Raspberry
and our Strawberry Catalog of valuable information about varieties with instructions for beginners. Free to all.
THE FLANSBURGH & POTTER CO.
Leslie, Michigan.

FERRY'S

Seeds

prove their worth at harvest time. After over fifty years of success, they are pronounced the best and surest by careful planters everywhere. Your dealer sells them.
1907 Seed Annual free on request.
D. M. FERRY & CO., Detroit, Mich



Rose Bushes for Every Style of Planting

Hybrid Perpetual Varieties

bloom in June.
Our Collection consists of all the most desirable, well tried kinds, such as Baroness Rothschild, Capt. Christy, Fisher Holmes, Frau Karl Druschki, and a hundred others, equally fascinating.

Hybrid Tea Varieties

bloom from Spring to Autumn.
We have several thousand two year old field grown plants, of such well known varieties as Kaiserin Augusta Victoria, Caroline Testout, Souv. de la Malmaison, Viscountess Folkestone, Killarney, and fifty others with as many charms.

Tea Scented and Noisette Varieties

bloom from early Spring until late Autumn.
These popular ever-blooming Roses need no introduction. Among the kinds listed in our catalogue are such favorites as Francisca Kruger, Gloire de Dijon, the Cochet, Marechal Niel and Souv. de Pierre Notting.

Climbing Varieties

Of these we have a unique collection, including Zepherine Drouhin, the thornless variety; Clothilde Soupert, Baltimore Belle, La France, Crimson, Pink, White and Yellow Rambler; the staid old Seven Sisters and 25 other kinds, all ready awaiting shipment.

Standard or Tree Roses

We have an exquisite collection of these well known Tree Roses. No Rose garden or border is complete without a collection, properly arranged; they add beauty and attractiveness to the garden. We have them in Hybrid Perpetuals, Hybrid Teas, Bourbons and other kinds, grafted on the hardy stock, Rosa Rugosa.

Everblooming Baby Ramblers

While they are not ramblers, they are entirely new and useful as bedding and border varieties, their distinct feature being their free blooming qualities. We have them both in bush and tree form.

These with hundreds of other Roses are described in our illustrated general catalogue, which is also replete with ornamental Nursery stock for every style of planting.

The Rose Bushes we offer are all strong *two year old field-grown* plants. They are the kind that produce flowers and not disappointment.

While we have upwards of 100,000 plants for Spring sales, it is important that orders are placed at once to avoid the usual displeasure of having your order shipped partly complete.

We make a specialty of designing, laying out and planting Rose Gardens.

Moss Roses

Are delightful to have if only in small numbers. Their qualities are becoming better known each year. Blanche Moreau, Crested Moss, Glory of Mosses and Old Rose are among a dozen other varieties we have this spring.

Rosa Rugosa

Can be planted in every place. Their elegant green foliage in Summer and delicately colored autumn leaves with rich, scarlet berries in Fall, are certainly attractive, for any kind of planting. Six distinct varieties are in our collection and described in our catalogue.

Rosa Wichuraiana and Their Hybrids

Within the last few years Wichuraiana Roses have won the admiration of every lover of beautiful grounds. They are particularly desirable for covering unsightly banks, rocks, walls, etc.

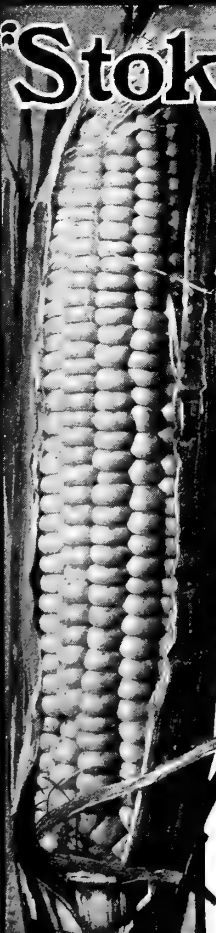
Austrian Briar Roses

Are yellow and orange colored. They are free blooming and very fascinating on account of their distinct coloring.

BOBBINK & ATKINS, Nurserymen & Landscape Gardeners, Rutherford, N.J.

Stokes' Standard

SECOND EARLY Sugar Corn



Only a week or ten days later than the earliest corn, but has that delicious sweetness characteristic of the later varieties. Good-sized ears—10 or 12 rows, well-filled with large, deep, white, milky, extremely tender grains. ½ pt. 10c.; pt. 20c.; qt. 30c.; postpaid.

Re-Selected Shirley Poppy

Without exception the finest strain of Shirley Poppy I have ever seen. Delicately beautiful flowers with the most charming markings. Bred by an English Clergyman who has made a study of the Shirley Poppy and accomplished wonders in its development.


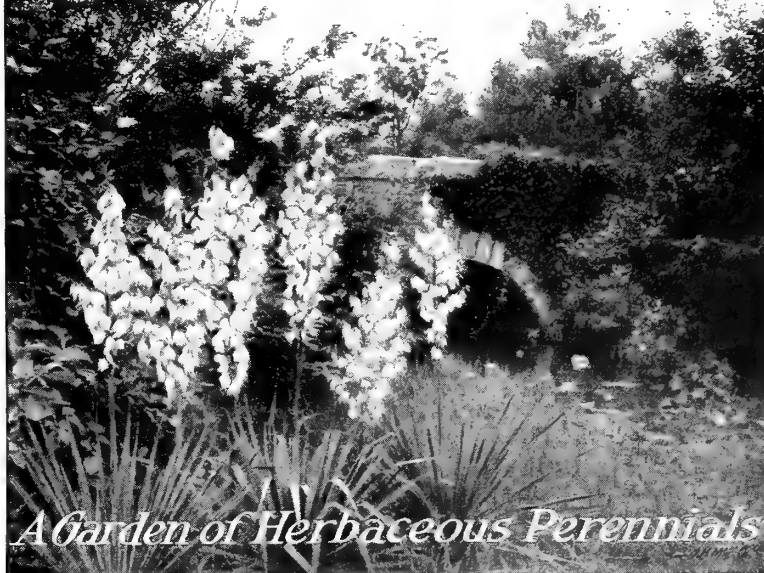
Packet 10c.; ½ oz. 50c., postpaid.

Special Offer: To get you acquainted with my seeds—which stand for quality first, last and all the time—I will send you one pint of "Stokes' Standard" Second-Early Sugar Corn and one packet of Re-Selected Shirley Poppy on receipt of 20c.

Write anyway for my 1907 Catalogue of vegetables and flower seeds, including "Stokes' Standards" and my new way of selling seeds. See photographs of what has actually been grown from my seeds. Read how you can have the same success.

Don't forget that I'm ready to help you solve any of your garden problems.

Stokes' Seed Store
Walter P. Stokes of the late firm of Johnson & Stokes,
219 Market St., Philadelphia

A Garden of Herbaceous Perennials

is an important adjunct to the home. These grand plants increase in strength and beauty year by year, and unlike the tender bedding plants, burst into growth with the advent of spring and welcome the return of the growing season with a wealth of grace and beauty. Peonies, Phloxes, Irises, Foxgloves and the like, add a charm and interest that cannot be dispensed with. These and many others, including a large collection of Trees, Shrubs and Vines, are illustrated and described in the new artistic catalog of

BILTMORE NURSERY

A book filled with beautiful pictures of garden objects and helpful notes and descriptions. Plants are sent by express, freight or mail to any station.

Ask for catalog "E." Sent postpaid on application.

Address: Biltmore Nursery, Biltmore, North Carolina



NITRATE OF SODA
for **LAWN and GARDEN**

NO FORM OF NITROGEN is so quickly available, or so positive in its results for the vegetable garden, on the lawn, for shrubbery or trees as a top dressing of

NITRATE OF SODA
(THE STANDARD FERTILIZER)

Send your name and address on **Post-Card** and we will send you, as long as the edition lasts,

"Food for Plants"

a most valuable book of 237 pages, dealing with the use of Nitrate of Soda as a fertilizer, giving detailed information covering a list of trials at Agricultural Experiment Stations throughout the United States and on all sorts of crops. Mention magazine in which this advertisement is seen, and address

WILLIAM S. MYERS, Director

John Street and 71 Nassau St., New York, N. Y.

Post Card Replies Will Receive Early Consideration.



A HAMMOCK THAT'S RIGHT
NO DOUBLE UP

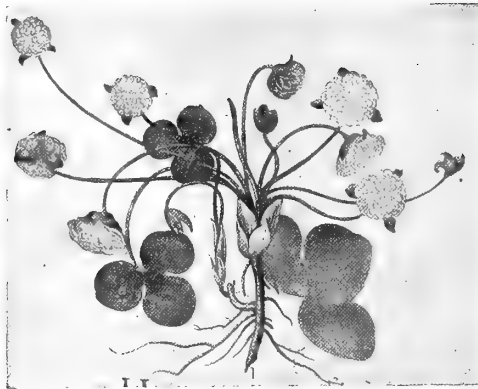
The only hammock made that combines Quality, Durability and Beauty with Comfort. Can be used indoors or out. For further particulars write **QUEEN HAMMOCK CO.**
188 West North St. Kalamazoo, Mich., U.S.A.

It's not fair to your lamp to dwarf its light with a poor chimney. I manufacture lamp-chimneys that get the most out of lamp-light, and that won't break from heat.

I put **MACBETH** on every one, because it tells you how to get the best in lamp-chimneys.

My Index tells about these facts, and tells how to get the right size chimney for your lamp. It's free—let me send it to you. Address,

MACBETH, Pittsburgh.



A double blue hepatica pictured in a book published at Nuremberg in 1613

hepaticas can be bred by selecting individuals which are found in sunny situations.

One of the pictures that illustrates this article shows a wild plant that has an extraordinary number of flowers open at one time, namely sixty. The other is taken from an old book published in 1613, which shows that a double blue hepatica was known at that time. It is not generally known, except to botanists, that the hepatica is native to the Old World as well as to the New, yet we fancy it is commoner in America than in Europe, and that we have a right to consider it as one of our characteristic wild flowers. It is probable that the artist who drew the double blue hepatica exaggerated its fullness.

HOW TO BEGIN

Hepatica breeding could easily be made a hobby by amateurs. Anyone who would like to take it up, should search the catalogues of seedsmen and nurserymen, for at least a half dozen varieties are cultivated and the presumption is that these are better than any that could be found wild. The form known as *Hepatica angulosa* is particularly worth trying, as it grows about three times as high as the common hepatica and is said to have flowers as large as a half-dollar.



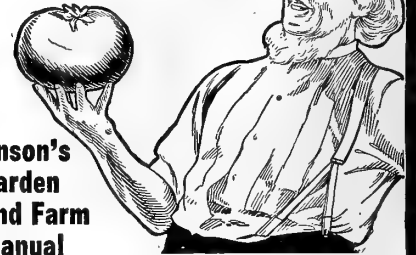
How to Make a Garden

THE following directions are issued to school children who buy penny packets of seed from the Home Gardening Association of Cleveland:

"Plant seeds in garden or boxes early in May. Fill boxes with four or five inches of fine, rich soil. Place boxes in sunny place, and sprinkle every day. Cover boxes at night, if very cold. Transplant seedlings to the garden about June 1st, on a damp day. Sow seeds of calliopsis, nasturtiums, morning

Plant Johnson's Seeds and Keep Smiling

Johnson's Garden and Farm Manual

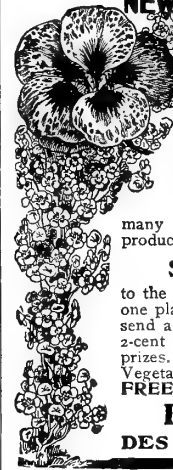


for 1907 tells all about the earliest Tomato in the world, "**Johnson's Jack Rose**," and other valuable novelties. **Mailed free.**

ADDRESS

JOHNSON SEED COMPANY
217 Market Street Philadelphia, Pa.
HERBERT W. JOHNSON,
of the late firm of Johnson & Stokes, President.

NEW KALEIDOSCOPE NASTURTIUM



FINEST floral novelty of the season. A prolific bloomer: every plant bears flowers of a dozen different colors, ranging from creamy white, yellow, orange, red and pink, to an intense crimson maroon shade. Many are also splashed and striped with other tints. To find out how many flowers this wonderful nasturtium will produce, we are offering

\$25.00 in Cash Prizes

to the persons growing the greatest number on one plant. If you mention this paper, we will send a regular 15c packet of the seed for three 2-cent stamps, with privilege of competing for prizes. Large illustrated catalogue of Flower, Vegetable and Farm Seeds, Plants, Bulbs, etc., **FREE.**

IOWA SEED CO.,
DES MOINES, IOWA.

1840—OLD COLONY NURSERIES—1907

Very desirable **RAMBLERS** from 2 1/2 inch pots, by mail prepaid, 10c. each; ready in May. **DAWSON**, early double pink. **LADY GAY**, double pink. **DOROTHY PERKINS**, double fine pink. **W. C. EGAN**, large double blush. **DEBUTANTE**, double, white. **SWEETHEART**, double, white. **SETIGERA** and **WICHURAIANA** (new hybrid of these two well known roses), a most beautiful single, shell pink, trailing rose. This is the best hybrid of Wichuraitana ever offered. *Priced catalogue free.*

T. R. WATSON, Plymouth, Mass.

"Strawberry Plants That Grow"
BEST STANDARD VARIETIES

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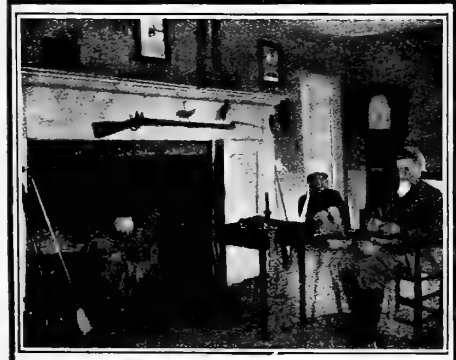
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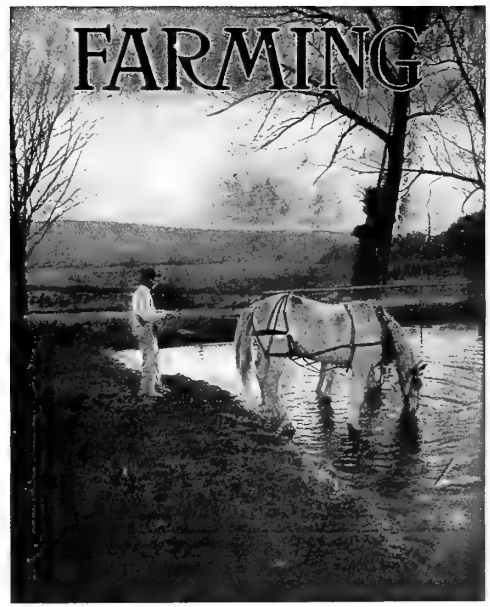
This invaluable Almanac and a year's subscription to *Farming* absolutely free! See Offer No. 2 below

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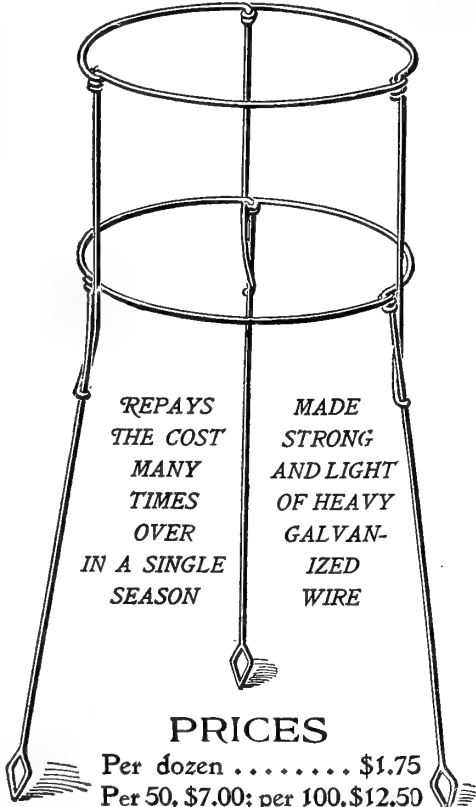
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by using the IGOE TOMATO AND PLANT SUPPORTS. They will mean a more abundant crop of Tomatoes of superior quality, and more beauty and success of your heavily flowered plants, such as Peonies, Dahlias, Golden Glow, Chrysanthemums, etc. *The best and strongest support made.*



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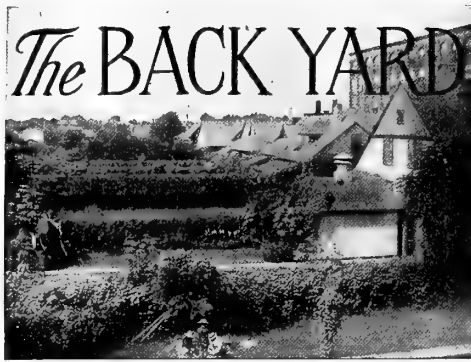
THE IGOE CARNATION SUPPORTS are equally important for the success of your Carnations. 2-ring, \$3.50 per 100; 3-ring, \$4.00 per 100.

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IGOE BROTHERS

228 North 9th Street Brooklyn, N. Y.



The Calendar of a Beginner

MY GARDEN calendar is for a bit of city garden, the outdoor annex to our living room. The work of making this oasis among brick walls, from the unpromising material of a bare city back yard, required much study and some experiments, and the end is not yet.

What to plant so that the most objectionable features of an undesirable view might be at least partially obscured and maybe forgotten; what would grow in the shade of surrounding buildings; what thrive in the sandy soil; what plants must have the sunny location, or some rich soil brought in at much expense; how to provide for a constant succession of flowers, and make the most effective arrangement in the small space of 26 1/2 x 70 ft.; these were problems of absorbing interest to a city-bound nature lover. In the attempt to solve them, I have spent many hours in the public library, delving into the riches of garden literature represented by the contents of a whole drawer in the card catalogue.

It was this catalogue which suggested to me the card filing method of classifying my accumulation of notes. One box containing the letters of the alphabet accommodates more cards than my present or future needs will probably require. The notes are made as brief as possible and their source is indicated. For example, on one card is written "Achillea Pearl. At best with dry, moderately fertile soil and sunshine. (GARDEN MAGAZINE, May 1905, page 187,)" ; on another, "Asters, Annual. Do not thrive in sandy soil. When sowing seed, mix wood ashes with earth to prevent insects. (W. Macleod)" ; "Do not overfeed or plants will get disease. (GARDEN MAGAZINE, April 1905, page 117)" ; "Transplant in June (Ely). See also article in GARDEN MAGAZINE, April 1906, page 166."

There are also cards labeled Ants, Bulbs, Edgings, Fertilizers, Insects; Sand, uses of; Seedlings; Shade, list of plants growing in; Soil, preparation of; Spraying; etc.

My own experience in the garden is noted from day to day on a desk pad. It is recorded there when each kind of plant begins to bloom, when it is in full flower, when it begins to fade, and when it is ready to be cut down. Frequent note is made of all the plants blooming at one time, groups are noted which in color, foliage and form make a good picture; for in a garden which forms the view, however limited, from dining room and living room, the horticultural interest is naturally subordinate to the artistic.

THE NURSERY EXCHANGE OF NEW ENGLAND

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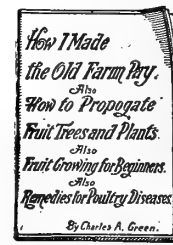
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A POSTAL WILL DO. WRITE TODAY.
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From May to October—for the price of one florist's bouquet. You can easily grow American Beauties or any other variety of roses you wish—and grow them successfully—by our methods—in your own garden. You can have cut flowers all summer at the cost of a very light expense—and a little pleasurable and healthful work. Our New Free Catalogue—"ROSE LEAVES"—contains in a condensed form most valuable information for the amateur rose growers and gardeners. It lists—besides our American Beauties—

105 Other Varieties of Roses

including some entirely new ones, among which is the wonderful new Rambler Rose—"LADY GAY"—also some beautiful new kinds sold exclusively by us. This book explains to those who have never tried to grow roses before—or have failed growing

them—how they can make success sure by using the Heller mature, two and three year old bushes. It gives new ideas on rose culture—complete directions as to planting, watering and cultivation—as well as the location of rose beds—and directions for use of roses in landscape gardening. ¶ If you have already grown roses in your garden—you will find listed new varieties well worth consideration—and some varieties you can't secure from anyone else.

Don't miss sending for "Rose Leaves." It's free, but too valuable for any amateur gardener to be without.

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LIVE FENCES

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We have a superb stock of Hedging plants, and below quote some of our Specialties. At these prices they can be planted by the mile.

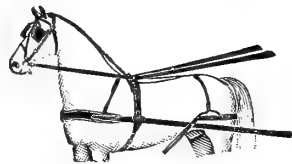
LIGUSTRUM AMURENSE (Amoor River Privet)	\$4.00 per 100 or \$35.00 per 1,000
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WE HAVE OTHER VARIETIES, but would call special attention to our AMOOR RIVER PRIVET. In every respect we think this is far superior to the much-planted California Privet, which assumes a dingy tint and often loses its leaves in very cold weather, whereas the AMOOR RIVER retains a brighter green throughout the entire year and is much more satisfactory in every respect. We have known of it withstanding twenty degrees below zero, and appearing equally as happy in Florida—thus desirable for all climates.

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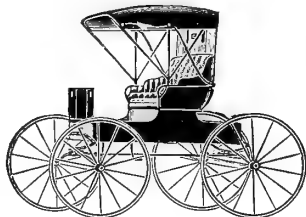
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No. 654. Top Buggy with Late Automobile Style Seat, Bike Gear and 7/8 in. Guaranteed Rubber Tires. Price, complete, \$68.00. As good as sells for \$25.00 to \$30.00 more.

It is also recorded at what time in the summer different parts of the border have enough sun for the perfect flowering of plants growing there; for instance, gladioli bloomed in full sun, but by the first of September, the lengthening shadows did not permit the free blooming of asters in the same part of the border.

The date is marked when different kinds of insects arrive, and the methods used to prevent or exterminate them, and the results.

Things which may be forgotten at the proper time, as the spraying of roses, the applying of fertilizer to chrysanthemums, are set down weeks ahead of time, at the right date on the calendar.

I have also a garden plan laid out on square sectioned paper, where changes in the location of plants are noted at any time they occur to me, during the summer. The transplanting is done in the fall and the plan then shows where everything may be expected to come up in the spring, and what greater delight than to be able to identify each little green blade that pushes its way through the earth?

This systematic method of classifying and making use of information from many sources, has produced very satisfactory results in the work of an entirely inexperienced gardener. There are over thirty different kinds of perennial plants and vines well started, and the little house, which less than three years ago stood upon a bare and sandy lot, already nestles in its garden setting as if it had grown there.

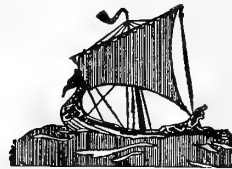
Chicago, Ill. MARY R. WILKERSON.

Naturalizing Bulbs

BY THE end of March one should begin to inquire where the best collection of daffodils may be seen—where most daffodils are naturalized in your vicinity. The naturalizing of bulbs is, perhaps, the best large idea introduced into floriculture during the last quarter of a century, and it is just beginning to make rapid progress in the United States. The cheapest bulb for naturalizing is the poet's narcissus, shown on this month's cover, a white flower about two inches across, which blooms in May, and has a saucer-like centre with a reddish rim, from which it gets the name of "pheasant's eye."

These bulbs never require any care after planting until they have multiplied to such an extent that the bulbs crowd in bunches to the surface of the ground, when they ought to be taken up and divided. They can be put in any orchard and meadow, or on the bank of a stream, or wherever the grass is not cut until haying time. The foliage of the daffodil dies down about the middle of June, and the bulbs are usually ripened before the hay is cut. The poet's narcissus costs only about five dollars a thousand. The trumpet daffodils are much more expensive. They bloom from two to four weeks earlier.

The picture shown on the cover was taken on the estate of Prof. Charles Sprague Sargent at Brookline, Mass., where the poet's narcissus has been naturalized many years in low, moist ground by the lakeside.



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are full of Northern life and vitality and mature earlier, better and bigger crops. "D & B's Earliest of all Wax," the earliest, best, most prolific wax bean that grows. Good Seller. Money maker. Send 12c stamps for a big packet, our new 150-page catalog of quick growing Northern Seeds and our big cash club offer. Catalog alone, free.

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Dwarf Bamboo \$1.50

Dwarf Juniper 75c.

Pine and Azalea (see note*) \$2.00

Chabo-hiba or Retinospora 75c.

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Quaint Japan miniature trees in artistic or decorated China pots. *Flowers fade, plants die*, the little trees live on. Full directions as to treatment required sent with every plant. Price given includes express charges. Sound delivery guaranteed. *Order now* to secure best specimens.

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Domestic Garden Seeds, Bulbs, Plants

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 This tremendous sale of 1,500,000 Iver Johnson Safety Automatic Revolvers means that the Iver Johnson **must excel** in all those points of revolver excellence that appeal to revolver users.
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Few plants are better adapted to withstand the vicissitudes of dwelling-house culture than the silk oak

in a warm light window but shade them from the direct rays of the sun. As soon as the young plants have made a few true leaves, transplant them into 2-inch pots. Grow in a night temperature of about 55° and shift them, whenever the pots become filled with roots, into pots a couple of sizes larger. When all danger of frost is over plunge the pots outdoors in a sunny place. By next winter the plants will be two to four feet high, in 6-inch pots and at their prime as a house plant. If kept over until the second winter the lower foliage will have dropped which will leave them looking rather unsightly. Therefore sow the seeds each year.

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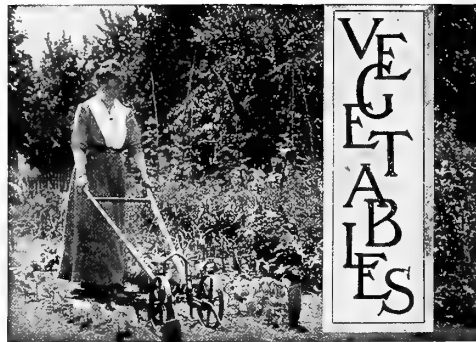


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TO HAVE melons of the choicest quality in June, they must be started in a hotbed not later than March 15th. Make the hotbed two feet deep of thoroughly prepared horse manure and leaves. Collect the droppings every day, putting them under an open shed to protect them from rains, to allow all rank steam to escape and to keep them from burning. When sufficient quantity has been gathered, make up the bed. Put the manure and leaves in alternate layers, in equal quantities, and thoroughly tread them down so as to retain the heat. Next put from four to six inches of good fibrous loam, and thrust a thermometer down into the manure—about four inches deep—put the sash on, and bank the sides and ends of the frames with coarse manure and leaves eighteen inches wide and deep, to keep out the cold. Watch the temperature, as the heat may rise even to 120°, but as soon as it has declined to 85°, sow the seed.

SOWING THE SEED

Mound up the soil into the form of hillocks, one to a sash and make it firm by hand pressure. When that is done, insert from eight to ten seeds in each hill, cover about one inch deep, firm the soil well, and if the soil is dry, water with a fine-rosed watering can. Put on the sash and cover the frames each night with mats and shutters.

VENTILATING AND WATERING

Do not give air until the seedlings appear above the soil, which will be in from five to ten days. Then air must be given cautiously, for cold draughts must be avoided; maintain a temperature of 70° by night with a rise of 10° by day. Water sparingly for the first three weeks, as there is danger of the seedlings damping off. Syringe the plants freely with a hand syringe just before closing the sash, which would be about fifteen minutes before the sun is off them, so that the frame may accumulate as much warmth as possible. If the temperature runs up to 90°, no harm will be done. Uncover the sash in the morning as soon as the sun is on the frames; should the day be dull, no air need be given.

As soon as the seedlings make their first set of rough leaves, thin out, leaving only the four strongest plants and they should be at equal distances around the hill. From this period on, air may be given in more or less quantities, according to the weather.

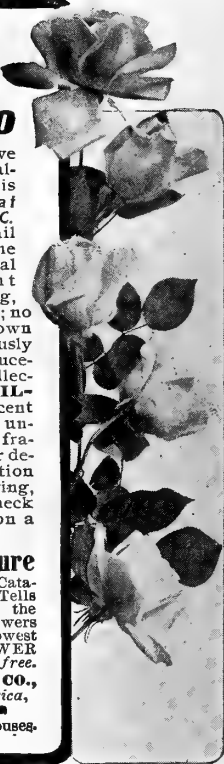
As the fruits begin to swell and until they commence to mature, give liquid cow manure

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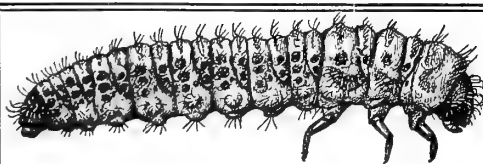
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8 Double Hollyhocks, all different,	\$1.00	12 German Iris, choice named,	\$1.00	10 Japanese Anemones, 5 sorts,	\$1.00	5 Canterbury Bells, all different,	\$.50
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10 Columbines, choice named,	1.00	10 Larkspurs, superb varieties,	1.00	5 Veronicas, including Blue Jay,	.50	6 Oriental Poppies, 3 sorts,	.50

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Is there a man, woman or child who does not enjoy strolling in a garden of flowers and gathering fragrant bouquets of them—in the dewy morning, in the quiet of evening or even under a noonday sun? This privilege is within the reach of every owner of a few feet of land, from May until December. For \$100 I will supply 1000 large, strong plants of choicest Perennials—enough to plant 4000 square feet—and if you will give me a rough outline of your grounds, locating buildings, walks, and drives, with dimensions, and state character of the soil, I will make a plan especially for your property with a planting list,—showing just what the selection consists of and where each plant is to be placed—to produce a constant and pleasing display of harmonious colors, throughout the entire summer and autumn. [For \$55 I will make a plan, planting list and supply 500 plants for same, or enough to plant 2000 square feet.] In my catalog of Hardy Perennials, everything is explained. It is a copiously illustrated book of 70 pages, giving accurate descriptions of over 1000 varieties of the choicest Hardy Perennials, Shrubs, Vines, etc., with much valuable information about these beautiful and intensely interesting flowers, and is mailed free for the asking.

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are not only very large, wonderfully perfect in finish and pure in color, but they are produced in far greater numbers and for a much longer season than the Hollyhocks of "Grandmother's garden." Strong roots, which will flower early the first season, by mail.

Separate colors,	8 for	\$1.00
" "	50 "	5.00
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All are fully described in my catalog of Hardy Perennial Plants.

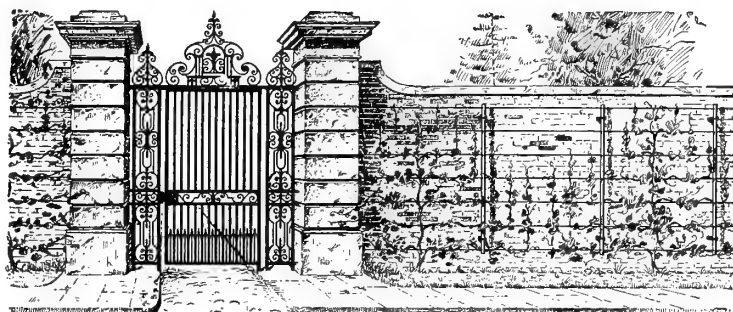


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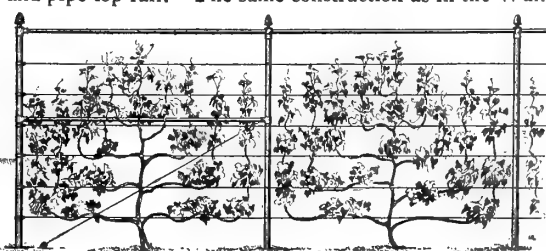
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freely, but always water the plants first with clean water, and afterwards with the liquid manure. To make manure water fill a two-bushel sack half-full of fresh cow manure and place it in a barrel, filling the barrel with forty to fifty gallons of water. Let it stand for twenty-four hours and it is then ready for use. When beginning to use this, make it strong enough to just color the water and increase the strength as the plants become accustomed to it. The plants will soon be able to stand a gallon to each hill three times a week.

To protect the fruit from wire worms and dampness, put pieces of shingles four inches square under them. When watering melons, keep all moisture from the stem of the plant, as it induces stem rot. A little dusting of powdered charcoal or sulphur will be very effective in preventing the rot.

Melons grown in this way will be ready for table on June 20th. They can be easily detached from the vines when ripe, by giving a sharp downward pressure of the forefinger on the stem. The best varieties are Extra-Early Hackensack and Emerald Gem. The latter is one of the best flavored melons grown and the flesh can be eaten to the rind.

COLDFRAME METHOD

Melons may also be grown in coldframes in precisely the same manner as described for hotbeds without the aid of artificial heat, but do not sow the seed until April 10th to 15th. They will be ready for use July 20th.

Where a hotbed has been used for early rhubarb or other vegetables, take out the old soil but leave the manure intact. Put back from four to six inches of good mellow loam, throwing it up in the centre in the form of a hillock about six inches high. Insert eight to ten seeds around the hill and care for as recommended in the hotbed culture. Tightly close the sashes at night and be sure to water the top ends of the frames and also syringe the under sides of the leaves to keep down red spiders.

A successful crop for outdoor planting may be started about April 20th in the frame, on inverted sods. Get pieces of sod four inches square and two inches thick and place them in the frame closely together. Make a hole about one inch deep in the centre of each sod with a sharp trowel, and in it put six to eight seeds. Cover the seeds with rich soil and firm it. Keep the sods rather dry until the seeds germinate; as the sods dry out very rapidly they must be carefully watched. Harden off before planting in the open by leaving a chink of air on at night, and gradually increase the air until the soft growth is inured to outdoor conditions. Do not allow the roots to penetrate through the sod, for if they do the plants will wilt when transplanted to the garden.

WHERE TO GROW MELONS

Select the warmest site in the garden for the melons and, if possible, give a sandy loam, one that will warm up quickly. A few days before transplanting, which will be from May 8th to 15th, make hills one foot square and deep. Put enough manure in the holes to come up within four inches of the surface,

Azaleas, Laurel and Rhododendrons

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JAMAICA PLAIN, MASS.

The Story of "Seeds that Grow"*

SEEDS! Tiny, insignificant-looking little things, not often beautiful in themselves, and yet so potent with bottled-up vitality, so instinct with images of the beautiful, rare and useful things into which they are capable of expanding! Humble as they are, they yet form the basis of one of the greatest business enterprises of the twentieth century. They are too often regarded by the busy world as among the necessary things of no particular moment that must be looked after somehow by somebody, but are not to be thought of seriously.

The busy world never made a greater mistake. Even the tiller of the soil who furnishes the marrow and substance of the busy world aforesaid, who, as it were, stokes the engine of civilization and supplies what energy it possesses, is too apt to regard with little care the seeds that he puts into the ground. Not so frequently nowadays, it must be acknowledged, as in times past, for one of the prime points which the following little story will try to bring out is the immense educational value to the agricultural and horticultural classes of the years of careful, scientific labor spent upon seeds by W. ATLEE BURPEE & Co. at their various growing centers.

It is a fascinating story. Man working hand in hand with nature—not forcing her, but coaxing her to reveal her secrets, leading her into new and better paths, developing in her work higher usefulness for human needs—this has been the first principle of the Burpee seed-growing business for thirty years.

Let us take a few peeps at how this is done.

Burpee's Seeds come from all over the globe. From nearly every section of the United States, from England, Germany, France, Denmark, Holland, Italy, Japan, wherever particular varieties of flowers and vegetables are found to have their best habitat and are assured of their highest degree of vitality, a never-ceasing stream of purest seeds is yearly pouring into the big Burpee warehouses in Philadelphia, thence to be redistributed to thousands upon thousands of planters. But the chief producing points of parent stocks are the famous FORDHOOK FARMS, near Doylestown, Pa., among the fertile hills of Bucks County, and BURPEE'S SUNNYBROOK FARM, near Swedesboro, N. J., in Gloucester County. These farms at all times are under the keen eyes of Mr. Burpee and his assistants. They are among the most quietly busy places in America and are brimming over with interesting stories to those who can so far throw off the fetters of civilization as to get their ear down close to Mother Nature.

How We Know "Burpee's Seeds Grow"

SOME years ago, the firm adopted as its motto the snappy phrase, "BURPEE'S SEEDS GROW"—a motto which the experience of growers in all sections of the world has shown to be true as gold. We shall now take a peep into the greenhouses, just south of the office building, and see why it is that this statement can be made with such persistent confidence year after year. In a nutshell, the firm is enabled to say that Burpee's seeds grow because they *know so*. In the greenhouses vitality tests are made of every variety of seed listed in THE FARM ANNUAL. The labeled packages are sent up from the Philadelphia warehouses, and one hundred seeds are planted for each test. It is by the percentage of this number that sprout and make their way through the soil that the character of the seed is judged. There is no alternative—the seed *must* grow; otherwise it is condemned. All tests are made in the soil, the seeds being planted at regulation depth, blotter tests being regarded as unsatisfactory in disclosing the true vitality of the young cotyledons. No heat is used, excepting in winter, when the temperature of the greenhouses is kept at natural summer proportions. Here, as in every other branch of the work, the attempt is made to surround the seed with such an environment as it would find in nature.

These vitality tests are regarded as a most important element conducing to the success of this great industry. Certainly they may be ranked as among the most laborious and

careful. The quantity of work involved is immense. As an instance, from September 1, 1904, to May 15, 1905, there stood recorded upon the farm's books 16,086 vitality tests. The results are noted and tabulated and compared just as assiduously as in the case of the trial grounds. Connected with the greenhouses is a group of frames for special tests, hybridization and other purposes.

—Extract from "THE STORY OF SEEDS THAT GROW."

Unique New "Creations" in BUSH LIMAS

Nature has surely surpassed herself! In a single season she has outstripped all efforts of man. In fact, such distinct new types have never even been dreamed of before!

To learn just what they really are and how they were discovered, kindly study pages 10 to 15 of THE FARM ANNUAL, FOR 1907. They are undoubtedly the two most unique and "Greatest Novelties of the Age."

The Burpee-Improved is an entirely "New Creation." The pods are truly enormous in size, borne in great abundance upon bushes two and one-half feet high by two feet across. The beans are both larger and thicker than those of the popular Burpee's Bush Lima or any strain of the large White Pole Lima.

Fordhook Bush Lima. This is altogether unique. Nothing like it has ever been seen before. It is the first and only stiffly erect Bush form of the fat "Potato Lima." Both pods and beans are twice the size of Dreyer's, Thorburn's or Kumerle Bush Lima and more than half again as large as the Challenger Pole Lima.

\$1115 in Cash Prizes

With one prize of \$150, and several of \$50 each, we will pay a total of \$1115 on these **Two New Bush Limas**,—see BURPEE'S FARM ANNUAL FOR 1907.

These Bush Limas are sold only in sealed packets. Each packet contains twelve perfect hand-picked beans. **Per pkt. 25 cents; 5 pkts. for \$1.00**, postpaid,—assorted as desired.

BURPEE-IMPROVED BUSH LIMA,—*Life-Size Pod.*

BURPEE'S FLORENCE SPENCER.

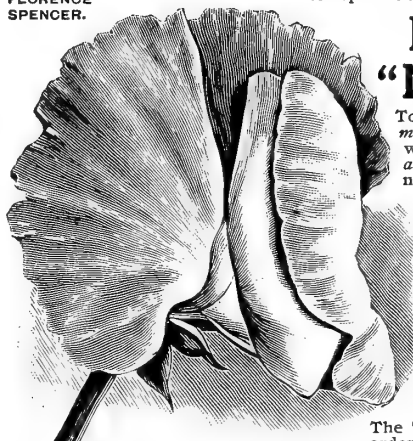


"Five Finest" New Flowers For 25 Cts.

We will mail,—as a special advertising offer,—one regular fifteen-cent packet each of the charming VARIEGATED QUEEN TALL NASTURTIUM, the first of Burpee's New "Royal-Race" of Variegated-Leaved Tall Nasturtiums,—BURBANK'S NEW CRIMSON-FLOWERING ESCHSCHOLTZIA,—BURPEE'S HERCULES GIANT PANSIES,—the gigantic orchid-flowered new pink FLORENCE SPENCER (see illustration) and the richly colored EVELYN BYATT SWEET PEA. Purchased separately these five packets would cost seventy-five cents. **All five packets mailed for 25 cts.;** or, **five assortments** (in all 25 packets) for \$1.00,—to separate addresses if requested.

Four 1908 Advance "New" Novelties FREE!

To every one who orders direct from this advertisement we will send **Free**,—if asked for,—any one with a 50c. order, any two with a dollar order, or all four with an order for \$2.00. These Novelties, not yet cataloged by us, but on which we offer Cash Prizes for advance trials, are: *New American Dwarf Bush Nasturtium*, "*Ashes of Roses*,"—*The New English "Beacon" Sweet Pea*,—*New American Thick-Leaved Gigantic Mustard*, and a grand *New Early Hard-Head Butter Lettuce* from Germany.



BURPEE'S 1907 FARM ANNUAL

"Leading American Seed Catalog"

The "Silent Salesman" of the world's largest mail-order seed trade. An Elegant New Book of 200 pages with hundreds of illustrations from photographs, it tells only the plain truth about the very best **SEEDS THAT GROW.**

It describes Grand Novelties in Flowers and Vegetables of unusual importance, which cannot be obtained elsewhere. If interested, write to-day,—*Mention This Paper*,—and the book is yours.

W. ATLEE BURPEE & CO.

Seed Growers, Burpee Building,

PHILADELPHIA, PA.

*From THE STORY OF "SEEDS THAT GROW," written by E. J. WHELLOCK, author of "A Year's Work at Fordhook."

A Poor Man's Pump Used by the Rich

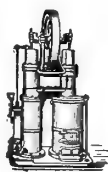
The following names are selected from among our patrons, solely because they represent a discriminating class, who buy the very best article obtainable, for any purpose. They use the

Hot-Air Pump

- J. Pierpont Morgan, - New York
- Khedive of Egypt
- Ambassador Whitelaw Reid, - London
- W. K. Vanderbilt, - New York
- Ex-Senator D. B. Hill, - Albany
- George Vanderbilt - New York
- L. C. Tiffany, Cold Spring Harbor, N. Y.
- Frederick W. Vanderbilt, - New York
- Valentine Blatz, - Milwaukee, Wis.
- Charles Lanier, - New York
- H. H. Westinghouse, - Pittsburg
- King Edward VII.
- Ex-Mayor Seth Low, - New York
- George B. Post, - Bernardsville, N. J.
- Andrew Carnegie, - New York
- R. L. Agassiz, - Hamilton, Mass.
- H. O. Havemeyer, - New York
- Montague Allen, - Montreal
- H. M. Flagler, - New York
- W. W. Allis, - Milwaukee
- Colgate Hoyt, - New York
- John H. Converse, - Philadelphia
- Bruce Price, - New York
- Sultan of Turkey

Yet the Hot-Air Pump is essentially the proper form of domestic water supply for the man of small means, because it is the most economical. It will last a lifetime, and the cost of operation is practically nil.

Descriptive Catalogue "U" sent free on application



Rider-Ericsson Engine Co.

- 35 Warren Street, - New York
- 239 Franklin Street, - Boston
- 40 Dearborn Street, - Chicago
- 40 North 7th Street, - Philadelphia
- 234 Craig Street West, - Montreal, P. Q.
- 22 Pitt Street, - Sydney, N. S. W.
- Amargura 96 - Havana, Cuba

BUSHEL TO A PLANT

Make the most DOLLARS sale of this tomato. It's early, large, perfectly smooth. Has perfect flavor, very solid and unusually attractive.

Sterling Tomato
Seeds are sold ONLY in SEALED PACKAGES. Large package 15c - 2 packages 25c - postpaid. Plant often produces a bushel from early season until frost. Greatest money maker. FREE Catalog and Premium offer below. Also Free "Alfalfa" and "Pasture Mixture" Books if you ask. For most reliable Field, Vegetable and Flower Seeds write

NORTHROP, KING & CO.
Seedsmen
501 Hennepin Ave.,
Minneapolis, Minn.

132 Page Catalog FREE

Free Seed Premiums

N. K. & CO. STERLING

then fill level full of good garden loam to plant in. The idea of putting manure in the hill is to give nourishment and moisture in the hot months of July and August.

When ready for transplanting, take up each sod carefully with a trowel and set them where required, merely covering the sod, firm with the hands and water to settle the soil and to keep the plant from wilting.

MELON INSURANCE

It is a good idea to sow a few hills of squash a few feet away from the melons to entice the striped beetle, as they are a serious pest and one of the most destructive insects of the cucurbit family, but prefer squashes to melons. They can be kept in check by using equal parts of tobacco dust, soot, and air-slaked lime, give a light dusting when the dew is on the leaves. When all danger of insects is past, thin to four plants to a hill, keep all weeds removed and pull up the soil around the plants with a hoe, until they make a growth of twelve inches. After the melons attain the size of an egg, pinch out the points of the shoots to induce early fruiting.

The best varieties are: early, Extra Early Hackensack; second early, Emerald Gem, and Rocky Ford; late, Montreal Market (a melon of remarkable size). For succession, sow June 1st and again June 15th. This will keep up a good supply until September 15th to 20th.

GROW CUCUMBERS THE SAME WAY

Cucumbers are divided into two classes, the English forcing variety and the hill or ridge cucumbers.

The English variety is the most prized for being devoid of seeds and is the best for the table, the fruits often measure twenty to twenty-eight inches long. The English varieties are grown in greenhouses.

The white-spined varieties are the most popular in this country. For early cucumbers, grow as described for melons in hotbeds, starting March 15th. Two sashes will supply a good sized family with cucumbers till they can be procured outdoors. Give them a night temperature of 60° and a rise of 10° during the day. Water sparingly for a few days and, when they have made three or four rough leaves, thin out to four in a hill. The plants must not receive a check from start to finish. Never let fruit ripen on the vines as this will immediately stop the plant from bearing.

For succession, sow on inverted sods April 10th to 15th, as described for melons.

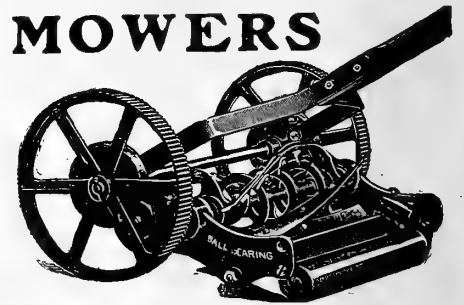
Cucumbers must be kept a good distance away from melons as they are accused of giving the melons a watery flavor.

To keep off the striped beetle and squash bugs, cover the young plants with boxes twelve inches square, the tops of which are covered with mosquito netting. Remove them as soon as the plants have filled the boxes.

For succession, sow every three weeks until July 1st. The best varieties are Early White Spine, Long Green and Emerald.

Yonkers, N. Y. GEORGE STANDEN.

TOWNSEND MOWERS



TOWNSEND GAVE TO THE WORLD The Ball-Bearing Lawn Mower

His mowers are more imitated than any others.

We make more high-grade mowers than any other firm and they are all ball-bearing.

We make the best Lawn Mower in the world.

We make the best Horse Lawn Mower in the world.

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We repair and sharpen all kinds of Mowers.

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SUCCESSFUL farmers use POTASH. There is nothing doubtful or indefinite about the results of using POTASH fertilizer in the soil for truck crops. Every pound of POTASH added, returns manifold its weight in vegetables. It is nature's law, and sure as the sun.

Every farmer should have "Truck Farming." It has much interesting information about fertilization. We send it free.

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Water Lilies and Lotus

The most complete collection in the west. We have made these plants a specialty for thirty years. (Formerly in Bordentown, New Jersey.)

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MATERIAL AND PLANS FOR GREENHOUSES

BEST GRADES REASONABLE PRICES

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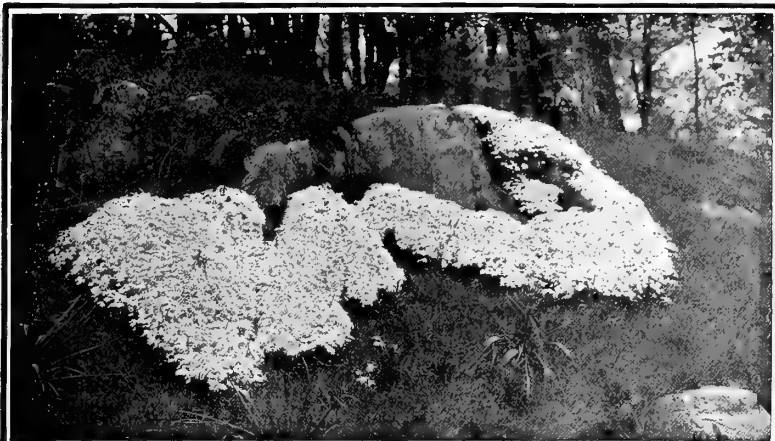
Strawberries, Blackberries, Currants
Choice Gladiolus Bulbs

...Catalog Free...

M. CRAWFORD CO.

Box 1011.

Cuyahoga Falls, Ohio.



Keller's Improved Creeping Phlox

EVERYBODY knows, or ought to know, the charming little moss-pink, PHLOX SUBULATA, which has rosy-purple, five-lobed flowers about an inch across in May. It covers rocky places with a continuous sheet of flowers, and unlike most rock plants, will thrive on the level in common garden soil. Moreover, it is a hardy perennial and wonderfully prolific, so that in two or three years, starting with a few stock plants, one may easily propagate at home enough to cover a large stretch of sandy soil, or other bare spot, too poor to grow anything else. ¶ The most gorgeous floral pictures at Tuxedo are made by the free use of creeping phlox. Whole hillsides are painted with it. Such effects could probably not be duplicated by any other plant at so small an expense. ¶ But there is one drawback to the moss pink, as you find it in the wild. It is usually a disagreeable purple color bordering on magenta—a coarse, crude color that makes trouble in a garden. ¶ We want you to see the improved varieties of creeping phlox that we cultivate, and enjoy their purity of color and increased size of flower. Why not have the whole collection? It costs very little, and you can pick out the kind you like best and multiply it yourself. ¶ P. S.—Do you know the prettiest way to edge the paths in your flower garden? Try creeping phlox. It carpets the ground as closely as a lawn—even to the exclusion of weeds—and makes charming effects by invading the paths a little here and there. Also, why not cover the bare ground beneath your shrubbery with flowers? Creeping phlox provides the easiest and cheapest way.

P. SUBULATA FRONDOSA—A vigorous growing variety with lilac rose flowers.

P. ALBA—A pure white variety.

P. LILACINA (Lavender Queen)—Light lavender flowers.

P. NELSONII—White with rosy eye, late.

We are specialists in hardy perennials and grow a superb stock of all the kinds.

Send for our 1907 illustrated catalogue of northern grown hardy perennials.

P. ROSEA—Bright rose.

P. RUBRA—Purple rose.

P. THE BRIDE—A fine, pure white variety.

PRICE—15c each, \$1.50 per doz., \$10 per 100.

P. VIVID—A fine, deep pink, late. 25c each, \$2.50 per dozen, \$18 per 100.

J. B. KELLER SONS, Rochester, N. Y.



YOU CAN LEARN TO MAKE A GARDEN LIKE THIS

OUR SCHOOL offers you an opportunity to study at home, under the personal direction of John Craig, M.S., head of the Department of Horticulture at Cornell University; William P. Brooks, Ph.D., Professor of Agriculture at the Massachusetts Agricultural College, and other eminent teachers.

OUR HOME STUDY COURSES teach how to grow the best flowers, the best fruits and the best vegetables; the beautifying of home grounds; the construction and management of greenhouses, and all that pertains to successful Horticulture.

THE MISTAKES YOU WILL AVOID by "knowing how" will pay for your course the first season, to say nothing of the added satisfaction and pleasure. Write to-day for a free copy of our eighty-page Catalogue.

THE HOME CORRESPONDENCE SCHOOL

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THE SEASONS IN A FLOWER GARDEN

A Handbook of Information and Instruction for the Amateur

By LOUISE SHELTON

Illustrated from Photographs

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CONTENTS

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Part II. The Wild Garden—The Water Garden—Shrubs—Vines—Roses—Garden Terms—The Seed Bed—Hot-Bed and Cold Frame—Seeds of Hardy Plants and Annuals—Insect Pests—Insecticides—Don'ts—Index, etc.

She has made a book that will make the suburbanite attack the problem of his flower garden with the assurance of success.—Suburban Life.

The directions are clearly worded, well grouped and reasonable.—The Dial.

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CHAPMAN & FRAZER, Architects

IF YOU ARE GOING TO BUILD, or IF YOU ARE AT ALL INTERESTED IN THE SUBJECT, BY ALL MEANS GET A COPY OF

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A book published by the Atlas Portland Cement Company. This book contains about 90 beautiful photographs and floor plans illustrating numerous styles of concrete houses. It has been collated for the purpose of showing prospective builders the many advantages to be derived from a concrete building.

"Every house owner interested in this question should procure a copy of 'Concrete Country Residences'; a more striking recommendation for this type of building can hardly be found in the literature of architecture. The book is handsomely printed and bound in heavy paper."—Scientific American.

Upon receipt of \$1.00 we will send a copy of this book, charges prepaid, to any address. Address

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The ATLAS PORTLAND CEMENT CO.

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BEAUTIFUL Hardy Climbing Roses

There is no other class of rose or vine that will give such an abundance of blossoms as hardy climbing roses. Nor is there anything in cultivation more beautiful and attractive than a Rambler or Prairie Rose when in full bloom. If you want a thing of beauty, surround your house, veranda, pergola, screens and fences with our extra large field grown climbing roses. They will give an abundance of blossoms this year if planted early. (They can be planted any time from March 15th to May 15th.)

SPECIAL BARGAIN OFFER Rambler Roses

- Crimson, large field grown, 50c
- Pink, large field grown 50c
- Yellow, large field grown 50c
- White, large field grown 50c

Dorothy Perkins (see illustration). This new Rambler rose is one of the best new roses of recent introduction. In June it is covered with its clusters of beautiful shell-pink flowers and it continues to bloom almost the entire summer. Large field grown plants, 50c.

We have Extra Large plants of Crimson and Pink Rambler and Dorothy Perkins at 75c each. One each Crimson, Pink, and Dorothy Perkins, large size, \$1.25. Extra Large, \$1.75.

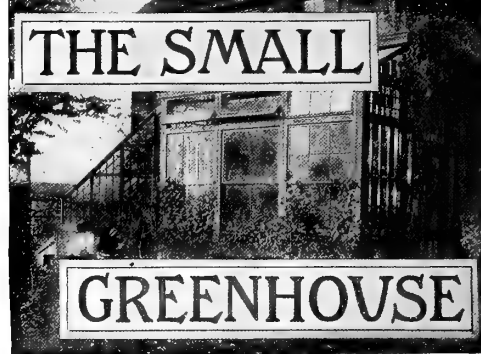
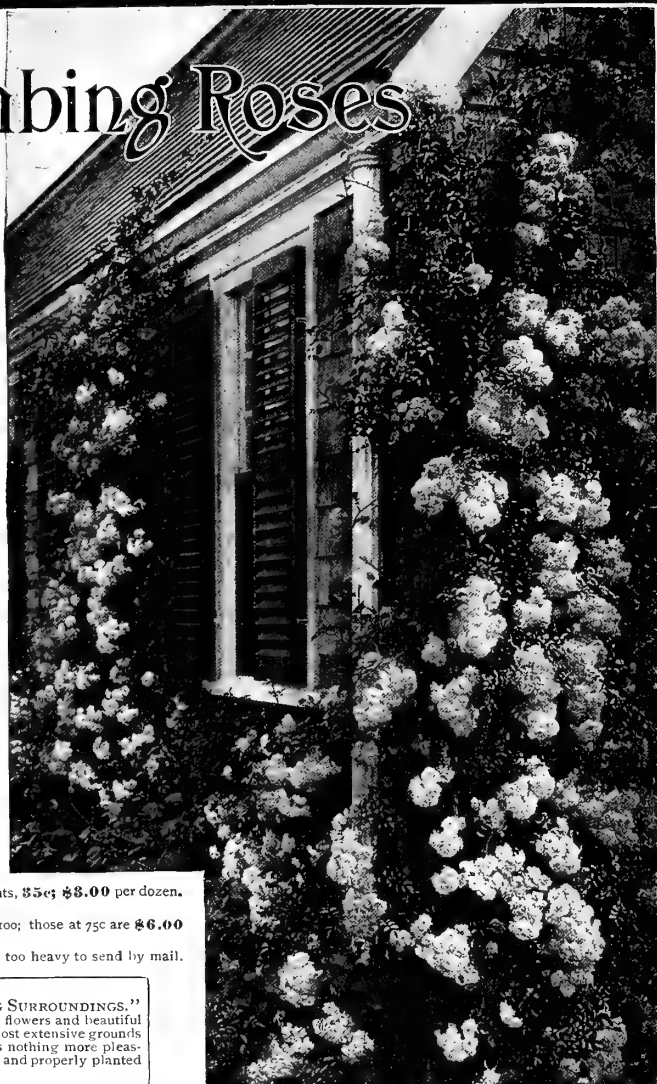
Prairie Roses and Other Climbers

Prairie Queen, large globular bright pink flowers; **Baltimore Belle**, beautiful blush-white flowers; **Seven Sisters**, crimson tinged with white; **Empress of China**, a beautiful delicate pink. Price of the four above varieties in large, field grown plants, 50c each. Extra Large, 75c. One of each variety, \$1.50. Extra Large, \$2.00.

Manda's Triumph. A fine climber, or for trailing over banks, walls, etc. Foliage almost evergreen. Pure white flowers in clusters. Large field grown plants, 35c; \$3.00 per dozen. Extra Large, 50c.

All priced at 50c are \$4.00 per dozen, \$25.00 per 100; those at 75c are \$6.00 per dozen, \$40.00 per 100.

All above roses must be sent by express as they are too heavy to send by mail.



The Best December Cut Flower

THE bouvardia blooms during late fall and early winter, a time when flowers in the small greenhouse are very scarce. It produces beautiful clusters of flowers three inches across, which are either white or red or some intermediate shade. It makes a very decorative plant and its flowers, when cut, last well in water—indeed, it is a most desirable plant for either the window garden or small greenhouse.

To have good plants for winter flowering, start in March. The usual way of increasing this plant is by root cuttings. These should be about one to one and one-half inches long, and are treated just as if they were seeds. Another good way is to divide a healthy plant into pieces small enough to go in 3-inch pots. The plants are grown on as rapidly as possible in the house in a night temperature of 60°. During the last week in May, plant the bouvardia out in the open in rich soil, where it can have water and thorough cultivation. Here they will make a rapid growth. Pinch back the leaves from time to time during summer, in order to induce a compact growth.

MOVING TO WINTER QUARTERS

Late in August, the plants must be transferred to their winter quarters—a house having a night temperature of about 50°. I have always grown the bouvardia in pots, but in order to get better spikes and more of them, plant them on the bench, setting the plants ten to twelve inches apart. If your greenhouse benches are going to be empty during the summer, the plants may be planted out in the spring, which will save some work in the fall. A good fibrous loam to which there has been an addition of peat or leaf mold and well decayed horse manure and sand, will make an excellent soil for growing these plants.

The bouvardia is rather hard to transplant, so they must be carefully handled and, after transplanting, shaded and frequently syringed until well established.

Late in April, or early in May, prune the plants back and as soon as the weather permits, plant in the open again. Plants which have reached the age of four or five years will make beautiful specimens.

The mealy bug and the aphides will be troublesome. The best way of combating these pests is spraying about once a week with some insecticide, such as the prepared forms of tobacco.

New York.

PHINEAS NOLTE.

WAGNER PARK CONSERVATORIES, Box 209, Sidney, Ohio

Plant for Immediate Effect

Not for Future Generations

Start with the largest stock that can be secured! It takes over twenty years to grow such Trees and Shrubs as we offer.

We do the long waiting—thus enabling you to secure trees and shrubs that give an immediate effect. Send for illustrated list.

ANDORRA NURSERIES CHESTNUT HILL, PHILADELPHIA, PA.
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PENNY WISE POUND FOOLISH

PARSIMONY IN PAINT is expensive economy. Paint costs little but preserves materials that cost much. The loss from decay that can be prevented by timely use of paint can never be made good—which means, *it pays to use paint freely*. And when you use paint let it be the kind that looks best and protects longest, that is *paint containing an adequate proportion of OXIDE OF ZINC*. Our pamphlet, "PAINT: WHY, HOW AND WHEN." (free to property owners) explains the matter.

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Highest Grade Seeds

It is our aim to grow and have grown for us only the very Best and Highest Grades of Seeds—both Vegetable and Flower—that experienced growers can produce.

Fiske's Suburban Lawn Seed

makes a good lawn quickly. Varieties selected are all re-cleaned seeds and are especially adapted for lawns. Makes a thick sod, is deep rooted and withstands the Summer drought well.

Our 1907 Seed Book—FREE

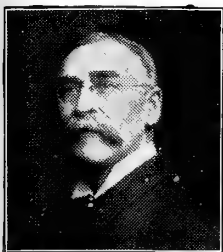
Our new book contains a complete list and descriptions of Vegetable and Flower Seeds; also the latest introductions of novelties. We mail this book absolutely free. Write to-day for a copy.

Our new building, especially designed and fitted throughout with the latest improved fixtures, enables us to serve our customers properly. Our shipping facilities are unexcelled for the prompt dispatching of goods.

We wish you to try a few of our special strains of seeds.

H. E. FISKE SEED CO.

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30 Years' Experience In Fruit Growing

Shall I tell you about it, and how to make a fruit garden? See free book as offered below.

Charles A. Green, Pres.

50 Apple, Peach or Plum Trees for \$2.50

Larger trees of apple, pear, peach and quince at live and let live prices. Bargains in all sizes of apple, peach and plum trees.

Grapevines, berry bushes, asparagus roots and ornamental shrubs and trees our specialty.

Charles A. Green

Has a national reputation for honest labeling, grading and packing. Send for Green's Free Fruit Guide and Catalog, also for sample of Green's Big Fruit Magazine. When you send for these add the name and address of three fruit growers and we will present you with C. A. Green's book telling of 30 years growing fruit. See cut of cover

GREEN'S NURSERY CO.
Rochester, N. Y.



This Book Free
For 3 Names



Read This Testimonial

AND BUY YOUR ROSES
DIRECT FROM MR. TROY

The silver cup of the Nassau County Horticultural Society was won by Mr. Forbes.



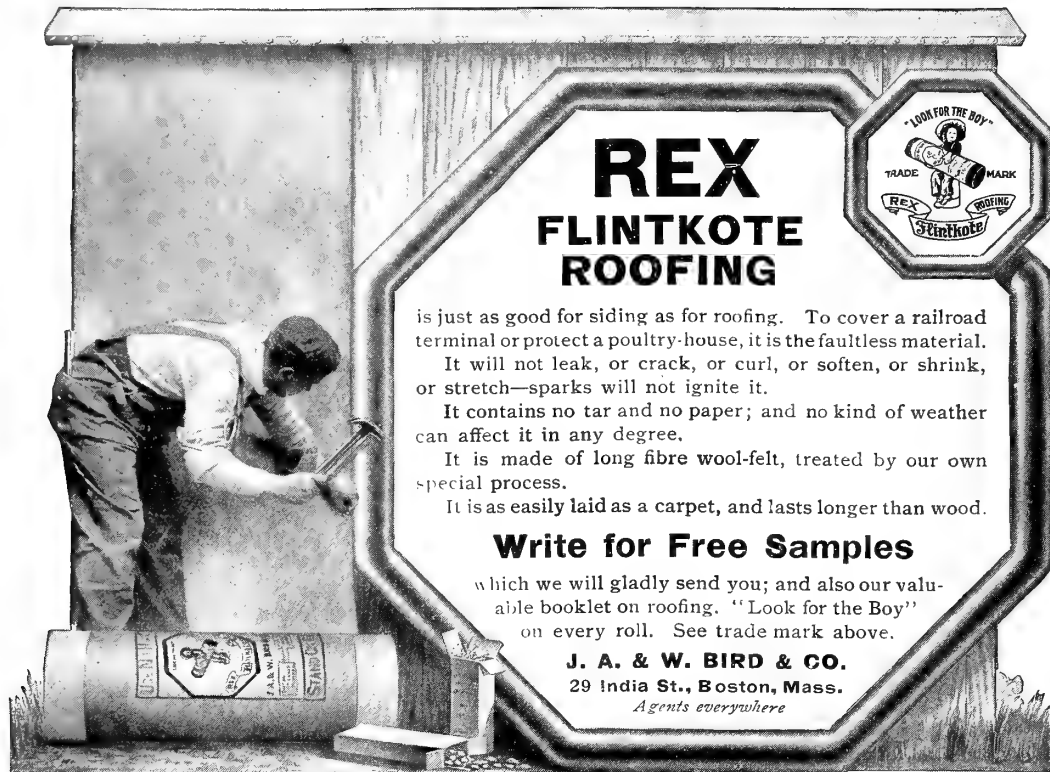
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Mr. J. H. TROY,
Mount Hissarlik Nurseries,
New Rochelle, N. Y.

Dear Sir: The consignment of roses received from you last Spring was the most satisfactory I have ever handled. Out of 2,600 plants only ten were lost. That I succeeded in winning the Silver Cup of the Nassau County Horticultural Society for the best collection of hardy out-door roses, November 1st, 1906, speaks volumes for the excellent quality of plants you furnish.

Yours truly,
L. G. FORBES
Gardener to R. J. Preston, Esq.
January 30th, 1907.

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NEW YORK OFFICE: 24 E. 34th ST.



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which we will gladly send you; and also our valuable booklet on roofing. "Look for the Boy" on every roll. See trade mark above.

J. A. & W. BIRD & CO.
29 India St., Boston, Mass.
Agents everywhere



Ways to Kill the Peach Borer

THE peach borer remains in its burrow in the tree over winter. During warm spells in the spring feeding is resumed and by the latter part of May or early June the borer is full grown. It then leaves its burrow and constructs a cocoon at or near the surface of the ground, usually on the trunk of the tree near the burrow. Within the cocoon it transforms to a pupa from which the adult moth emerges during July or August.

The moths are day-flying insects and from their transparent wings and yellow-banded abdomens look much like wasps. The female lays her eggs upon the trunk of the tree, usually upon the lower portion, or on the soil or nearby weeds. The eggs hatch in about ten days and the young borers seek an entrance at any crack in the bark of the tree.


WAYS OF CONTROLLING THE PEST

Two methods are in vogue for controlling the pest. When a tree is badly infested the only thing to do is to dig out the borers, which can best be done in late spring (April) when they are near the surface or have made their cocoons. The usual practice is to mound up the earth around the tree as much as possible thus inducing the moth to lay her eggs upon the upper part of the trunk, so that the borers may be much more readily removed when the mound is hoed away. The mounding should be done before the moths deposit their eggs in early summer and it is well to examine the trunk of the tree just beneath the top of the mound late in the summer for young borers.

Another way is to coat the trunk of the tree with repellent washes. Gas tar has been so used successfully in many instances, but in other cases it has injured the trees. This is possibly due to variation in composition or to climatic conditions. It should be tested on a small scale before using it extensively. J. H. Hale, the prominent Georgia peach grower, reports good success with the following—"Two quarts of soap, one-half pint of crude carbolic acid, and two ounces of Paris green, all thoroughly mixed with a bucketful of water, to which enough lime and clay have been added to make a thin paste."

All such washes are largely repellants to prevent the laying of the eggs and should therefore be applied early in June.

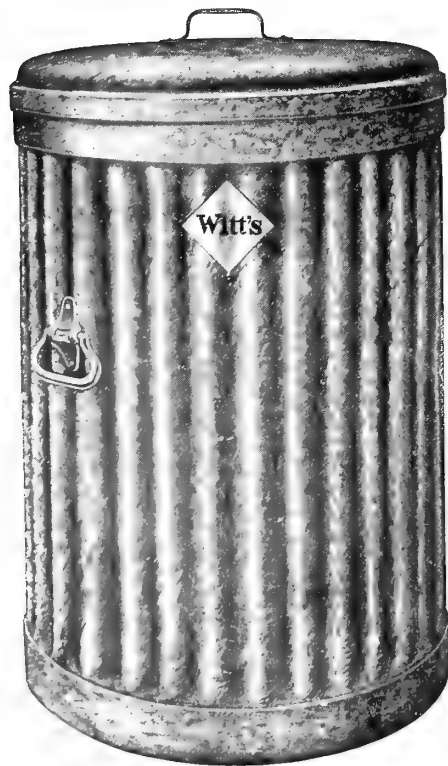
Frequently instead of mounding as has been described, the tree is wrapped with building paper or wood veneering, it being sunk a few inches below the surface of soil. New Hampshire. E. D. SAUNDERSON.



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For Ashes or Garbage

Flanged and Riveted and Made Still Stronger by Heavy Steel Bands Riveted Around the Top and Bottom. Witt's Can IS NOT Soldered. Close-Fitting Lid makes it FIRE-PROOF and ODOR-PROOF.

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All steel, corrugated, galvanized, water-tight, odor-proof (close-fitting lid). Known by the yellow label.

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The roses we offer are not little soft plants, dwarfed and starved for mailing. Every rose is a strong, healthy plant, 18 to 30 inches high; well rooted and full of vitality. The only true economy in roses lies in such plants.

Of course, we grow all kinds of *Ornamental Trees, Vines, Fruit Trees, Shrubs, Peonies, Clematis, Small Fruits, etc.* In these lines we are among the largest growers in the country.

OUR GENERAL CATALOGUE contains, perhaps, more information about nursery stock, more planting instructions, better spraying calendars and formulas than you have ever seen in a single book. It tells about every tree and plant you are likely to be interested in. *Sent free.*

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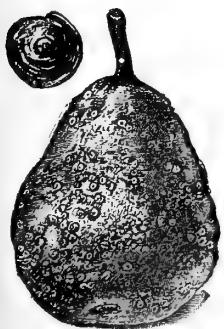
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THIS ARTICLE is a complete Polysulphide of Calcium concentrated, to be diluted with water, for destroying **San Jose Scale** and also preventing Fungoid development. The young San Jose Scale begin to suck the sap soon as growth starts. You can, by dilution, make it very weak or, by less dilution, very strong indeed.

The **San Jose Scale** are very prolific and very minute. You can not kill all the scale, but *you can control it.* Pears, Apples, Peaches, etc., Currants and other bushes are subject to it.

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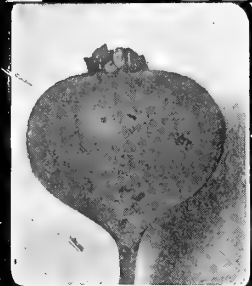
and use it as his guide to the selection of dependable varieties.

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Early Model Beet

Very early, blood red in color and fine quality. Pkt. 10c; oz. 15c; $\frac{1}{4}$ lb. 40c.



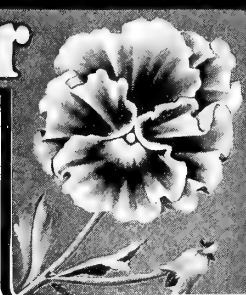
Crimson Giant Radish

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Just the right size for serving whole with lettuce; does not grow large or coarse; great bearer; color rich scarlet. Pkt. 20c; 3 pkts. 50c.



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The finest of the frilled class; color, violet-blue and white. Pkt. 15c; 2 for 25c.



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Shirley Poppies

Luther Burbank's wonderful New Santa Rosa Strain. 15c per pkt.; 2 pkts. for 25c.



WHERE CHERRIES FAIL

L. J. E., Wis.—It is not recommended to attempt growing sweet cherries in Wisconsin. The cold will kill the flower buds.

PRUNING BOX

C. S. P., Penn.—The time to prune box is in March before growth begins. The box may be transplanted in the spring (April). When moving be very careful that the roots do not become dry.

TRANSPLANTING MORELS

H. S. C., New York.—The mushroom known as morel (Morchella) has never been cultivated so far as we know. The only suggestions which can be given are that large pieces of sod containing it and its mycelium be transplanted to such places as it is desired to grow. Even if the utmost care is given to this work, the results are very uncertain.

VARIETIES OF PECAN NUTS

E. D. P., Tenn.—Which varieties of pecan nuts are the best to grow? The answer is largely governed by the place where they are to be planted. Taking the country over, a selection composed of Stuart, Frotscher, Van Deman and Schley would not be amiss. The planting of pecan trees is not recommended except in conjunction with a farm crop, such as cowpeas, truck crops of various kind, cotton, peanuts, etc. These crops can be grown between the trees for a number of years without injury to them, if the work is properly handled. Prof. H. Harold Hume has published a book on the pecan which may be secured through THE GARDEN MAGAZINE for \$1.

THE WHITE FLY

H. M. B., New York.—The white fly (Aleyroides) is a serious greenhouse pest, particularly to tomatoes. The damage is done by these insects while in the nymph or feeding stage; they suck the plant's sap. At this time they look like white aphides. They make a sort of honey dew, the excrement, which serves as a host for a sooty fungus, which completes the work of leaf destruction which the fly has begun. If the greenhouse is regularly fumigated with tobacco fumes they will be kept down in most cases. However if they become serious spray the plants with a solution of common yellow soap in water—one pound to eight gallons. Be sure to get the spray on the under side of the leaves, because this is where the insect lives. As the soap is liable to stop up the pores wash it off in a few days by syringing with clean water.

THE BITTER-ROT OF APPLES

A. W. N., Mass.—The apple submitted is full of bitter-rot which is caused by a fungus (*Glaeosporium fructigenum*). It usually appears in July or August and there is likely to be more of it in warm, sultry summers than in cool dry ones. Its time of appearance is regulated by the ripening of the spores in the cankers and mummies. The cankers occur on the limbs and are rounded or oblong sooty-black sunken spots from one to several inches long and with ragged edges. The spores from these canker spots are transferred to the apple causing the disease. The mummies are the dried up, diseased fruits which have been allowed to remain on the tree. To control the black-rot remove all diseased fruits and mummies, the limb cankers, and spray with standard Bordeaux mixture once before the buds open and frequently from July until the fruits are almost ripe. For further information read "The Bitter-rot of Apples," Bulletin No. 44, from the Bureau of Plant Industry, U. S. Dept. of Agriculture.

GET THE RIGHT GARDEN TOOLS

IT PAYS to get Planet Jr farm and garden tools. No other kind does the work so well or lasts nearly so long, because Planet Jrs are designed by a practical farmer and manufacturer; built of better steel, with better workmanship. Planet Jr tools increase a man's capacity three to six times.

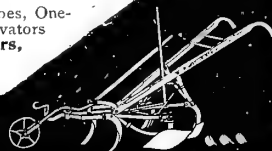
No. 25 Planet Jr Combined Hill and Drill Seeder and Double-Wheel Hoe, Cultivator and Plow. Simple and easy running. In one operation it opens the furrow, sows the seed accurately in drills or in hills 4 to 24 inches apart, covers, rolls, and marks out the next row. The hoes, cultivator teeth and plows are of high-carbon steel to keep keen wearing edge and are designed to hoe and cultivate exactly as needed.

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also larger sizes up to 500 lbs.



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The most useful hand garden tool on the market.

It will pull out the weeds, pulverize the ground thoroughly, leaving it level, works where other implements fail.

It will work between the rows, or the center shovel can be removed, and straddle the row if desired.

It is adjustable in width by sliding the top plate.

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Sweet Peas

Can and should be planted just as soon as the frost is out of the ground, or NOW, reader, if in your garden there is no frost, for the Sweet Pea likes the coolness of the very early Spring. There is a new strain of Sweet Peas, very distinct from the regular types. We deem it the beginning of a new race of Sweet Peas. Once used you will always want it.



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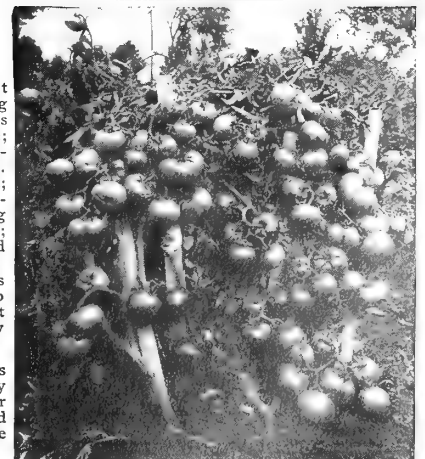
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Growing Tomatoes for Quality, Quantity and Earliness


is the name of the best booklet ever issued on the subject of tomato culture. It contains 30 pages and illustrations fully describing the Potter method of raising tomatoes. By this method you can have bigger and better fruit and weeks earlier than otherwise. It teaches the secret and science of tomato culture; forcing the fruit by systematic cultivation and pruning. This book is invaluable to every gardener, whether he grows one dozen or one thousand vines. The subjects covered are: History of the Tomato; Its Nature and Habit; Tomato Culture in General; The Potter Method; Plants and Planting; Home-Grown Plants; Preparing the Ground; Setting the Plants; Cultivation; Pruning and Staking the Vines; Picking the Fruit; Ripe Tomatoes at Christmas; 40 Tomato Recipes; Best Tomato Seeds. The information is condensed and to the point—just what every grower wants.

The cut herewith shows one of a large number of vines in my garden this season. Notice that each stalk is loaded with large, perfect fruit from top to bottom. This is the result of my method. It is easy to raise this kind of fruit when you know how. Just send for my book—price 50c., postage or money order. Your money back if not satisfactory.

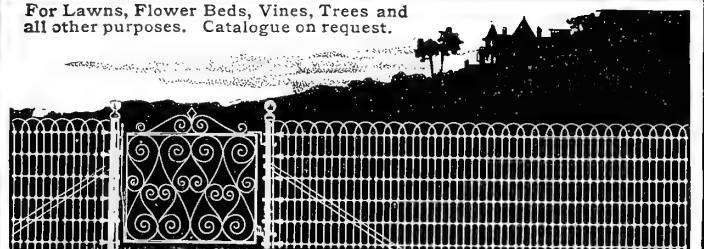
FREE SEED—To everyone ordering my booklet within the next 30 days I will send FREE with each book one package each of the best varieties of early and late tomatoes. I make this offer so that you will get ready now for your spring gardening. Don't wait until the last minute when the rush is on. Send for my booklet to-day and I know you will be thankful that you made such a wise investment. T. F. POTTER, Tomato Specialist, Dept. C, Downers Grove, Ill.




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Wheelock fence has become Standard because it is the most practical, neatest and strongest and the only fence made Guaranteed Rust Proof. Cut this out and take to your hardware dealer.

BULBS TO THROW AWAY

B. A. S., New York—The Chinese sacred lily is of no further use after flowering; throw it away and buy new ones next fall.

PROPAGATING CARNATIONS

H. M. C., Penn.—Carnations root better in January and February than in March. If this work is delayed until March, only about 50 per cent. of the cuttings will strike.

STARTING CANNA SEEDS

F. W. E., Ohio—The germination of canna seeds may be hastened by soaking for twenty-four hours in warm water. The seeds may also be filed but be careful not to injure the embryo.

PROPAGATING ARAUCARIAS

H. J. B., Penn.—The best formed plants of the Norfolk pine (*Araucaria excelsa*) are grown from cuttings as described in the January GARDEN MAGAZINE, page 312. Plants started this way produce branches which are close together (three to five inches), and they retain this close growing habit for several years. Seedlings draw up very quickly, so that the internodes (spaces between the whorls of branches) are frequently a foot to fifteen inches long and so are much less desirable.

PUFF-BALLS AS FOOD

H. A. B., Mass.—The puff-balls belong to a class of fungi which bear the spores in pouches. They are good eating when young, i. e., while the flesh is still white, but as soon as the interior begins to turn yellow, which is a sign that the spores are maturing, they are unfit for food. To prepare puff-balls for cooking, cleanse, peel and trim off the



Puff-balls are not poisonous and are edible while the flesh is young and white


base. Cut in halves and remove all parts which are not pure white. To cook, fry in lard for five or ten minutes, with bacon, parsley, onion juice, salt and pepper; or cook as directed on page 136 of the October GARDEN MAGAZINE. The giant puff-ball should be cut into slices half an inch thick before cooking. A very delightful salad may be made by cutting the puff-balls into strips and serving with green salad, dressed with mustard, oil and vinegar.

PROPAGATING MAGNOLIA

A. E. C., New Jersey—The magnolias are propagated by seeds; i. e., the species are; the named varieties and hybrids are propagated by grafting, using two-year-old pot-grown seedlings for stocks in which to put the cions. This work is done in a greenhouse. The seeds may be sown directly when picked or stratified in damp sand, and sown the following spring (April). New plants may be made in the spring by layering the previous season's growth. Notch each branch in order to make it throw out cuttings. Sever the layer from the mother plant a year from the following July. Plant in pots, and keep in a close frame until the plants are well established.

RECLAIMING MARSH LANDS

D. M. B., New Jersey—Lands over which salt water has flown are for some years unfit for cultivation because of the large amount of salt contained in the soil. Ditch the land—dig the ditches three feet deep, a foot wide at the bottom and slope the sides so that the top is about three feet wide. If there are any low places in the surface between the ditches, dig a small drain from them to the nearest ditch. When the land has become thoroughly drained and settled the ditches may be filled in. Lime is a great aid in sweetening the soil. Give an annual dressing, sowing it broadcast, at the rate of six to ten barrels per acre and harrow it in. Such land is particularly adapted for growing hay, potatoes, celery, and onions.



Delicate Women—Delicate Laces
—BOTH need PEARLINE'S help.
LACES—because PEARLINE cleanses SAFELY—QUICKLY—Without Rubbing.
WOMEN—because PEARLINE makes coarse things Easily washed by Delicate women and Delicate things Safely washed by Strong women.
Ask your Brightest neighbor what Washing Powder she uses. Bright?—one of the Millions of users of Pearlina.

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The New Century Lawn Sprinkler

Revolves freely with any pressure. Equal spray over circle from three to fifty feet in diameter.



Head and Arms of Polished Brass Body Black Enameled

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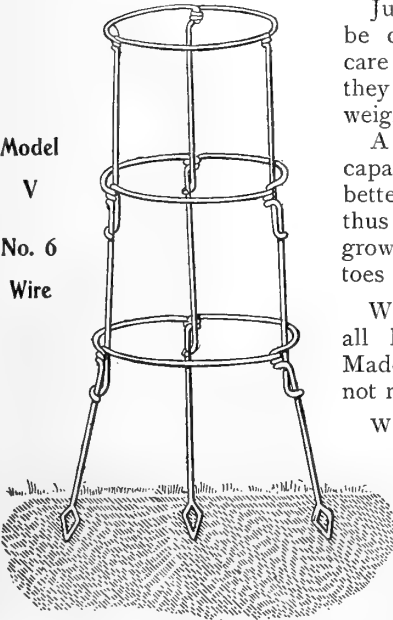
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**MODEL TOMATO and
PLANT SUPPORT**

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A properly supported vine is capable of bearing more and better tomatoes, and the vine thus relieved throws all of its growing strength into the tomatoes themselves.

We manufacture supports for all kinds of growing plants. Made of galvanized wire; will not rust or harbor insects.

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is Nature's own fertilizer—full of plant-growing and soil-making power.

We furnish it to you direct from the Stock Yard pens with all bedding, rough stuff and moisture removed, and shredded into convenient and readily handled form by our special process which eliminates the refuse and worthless matter and gives you the maximum of pure fertilizing material such as Nature requires.

No Weed Seeds

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Packed in bags or in bulk in carloads, it can be shipped anywhere at low freight rates and used as readily around your city home as in the country. Makes worn out, depleted soil as fertile and prolific as the virgin Western prairies.

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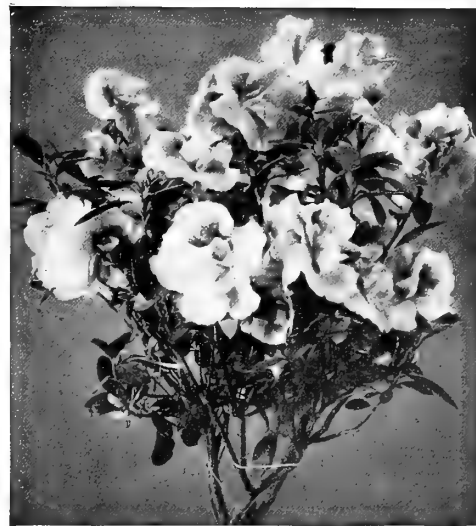
Tried and pronounced the best complete fertilizer in existence. Makes friends wherever used. Highly endorsed by Luther Burbank and Eben Rexford. Try it and if results are not satisfactory your money is refunded. BONORA will make old plants like new; will mature your vegetables two to three weeks earlier and double the crop. Will make your flowers rich in aroma and give them a beautiful hue. BONORA will make your lawns look like velvet; and your fruit trees, shade trees and shrubbery will take on new life. Order it now through your dealer or direct.

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- hybrids - - - 2-4 ft.
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- Azalea nudiflora - - - 1-3 ft.
- Azalea Mollis, Chinese 2-3 ft.
- Azalea viscosa, - - - 3-5 ft.

Large Trees

to ship by rail, 4-6 inches diameter, 20-30 feet high. They have been grown 10 to 25 feet apart and the roots trained for successful transplanting. They save years of waiting.

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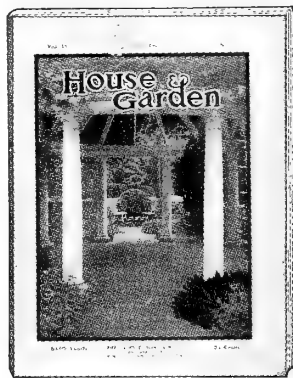
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A. O. H., New York—The Burbank rose is more satisfactory as a garden rose than as a pot plant. It has been on the market for at least ten years and is offered by many florists.

THE MUSK PLANT

A. O. H., New York—It is not probable that seeds of any other plant are being sold under the name of musk plant (*Mimulus moschatus*). It is such a common plant and so easily grown that there ought not to be any difficulty in securing the true sort, with all its odor, from any seedsman.

STANDARD WISTARIAS

A. O. H., New York—It is doubtful if standard plants of wistaria can be purchased in the United States, but they may be procured through any nurseryman doing an import business. Plants with stems six to seven feet high, ready to form a crown, can usually be imported so as to be sold for \$3.00 or \$4.00 each. These plants will require five or six years after planting before they will make a good display.

WOOD ASHES FOR LAWN

W. E. O., West Va.—Wood ashes is an excellent fertilizer for the lawn. They need no preparation, being used pure. The only care necessary is that they do not become wet before use, as that would destroy their chief fertilizing value, it would be leached out. Wood ashes may be scattered broadcast on the lawn. Hard-wood ashes are to be preferred to soft-wood ashes, as the latter are hardly worth the bother of hauling. Do not use the ashes at all if they are from creosoted timber.

WHERE THE LAVENDER GROWS

E. P. N., Ky.—The lavender is *Lavendula vera*, although another species known as *Lavendula spica* is grown also to some extent for its oil. Whether lavender is hardy or not in your part of the country, I am unable to say. It grows easily throughout Europe and is largely raised as a commercial crop near London, England, but winter kills badly in the neighborhood of New York. Possibly it will thrive farther south. A better quality of oil is developed on rather dry and stony land than on low, damp or rich land. It is doubtful if the pungent and characteristic odor can be strongly developed in a warm climate.

WHAT DOES "MULCH" MEAN?

"I hope you won't tell your husband," whispered a lady on the train to the wife of one of the editors of THE GARDEN MAGAZINE, "but the truth is, that there are a great many faithful readers of THE GARDEN MAGAZINE who are so ignorant of horticultural terms, that, although constantly used in the paper, the readers have no idea of what they mean. Would it be asking too much to ask that he print in some obscure corner a glossary of such words as 'mulch' (in all its mysterious forms), 'humus,' 'cion,' 'leach,' and 'diœcious.' And does 'fertilizers' always mean manure?"

We can sympathize with this good lady, because we never acquired the dictionary habit, as children are forced to do in the schools to-day. True, we have worn a little runway on the floor from our desk to the modest, two-dollar, abridged dictionary of the English language, in which, by the way, all the hard words mentioned above are explained, but it is unreasonable that adults should be expected to form a new habit (although we shall take this lesson to heart, and try to reform) and therefore we append a glossary of the above terms:

Cion.—A cutting from a tree containing several buds of the improved variety, which you insert into the old tree, in order to make it bear a better kind of fruit.

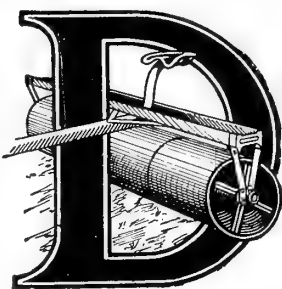
Mulch.—Any kind of litter which you put on your bulb beds, or hardy border, or strawberry beds in the fall. You put it thick upon lilies to keep the frost out of the ground; you put it on thin over others to prevent alternate freezing and thawing; also, when you rake your garden in summer, you make a "dust mulch" which prevents the sun from evaporating all the moisture out of the ground.

Humus.—Decayed vegetable matter in the soil. It makes things comfortable for nitrifying bacteria, and enables your soil to hold more moisture.

Leach.—To run away. This is what your nitrogen does when you leave the manure pile uncovered, or scatter nitrate of soda on the soil just before a heavy rain.

Diœcious.—Having staminate and pistillate flowers on separate plants, as the willow.

Fertilizer, as applied in garden practice, never means manure, but some form of chemical plant food.



DUNHAM ROLLERS

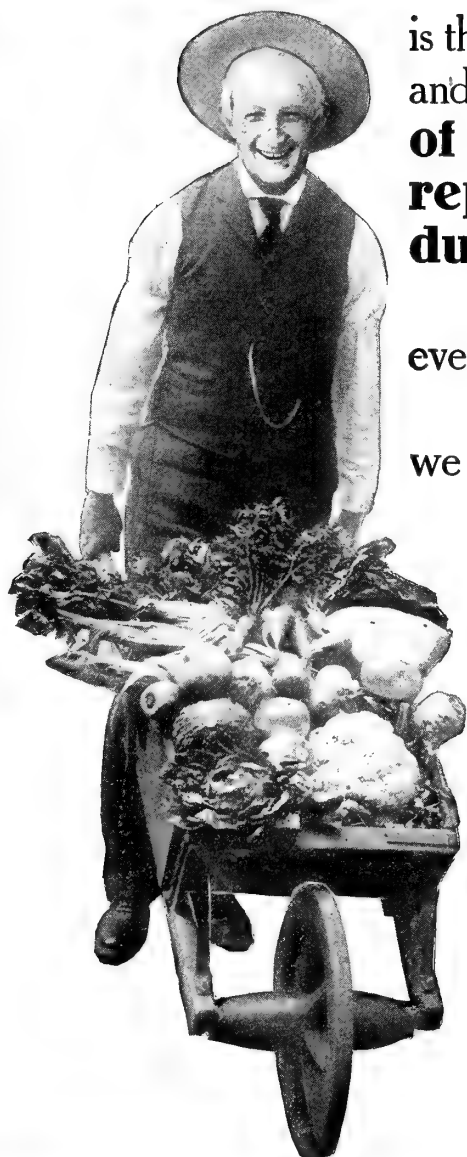
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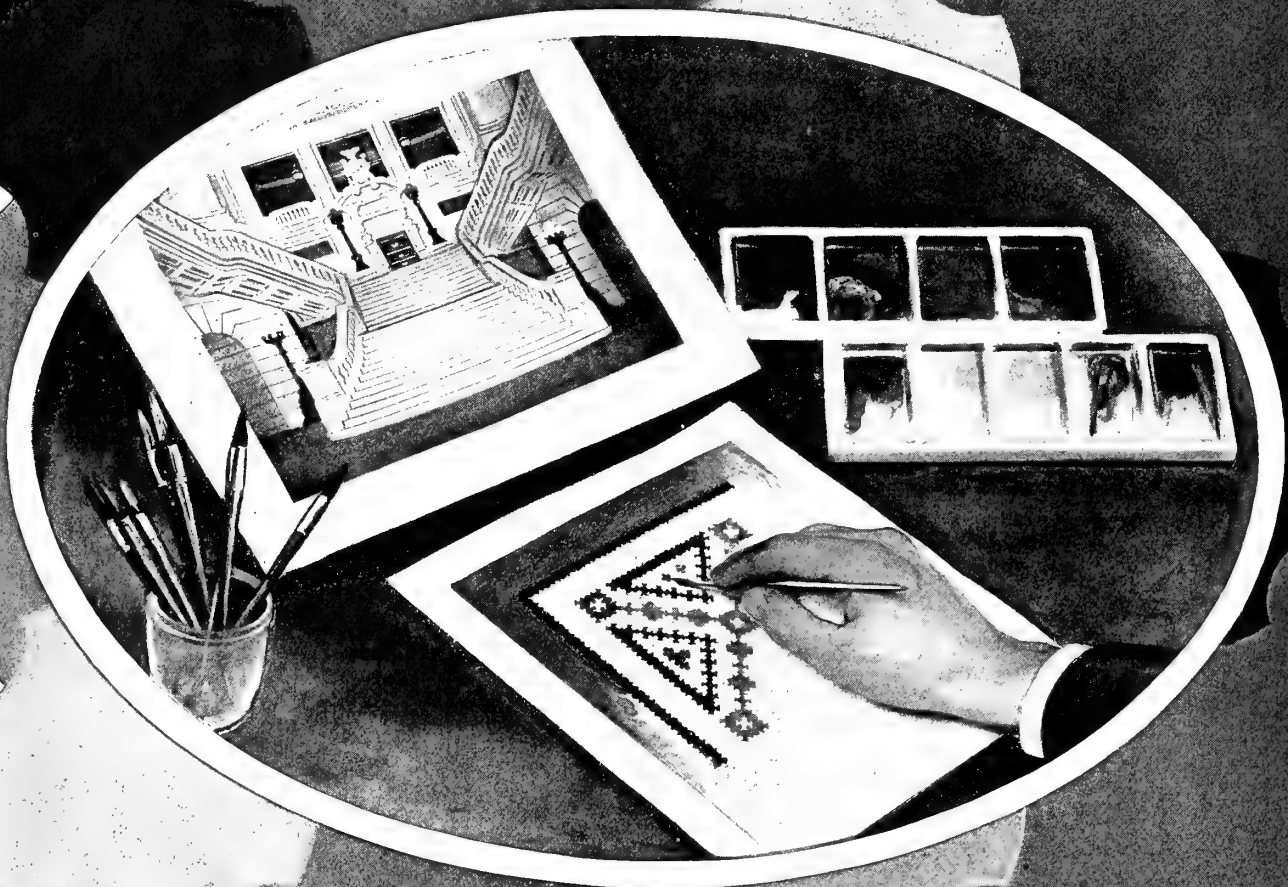
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Our Famous 50-cent "Henderson" Collection of Seeds

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GARDEN making time is rapidly coming on with Spring days.

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For good tools are like magic wands that turn garden work into exhilarating recreation.

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But scarcely second, as the most successful gardeners have come to know, is the *kind* of tools—the *value of the right tool for each kind of work*.

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True Temper is the brand that is put on those tools that satisfactorily pass the most rigid tests at our factories for *quality, construction, shape, "hang,"* and *temper*.

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All tools in the True Temper Line are the inventions of

expert gardeners, and each one is specially fitted to a use that no other could fill nearly so well.

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Take the Garden Cultivator for instance—the long-necked three-bladed tool pictured on this page: These blades may be adjusted by set screws or removed at will. In the position shown it is used to cultivate and loosen the soil between rows. The middle blade can be removed and a row of plants straddled and cultivated by one blade on each side. Furrows may be run by one, two or three blades. Many uses readily suggest themselves to the practical gardener.

Or the Scuffle Hoe. You cannot begin to do the weeding with an ordinary hoe that you can do with this tool. No lifting or chopping—you just push and pull it, and the work is done easily and quickly.

Or the Warren Hoe with a blade like a single shovel plow. The point of the blade will make a furrow into which seeds may be dropped and then covered with the ears of the hoe. You can work close to plants, use it for hilling, scraping or all sorts of hoeing. It is one of the handiest and most useful aids to good gardening yet invented. Use it once and you will wonder how you ever got along without it.

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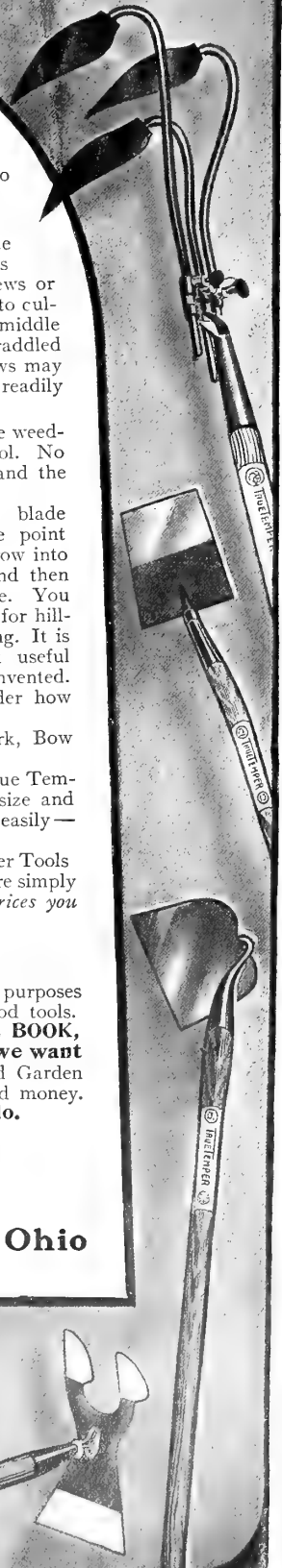
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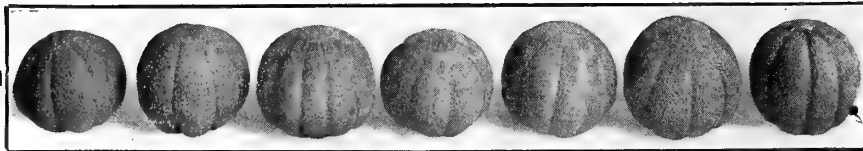
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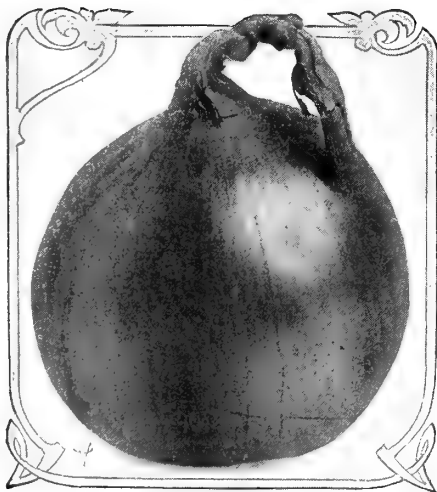




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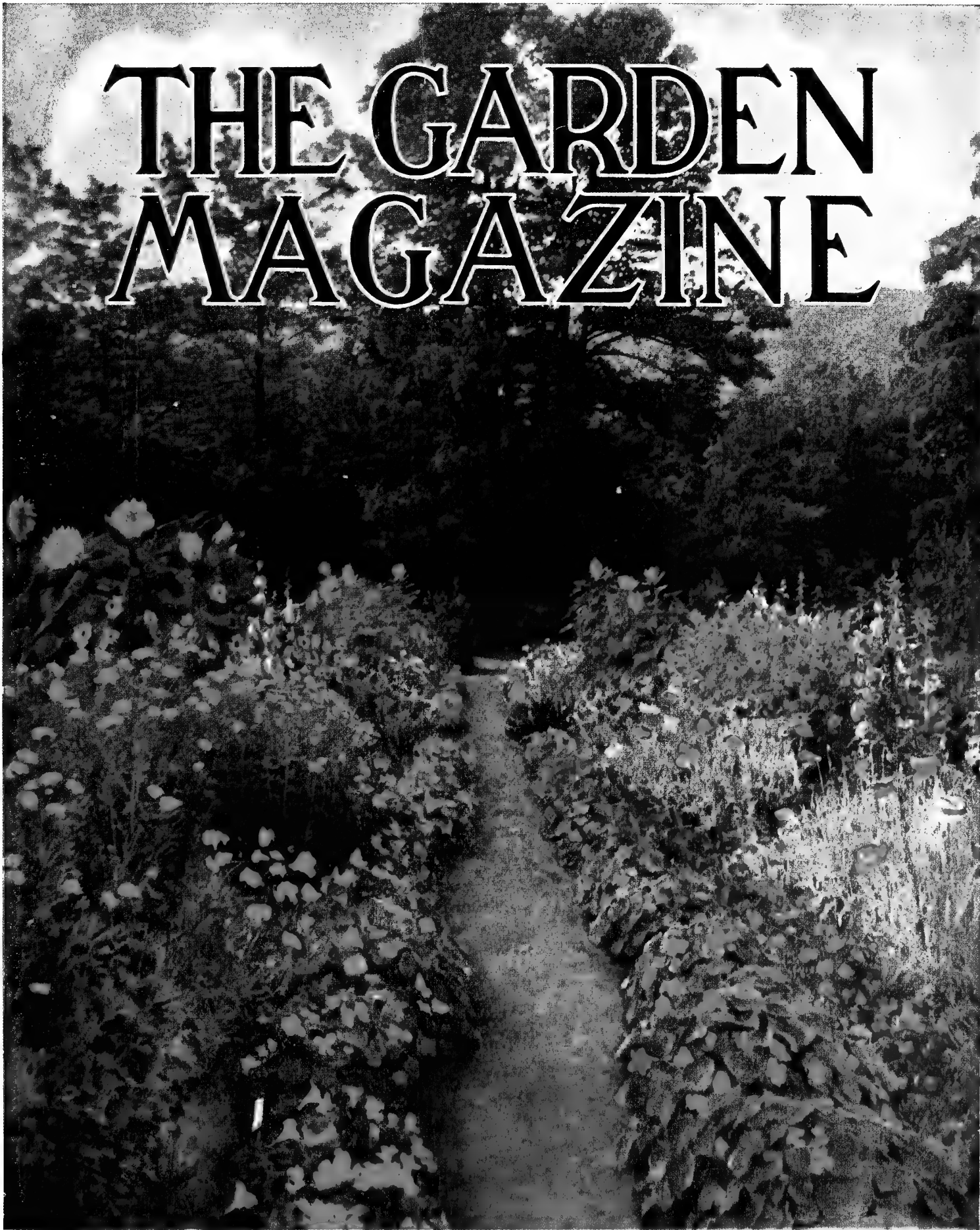
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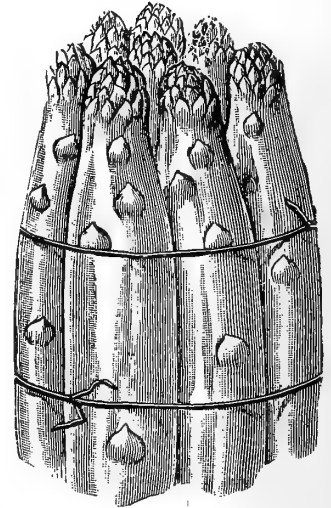
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We want you to receive a copy of our new book. It contains: **A Selected List of Vegetable and Flower Seeds**, with a short concise description of each. **A New Muskmelon** and the best standard varieties. **The Broad English Bean**, prized in England. **Asparagus, the Best Varieties** for home use, both seeds and plants. **Shrubs and Trees** for blooming or ornamental effects. **Grapes** that are worth cultivating in your home garden. **Bulbs for Planting in April**, and will bloom during the summer. **Annual Flower Seeds** that you can plant in beds and along the pathway and that will bloom the first year. **Lawns**, the best way to care for them and the proper seed to use to produce an excellent lawn. **Spraying Implements** for the home garden. **Insecticides**, the proper kinds to use to kill the various insects; also what to use for blight. We will mail you the book **Free**, as we wish you to see it before making up your order. It will be of assistance to you.

H. E. FISKE SEED CO.
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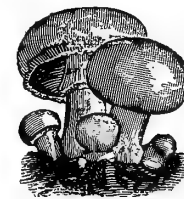
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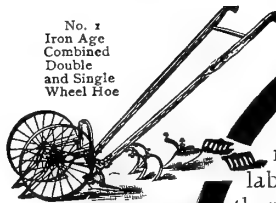
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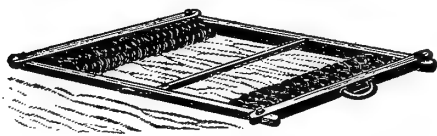
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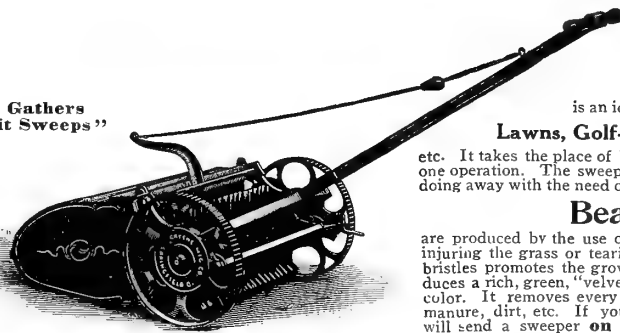
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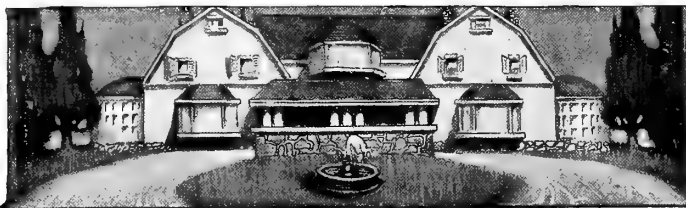
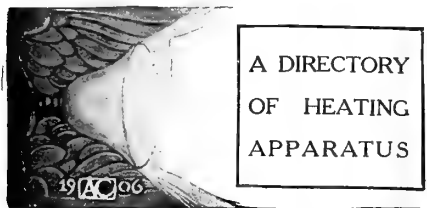
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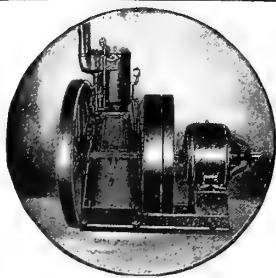
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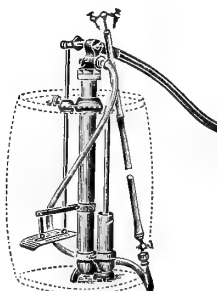
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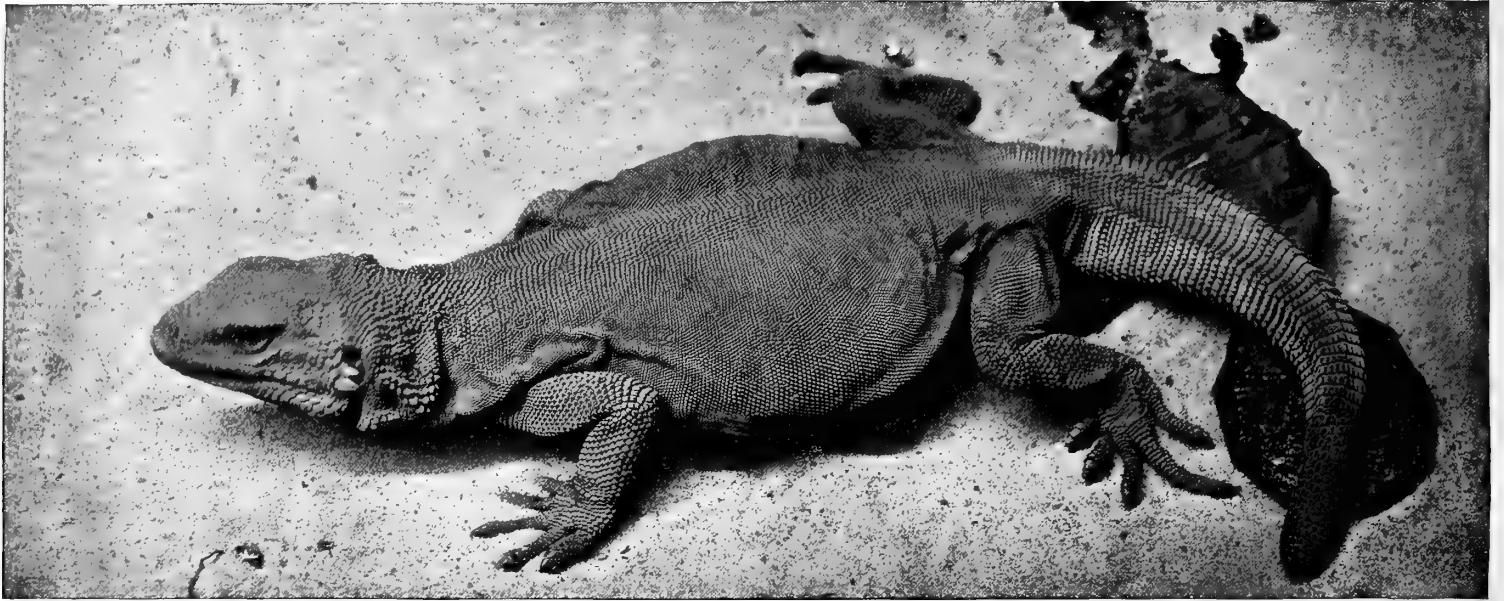
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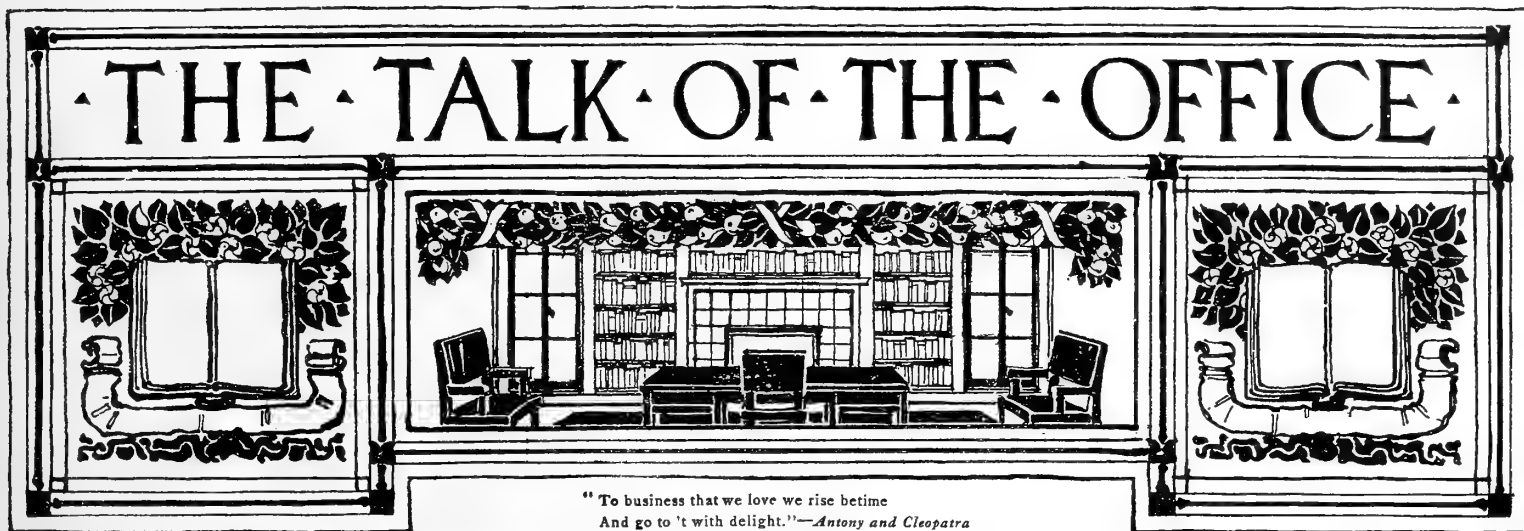
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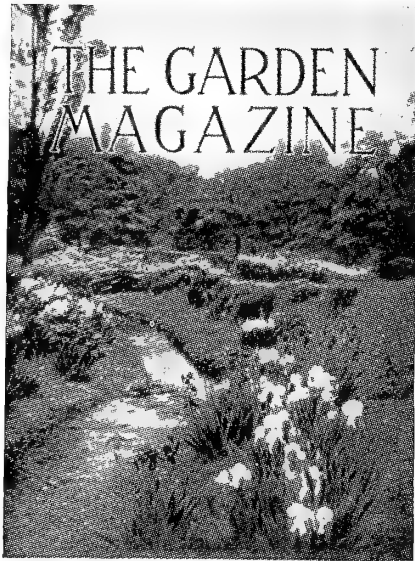
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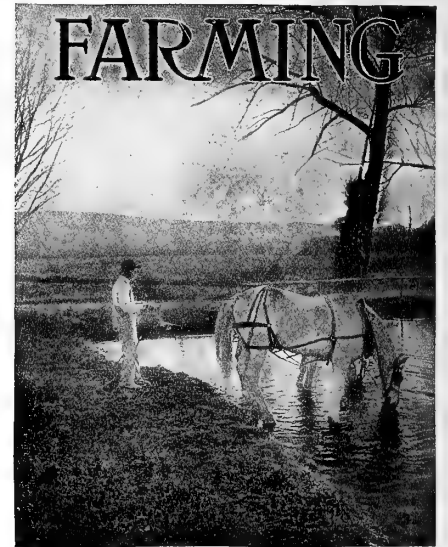
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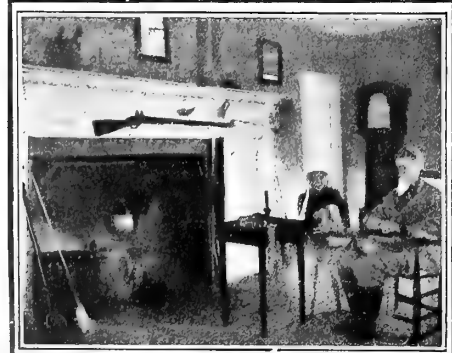
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1907



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VICK'S Garden and Floral Guide describes in full not only the varieties of seeds originating with us, but *all of the best*, whether new or old, in Seeds, Plants and Bulbs. Its illustrations are true to nature. For 10 cents we will mail you this Catalogue and a Hardy Baby Rambler Rose, ready for blooming, indoors or out. Send for Catalogue anyway—it's free.

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Sweet Bay. The thick glossy foliage and creamy cups make an effective background for the flower border that is new and artistically good.

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Magnolia tripetala, 4 ft.	\$.60	\$5.50	\$50.00	Magnolia macrophylla, 3 ft.	\$1.75	\$15.00	
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M. " 8 ft.	2.00	17.50	*150.00	M. glauca, Sweet Bay, 6 in.	.08	.60	\$5.00
M. " 10 ft.	2.50	20.00		M. " 1 ft.	.25	2.00	18.00
M. macrophylla, 8 in.	.50	4.50	4.00	M. " 2 ft.	.40	3.50	30.00
M. " 2 ft.	1.40	12.00		M. stellata, 6 in.	.20	1.75	15.00

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KELLER'S
Interesting
Achilleas



Achillea the Pearl

NO ONE knows why this interesting group was named in honor of the hero of the Trojan War, but certainly the Achilleas are a redoubtable company. If they have any weak point like the heel of Achilles we do not know it. They are sure to succeed.

The name "milfoil" means thousand-cut leaf, referring to the peculiarly graceful foliage of most of the species. The following descriptions do no justice to their beauty, but hint at their interesting variety.

Why not grow the entire collection and have enough of each to get splendid mass effects this year?

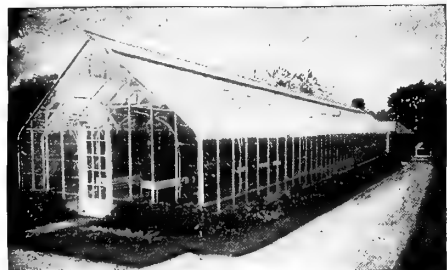
- A. ÆGYPTIACA—Foliage silvery, fern-like, flowers yellow; 12 to 18 inches
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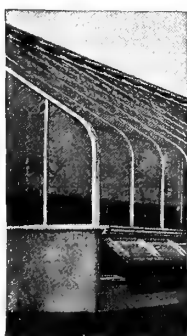


Our "Sunshine Shop," Why—



IT'S a surprising thing that although everybody knows that for perfection in plant life, abundant sunlight is the first essential for the outdoors garden, yet when they come to buy their gardens of glass—the greenhouse—they pay so little attention to its construction. They accept heavy rafters and narrow glass spacing, shutting out the light and making easy, economical plant growing unnecessarily difficult. Still others, realizing the general unattractiveness of greenhouses, seek to improve them by heavy cornices or like architectural treatment—all the time getting farther away from the perfect plant home.

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The Curved Eave

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Propagating Japanese Barberry

IN THE October, 1906, number of THE GARDEN MAGAZINE, Mr. John Dunbar says, "None of the barberries, to my knowledge, will strike from hardwood cuttings." In view of this statement, a little experience of my own may be of interest.

Two years ago, a neighbor pruned his hedge of the Japanese barberry (*Berberis Thunbergii*) in late winter, giving me all the clippings I desired. From them I made about two hundred cuttings five or six inches long, of well-ripened wood of the previous year's growth, and placed them in a cutting bench of clean sand in a carnation propagating house, where they received the treatment accorded the carnation cuttings, as far as watering, temperature, and light were concerned. A temperature of 54° was maintained in the sand, and the air was two degrees higher. The cutting bench was so placed that it received no direct sunlight. If it is not placed out of the direct sunlight, the glass must be lightly whitewashed, or in lieu of this, a thin muslin screen placed close to the glass.

In eight weeks, fully two-thirds of the cuttings were well rooted and were then transplanted to small pots, and later planted in the open ground where they now are, some of them having shoots more than two feet long. Last January, I tried rooting a few more cuttings with about the same degree of success.

PERPETUATE ONLY WELL-BERRIED FORMS

I have noticed for two years that among a lot of Thunberg's barberry, there have been some which each year bore many more berries than their neighbors. Whether this lot was grown from seed or from cuttings, I do not know, but if one were to propagate from hardwood cuttings, making the selection from well-berried plants, one could develop a stock which was uniformly well supplied with berries, whereas if the stock is obtained by planting seeds, no doubt the seedlings will vary considerably. Considering the popularity of this shrub as a hedge plant and its comparatively high price at present, this method of propagation might be worth a trial by the amateur.

Rhode Island.

H. T.

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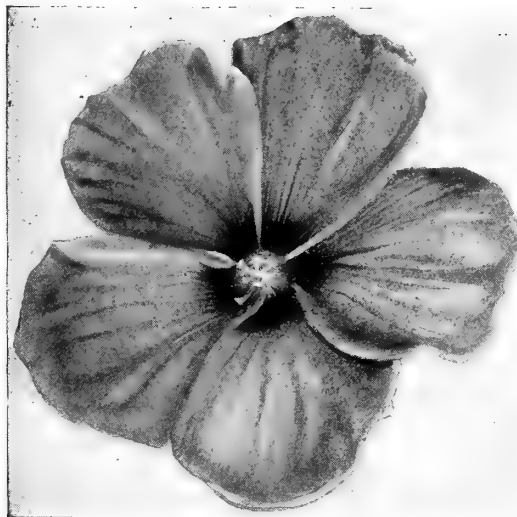
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As it is impossible to show by photograph or engraving the wonderful brilliancy of the coloring of **Meehans' Mallow Marvels**, we have prepared a color plate leaflet which we will gladly mail you.

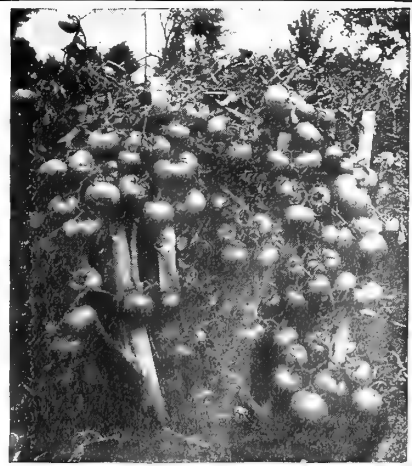
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is the name of the best booklet ever issued on the subject of tomato culture. It contains 30 pages and illustrations fully describing the Potter method of raising tomatoes. By this method you can have bigger and better fruit and weeks earlier than otherwise. It teaches the secret and science of tomato culture; forcing the fruit by systematic cultivation and pruning. This book is invaluable to every gardener, whether he grows one dozen or one thousand vines. The subjects covered are: History of the Tomato; Its Nature and Habit; Tomato Culture in General; The Potter Method; Plants and Planting; Home-Grown Plants; Preparing the Ground; Setting the Plants; Cultivation; Pruning and Staking the Vines; Picking the Fruit; Ripe Tomatoes at Christmas; 40 Tomato Recipes; Best Tomato Seeds. The information is condensed and to the point—just what every grower wants.

The cut herewith shows one of a large number of vines in my garden this season. Notice that each stalk is loaded with large, perfect fruit from top to bottom. This is the result of my method. It is easy to raise this kind of fruit when you know how. Just send for my book—price 50c., postage or money order. Your money back if not satisfactory.

FREE SEED—To everyone ordering my booklet within the next 30 days I will send FREE with each book one package each of the best varieties of early and late tomatoes. I make this offer so that you will get ready now for your spring gardening. Don't wait until the last minute when the rush is on. Send for my booklet to-day and I know you will be thankful that you made such a wise investment. **T. F. POTTER, Tomato Specialist, Dept. C, Downers Grove, Ill.**



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A Valuable Gardener's Assistant

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G. April

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Edible Wax-podded Peas

THE edible-podded pea is a most desirable vegetable. The pods of most varieties of this class are more or less irregular, twisted and corrugated in form so as to be unattractive in appearance and I think that it is on this account that the edible-podded sorts have never come into general use in America, although it is much used in Europe.

The United States Department of Agriculture has secured a variety of this class in which the pods are not only without strings and fibres but they are as distinctly wax-like in character as are those of Golden Wax or other wax-podded beans. If the whole pod is used before the peas are more than half size, as one would use string beans, they are very sweet, tender and delicious. The mature peas are large, smooth, yellowish white in color, and are equal in quality to the common White Marrowfat. Gather the pods for use when at about the same state of maturity as one would gather string or snap beans, and they may be cooked and served in the same way.

It is thought that through the more attractive appearance and excellent quality of this variety the edible-podded peas may be popularized. To this end the Department of Agriculture has had a quantity of seed grown which is available for distribution (upon application to the Bureau of Plant Industry) to a limited number of persons who are in a position to give it a fair trial.

The vines of this particular variety are as tall as those of the Champion of England or the Marrowfat peas, but have heavier, thicker, shorter-jointed stems and yellowish green leaves. They are quite as prolific, of about the same season as the Champion of England, and should be given the same cultivation, though it is of greater importance that they be furnished with brush or other support.

Home-made Grape Juice

GRAPE juice, when home-made, is one of the most healthful and delicious beverages imaginable. To make it, fill a preserving kettle with stemmed and sorted grapes, pour on enough spring water to flush them, cook to a pomace, strain through a cloth, and to every quart of juice add a cupful of sugar (less for Niagara). Bring to a boil again, can and seal hot. Herbets are far superior to Concord for grape juice. Gaertners make a brilliant-colored, high-flavored juice, and Niagaras hold their distinctive color and quality. New York. JULIAN BURROUGHS.

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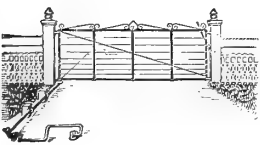
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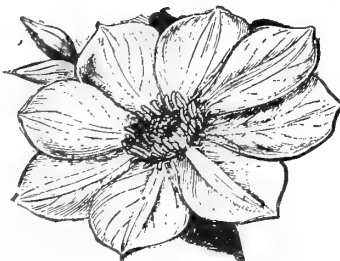
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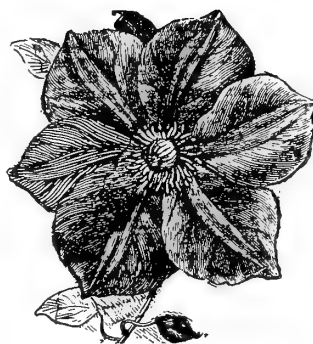
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In 1905 the palm house was added



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temperature of from 60 to 65 degrees. (You would be surprised to know how many such flowers and vegetables there are.) Then we built a 35-foot house, 18 feet wide, with three benches, to which he added a work room. This was in 1904. The following year the palm house was added, and in 1906 another single compartment. He now has a decidedly attractive, nicely balanced scheme, in which his dream has at last become a delightful reality. In adding a house this way each year, the expenditure was comparatively small, and he has a splendid basis for a still more extensive range, one that can be easily worked and economically maintained.

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This charming outlook is from the living room windows



How compact and decidedly artistic as it snuggles up to the garden wall

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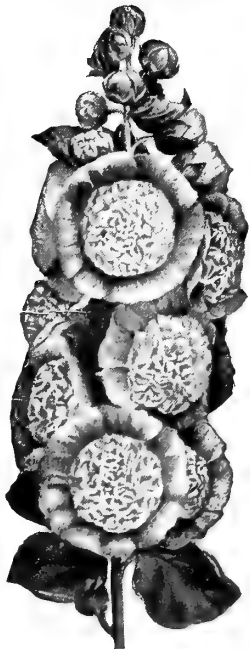
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Gardener to R. J. Preston, Esq.
January 30th, 1907.

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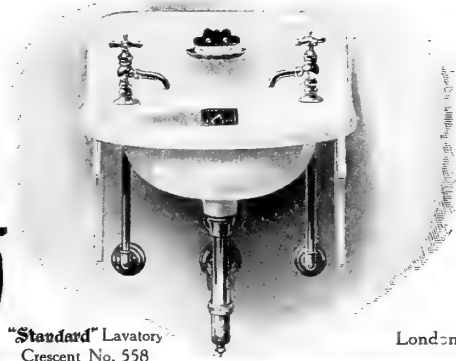
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The Garden Magazine

VOL. V.—No. 3
PUBLISHED MONTHLY

APRIL, 1907

ONE DOLLAR A YEAR
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[For the purpose of reckoning dates, New York is generally taken as a standard. Allow six days' difference for every hundred miles of latitude.]

How to Have a Perfect Garden

IF YOU will faithfully follow the directions on this page, you will surely have this year the best garden you ever had. And if you will adopt Mr. Kayan's "Vest Pocket System of Garden Records," you will have an ideal garden in three years.

There is only one way to make a garden better, and incidentally avoid the spring rush, and that is, make a plan on paper just as you would for a house. After you have done this once, you will never be satisfied to make a garden in any other way, and you will look forward with the keenest pleasure to the yearly session with the drawing board.

THE TEN PROGRESSIVE STEPS

1. Measure accurately the space available for a kitchen garden and draw the outlines to scale on a sheet about 11 x 20 in.

2. If possible, make the vegetable garden longer than it is wide, in order to save time in turning at the ends of the rows.

3. Provide for a windbreak against the prevailing winter wind, in order to have vegetables a fortnight earlier in spring, and from two or six weeks later in the fall. A hemlock hedge is best and April is a good time to plant it.

4. Run the rows north and south if possible, so as to give the plants the most sunlight. Never run any rows at right angles to others.

5. Place your permanent crops (i.e., small fruits, asparagus, rhubarb) on the margins, or group them at one end, so as to leave a large, clear space for plowing and cultivating.

6. Put your tall crops (corn and pole beans) at the north end of the garden, so that they will not shade the smaller vegetables.

7. Indicate roughly, in pencil, how much space to give the three or four vegetables you use the most. Then apportion the remaining space to the less important crops, grouping them as follows:

(a) Group the root crops (beet, carrot, parsnip, turnip), because all are subject to potato scab. Put them in deep soil so that the roots will be long and well-shaped. If possible, place the winter varieties where they will not interfere with fall plowing.

(b) Put all the "vines" together (i.e., cucumbers, muskmelons, pumpkins, squashes and watermelons), so that you can fight the squash bug and wilt disease better. Next year, put them on the space occupied this year by the tomato family.

(c) Group the tomato family (tomatoes, egg-plants, peppers) in a sunny place, because they are tropical plants started in hotbeds and put out at the same time. Next year, put them where the vines are this year. Some soils will not bear three crops of these vegetables in succession.

(d) Group the cabbage family (cabbage, cauliflower, kale, brussels sprouts and kohlrabi), so that you can lime the soil if club root appears and so that you can ridge the soil in autumn to kill the maggot.

(e) Save your richest and finest soil for onions.

(f) Put potatoes on newly turned sod where you want to have strawberries next year, because the hoeing of a crop kills the white grubs. (Omit potatoes from a garden 50 x 50 ft. or less. The least room for them is 25 x 25 ft.)

(g) Use radishes, lettuce and spinach as "fillers;" i.e., plant them between the wide rows of late-maturing crops, e.g., tomatoes and late corn. Sow radishes in the same row with parsley seed to mark the row by its quicker germination.

(h) Peas and beans, though related, cannot be grouped, peas being a cool, short-season crop and beans a hot, long-season crop, but next year put root crops where the legumes are this year. Put the string beans in the warmest and poorest soil in the garden.

8. Adopt a unit width between rows, and use multiples of this between the larger vegetables in order to save readjusting the wheel hoe. This plan also enables you to put lettuce and other fillers between wide rows without readjusting the cultivator. For example, take one foot as the unit. Make the rows one foot apart for radishes, lettuce, onions, root crops; one and one-half feet for kohlrabi, spinach; three feet for celery; two to four feet for potatoes; three feet for the tomato family; six feet for vines.

For distances between vegetables in the row, see Mr. Brown's Planting Tables in this number.

For quantities, see Vol. 2, page 265.

9. Mark in your succession crops. Provide at least for corn until frost and have

peas in September. The most important succession crop is celery, which is not planted until midsummer, after the early crops (e.g., peas, early beans, early corn). Put celery in deep, rich, moist soil.

10. Ink in your plan when it seems satisfactory, and stick to it. Adopt the "Vest Pocket System of Garden Records," which is described in February, 1907, on page 21, and you will be sure to improve from year to year. There is no one ideal plan for every garden, but every garden can realize its ideal approximately in three years by following these ten rules.

AN INVALUABLE "CHECK-LIST"

Last April, we showed that the making of a garden comprises about fifty items of the first importance. These items were numbered so that you may turn back to Vol. 3, page 129, cross out the items that do not concern you, and check off the others as fast as you can get them done. Moreover almost every item contains a reference to some article where you can get full information on that point if you need it.

We believe it is the best memorandum you can get to guide you through the busiest month of the year. We urged our readers to try it and tell us of any omissions or improvements. It has stood the test so well that only five additions have been made (see below), and one subscriber writes: "It is the best scheme for avoiding the spring rush I know."

We believe that the ten rules given above represent a still greater improvement. At any rate, we do not know of any rules for planning a garden that are so comprehensive, progressive and specific. Try this method, and any improvement you can make will be gratefully received.

What suggestion can you make to organize and simplify the work of gardening, and increase the pleasure and profit, without sacrificing the spontaneity and "fun"?

FIVE SUGGESTIONS FROM READERS

As soon as the weather is settled, transplant daisies, forget-me-nots and pansies from coldframes to spring flower beds.

Set outdoors, when danger of frosts has passed, the Easter bulbs and plants, e.g., daffodils, tulips, lilies and Crimson Ramblers.

Sow oriental poppies in an outdoor seedbed. The foliage will die in July and August, but in September growth will begin again. Then move the young plants to their permanent quarters.

Start tuberous begonias in small pots or in boxes of sphagnum moss in the house.

Bind your GARDEN MAGAZINES and consult the index when planning.

Trees and Shrubs that Bloom before the Leaves—By Henry Maxwell

A GROUP WHICH DEMANDS A DARK EVERGREEN BACKGROUND AND THE SAME KIND OF PRUNING—THE MAGNOLIAS, DOGWOODS, FORSYTHIAS, AND OTHER SPLENDID FLOWERS OF JANUARY TO APRIL

EVERYBODY knows the forsythia and the magnolia, which glorify the month of April, but no one seems to think of two obvious facts about them. A moment's reflection will show that these early-blooming shrubs must bloom from buds that are formed during the previous year, yet it is a common practice to prune early-blooming shrubs in March, thereby throwing away a good part of this season's potential bloom. All these shrubs should be pruned directly after blooming, if at all. Moreover, since these early-flowering shrubs bloom before the deciduous trees have put forth their leaves, they ought to have a dark evergreen background, yet nothing is commoner than to dot forsythias around in a lawn, or place them near deciduous trees, in which event the effect is rela-

tively weak, as the pictures on this page and page 140 clearly prove.

BLOOMING IN JANUARY OR FEBRUARY

The earliest outdoor shrub I know of is the winter sweet (*Calycanthus præcox*, but known to the nurserymen as *Chimonanthus fragrans*). Unfortunately, it is not generally considered hardy. Nevertheless, it has bloomed regularly for many years in January on Long Island at Mr. Dana's place, and I had great pleasure in seeing it last January. The flowers are an inch to an inch and a half across, fragrant and very strange in form and color. They are curiously marked with green and brown. At Mr. Dana's place it grows outdoors without any protection whatever. It is a Chinese and Jap-

anese species belonging to the same genus with the familiar sweet-scented shrub or Carolina allspice, which has dark red, leathery flowers in May.

Possibly the earliest shrub of this class for Southern gardens is the winter jasmine (*Jasminum nudiflorum*) which has solitary, fragrant yellow flowers. This Chinese species is probably inferior to the common jasmine of the South (*Gelsemium sempervirens*), but it blooms nearly all winter south of Washington, D. C. It is said to be hardy as far north as the Hudson Valley, where it blooms before the forsythia, but I must confess that I have never seen it. In England, it is commonly grown at the base of walls having a southern or southwestern exposure, and looks best when seen against a background of ivy. It is said that the shoots of this shrub should be removed after they have bloomed.

Probably the earliest hardy shrub is the Japanese witch hazel (*Hamamelis Japonica*), which blooms any time from February to April. Its twisted, narrow yellow petals are about the same size and shape as the American species. There are two varieties—one with golden, and the other with pale yellow petals. This species is said to be showier than the American witch hazel and to require a more sunny position and less moisture. It may be raised from seeds, which germinate the second year. The bush grows about eight feet high.

BLOOMING IN MARCH

The most fragrant and curious-flowered shrubs of March are two bush honeysuckles which attain a height of six feet and have rather small, whitish, two-lipped flowers about half an inch long. These are *Lonicera Standishi* and *L. fragrantissima*. The flowers, which are borne in pairs, are not at all showy, but it is very pleasant while strolling about the grounds on the first mild day of March to be greeted suddenly with a delightful fragrance and to see these weird, surprising flowers. In England, they are grown against walls and I presume we could get them in February by doing so. Doubtless, twigs could be had indoors in February by simply putting them in a vase of water in January. I have seen both these shrubs but cannot say whether there is any choice between them. *L. fragrantissima* has long, slender, recurring branches, while those of *L. Standishi* are spreading, and the latter species is the hardier.

The best hardy, yellow-flowered shrub that blooms before the forsythia is the cornelian cherry (*Cornus Mas*), which differs from all the other dogwoods in having its flowers crowded into opposite umbels which have an involucre, but not a showy one, as is the case of the flowering dogwood. The flowers are much smaller than those of the forsythia and therefore less showy, but the whole bush is covered with them, making a sort of



1. The right way to plant trees and shrubs that bloom before the leaves appear, viz., against a dark evergreen background. Flowering dogwood (*Cornus florida*). Contrast with Fig. 4

yellow mist. This is commonly seen as a small shrub but it is sometimes grown in tree form and attains twenty feet. It blooms in February in England.

The showiest flower of April is Hall's magnolia (*Magnolia stellata*, but introduced to America from Japan under the name of *Magnolia Halleana*). It has fragrant white flowers about three inches across, with from nine to eighteen long, narrow petals. The effect of this flower is totally unlike that of the commoner magnolia, being starry instead of cup-shaped, as the petals are horizontal instead of erect. This shrub, or small tree, attains twelve feet and is completely covered with flowers. It has the astonishing trait of blooming freely when only two feet high. There is a variety *rosea*, which has a bluish color on the outside of the petals.

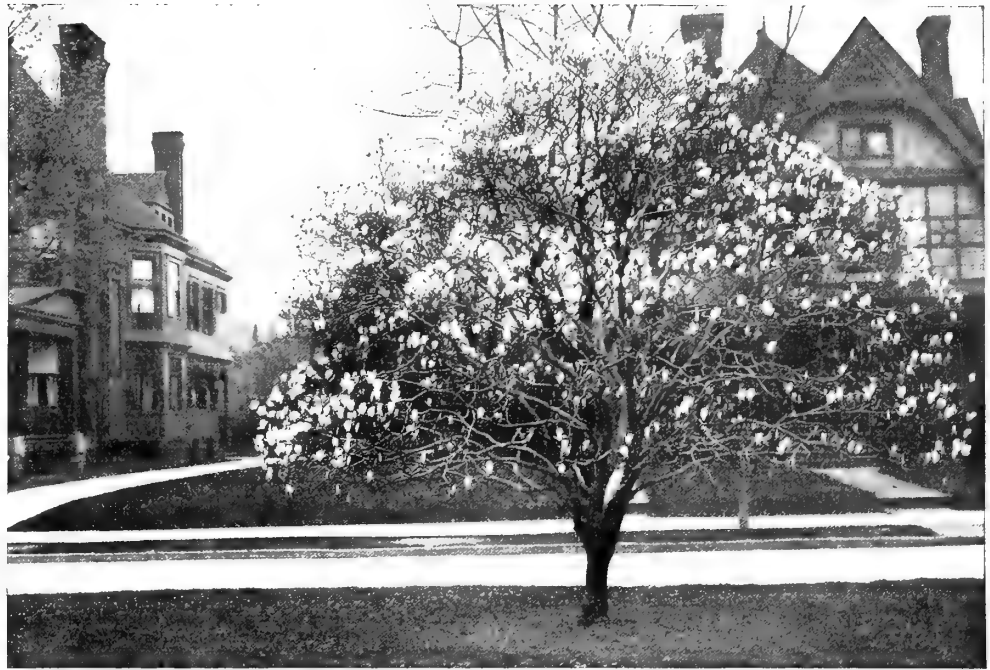
A VIGOROUS SERMON ON FORSYTHIA

Doubtless the most popular April-blooming shrub, and justly so, is the forsythia, or golden bells, but strangely enough we usually plant the wrong species or if we get the right kind we plant it and prune it in the wrong way. The most beautiful species is the drooping forsythia (*F. suspensa*), which has willowy branches sometimes eight feet long and studded from end to end with its opposite pairs of large yellow flowers. Its beauty resides largely in the arching grace of its branches, and this beauty is entirely sacrificed by the cheap gardener or ignorant day-laborer who calls himself an "expert pruner." You can always tell this kind of impostor by the fact that he prunes everything alike and at the same time, especially in March, when the idea of pruning is in the air and the greatest number of people are swindled. It is a natural trait of uncultured minds to train shrubs to geometrical shapes, especially a compact, globular form.

This March pruning of forsythias is wrong in three respects: 1. All the wood that is cut off would bear flowers this spring, because the buds were formed during the previous year, and in these early-blooming shrubs, are usually borne towards the ends of the branches. 2. Such pruning destroys all the natural arching grace of the forsythia, and substitutes a harsh, stiff, stubby appearance, like a three-days'-old beard. 3. It costs more to maintain this form, for the least deviation from a geometrical form is more noticeable than the same variation from a natural style of growth, and heavy pruning of anything tends to produce numerous new growths which are not at all the object.

The best rule about pruning forsythia is never to prune it at all, except to cut out entirely weak or exhausted shoots. No shrub that naturally arches over and makes a connection with the lawn should be headed back. It is strange that everybody should admire the electric fountain at the World's Columbian Exposition, and not see that the forsythia has the same type of beauty.

The wrong species which everybody plants is *Forsythia viridissima*, for it is rather stiffly erect, and therefore less graceful, than *Forsythia suspensa*. It is also less hardy.



2. The white, cup-shaped flowers six inches across that appear before the leaves are those of the Chinese magnolia (*M. Yulan*). The colored ones are hybrids, e. g., *M. Soulangeana* and *M. obovata*

The wrong way in which we plant forsythias is the dotting of them about the lawn, instead of giving them a background of dark evergreens.

There are many artistic ways in which *Forsythia suspensa* can be planted. The English are fond of training it up a wall, allowing the stems to arch over from three to five feet, but the loveliest effect I have ever seen was gotten in a much simpler fashion, by simply planting it above a retaining wall on a high bank from which the branches trailed in a graceful fashion for a distance of fully fifteen feet, covering the wall as effectively as a vine. Another way is suggested by the

picture of forsythia arching over a doorway. The English get great masses of forsythia for landscape effect by putting a stout stick in the centre of each plant, and drawing in the stems at a height of three feet or so. This allows the upper parts of the stems to reach over and take root at the tips. Thus these shrubs layer themselves and give rise to new plants, eventually forming large colonies. If this idea has been carried out on a large scale on some American estate, I should be glad to learn of it.

The forsythia is a plant that every one wants in quantity and, luckily, it can be easily raised at home. Cuttings can be



3. A charming way of growing the drooping forsythia, a species which almost everybody plants and prunes in the wrong way. Its stems are lined with golden bells an inch across



4. The wrong way—isolated or against deciduous background. A fragrant bush honeysuckle in March

placed in sand until they root, then planted out and will make shrubs six to eight feet high in three years.

Twigs of golden bells are easily forced in the home window, by putting them into a vase of water in February. During the last five years, the florists have forced a great many forsythias in tubs for Christmas and Easter bloom. The process is very simple and I dare say could be accomplished without a greenhouse.

OTHER APRIL-BLOOMING SHRUBS

The redbuds are undoubtedly the most beautiful early-blooming members of the great and wonderful pea family (*Leguminosæ*). The American redbud (*Cercis Canadensis*) has the distinction of being the hardiest species. It has purplish-pink flowers a half inch long, which seem to come right out of the wood, in clusters. It attains an extreme height of forty feet. The most beautiful species is the Chinese redbud (*C. Chinensis*), which has rosy-pink flowers three-quarters of an inch long, but unfortunately it is not hardy north of New York. It attains fifty feet in its native country, but is a shrub in cultivation. It is the best species for forcing. The largest-flowered redbud is *C. Siliquastrum*, with purplish rosy flowers

nearly an inch long. It is a native of southern Europe and is not hardy in our Northern States. In Europe it seems to be valued chiefly for the picturesque form which very old plants attain. All these redbuds require a rich, sandy, somewhat moist soil. The name "Judas tree" ought to be dropped.

An interesting lilac-purple flower that may appear any time from February to April is the olive spurge (*Daphne Mezereum*). It has nothing like the charm of that exquisite evergreen trailer which is so difficult to propagate, *Daphne Cneorum*, but it has the same delicious fragrance and has the advantage of blooming earlier and being of easier culture. It is a deciduous shrub, grows about four feet high, has three flowers in a cluster, and bears red fruit. There are white-flowered varieties, both single and double, but probably the most desirable kind is the variety *grandiflora* (also called *autumnalis*) which has larger and earlier flowers that sometimes appear in the fall.

The white flower of April that I like the best is the shad-bush, which has a genius for planting itself with the instinct of a landscape gardener wherever the heart seems to demand it. It hovers over the brink of the gorges at Cornell University, and I used to fancy that Nature made these awful chasms in order to show how spirit triumphs over matter, for in spite of its mystic delicacy and feminine grace there is a quiet sense of masterfulness in these shadbushes that suggests the still, small voice.

The name shadbush is applied indiscriminately to *Amelanchier Canadensis* and *A. Botryapium*. Both bloom a week or two before the orchards and their petals are longer and narrower than those of the fruit trees. They often take the form of a tree and I have seen photographs of specimens forty feet high. The name Juneberry is also applied to both. The flowers of *A. Botryapium* are said to be smaller and the racemes shorter and it is native to swamps, whereas *A. Canadensis* favors dry woodlands, but both grow well in garden soil. The Juneberry is a blue fruit about half an inch long and is borne in great profusion in June. A good variety called Success was introduced



6. The redbud (*Cercis Canadensis*), whose lovely, pea-shaped, rosy pink flowers seem to come out of the wood. The name Judas-tree ought to be dropped

by Professor H. E. Van Deman and is referred by Professor Bailey to *A. Botryapium*. The objection to this fruit is that the robins are excessively fond of it. I have scared up hundreds of them simply by walking along a row of Juneberry bushes about 200 feet long. The robins will even leave the cherry trees to eat the Juneberries, and therefore the Juneberry is worth planting in order to protect cherries.

The climax of spring is reached when the orchards are in bloom. Most of our common fruit trees belong to the rose family, particularly the great genera *Prunus* and *Pyrus*. It would take at least five pages of THE GARDEN MAGAZINE to do justice to the ornamental members of these two genera, but I shall say little of them here, because the San José scale is so likely to spread to them from the orchards that I am not willing to recommend them for general planting, unless a person has an excellent spraying outfit.

The earliest, and to my mind, the most beautiful member of the genus *Prunus* in common cultivation is the peach (*P. Persica*), which has pink flowers. There are many ornamental forms of it, including double-flowered, white-flowered and dark-flowered forms, the most popular of which is probably the camellia-flowered variety. David's peach (*P. Davidiana*) has larger and earlier flowers, which are white or blush and an inch or more across. It is reliably hardy as far north as



5. The flowering dogwood (*Cornus florida*) has blossoms four inches across. The characteristic notches in the "petals" (or, rather, bracts) are made by the frost. The winter buds are naked

Boston, but it blooms so early that the buds are often killed, even at New York.

The favorite ornamental prunus is the flowering almond (*P. Japonica*, but often called *P. Sinensis*), which has double blush or rose-colored flowers and appeals to those who love formal flowers. The almond of fruit growers is *P. Amygdalus*, and this also has double pink and white-flowered forms.

After the peaches, come the plums and cherries. The common ornamental plums are varieties of the European plum (*P. domestica*), except the flowering plum (*P. triloba*), a compact Chinese shrub six feet high, which is completely covered with double pink flowers. The favorite ornamental cherries are varieties of the sour cherry (*P. Cerasus*), especially the varieties *ranunculiflora* and *persicæflora*.

The ornamental pyruses bloom later and their flowers usually appear at the same time with the leaves. They include pears, apples, and crabs. Their effect is such that they might be classed with the trees that bloom before the leaves. They bloom when flowers of all kinds are abundant.

The best member of the group for floral effect is the flowering crab (*Pyrus spectabilis*), a large Japanese shrub or small tree which is completely covered with single rose-colored flowers, appearing with the leaves. It has red fruits about the size of a pea which do not last until winter. Of the double flowered pyruses the favorite is the Chinese flowering apple (*Pyrus spectabilis*), a small tree which blooms earlier than the common apple and has darker-colored flowers, these being almost coral-red in bud. This plant is often catalogued as *Malus spectabilis*. Probably the largest-flowered form



7. Winter sweet (*Calycanthus praecox*), a fragrant-flowered shrub which blooms outdoors on Long Island in January, if sheltered



8. The Japanese witch hazel, unlike ours, blooms in February or March. This picture, taken in November, shows the buds all formed

of it is var. *Riversii* which has semi-double bright, rosy-red blossoms.

Parkman's crab, a favorite near Boston, is a Japanese species known to tradesmen as *Pyrus Parkmani*, but its correct name is *Pyrus Halliana*. Its rose-colored flowers are usually semi-double and hang gracefully on slender reddish pedicels. It is a bush or small tree, growing six to fifteen feet high. The fruits are brownish red, the size of a pea or a little larger, and a great attraction to the birds.

The Japanese quince (*Cydonia Japonica*) also belongs to the rose family and is often considered a species of pyrus. There are a dozen varieties of it in every color from white and blush through salmon to red, but the bright red form will probably always be the favorite. It is often grown as a hedge plant. The naturally grown bush, however, is undoubtedly more graceful. Unfortunately, this plant is particularly sensitive to the San José scale.

The trees that have the largest flowers are the magnolias. The common white one of early spring is *Magnolia Yulan*, commonly called *Magnolia conspicua*. This has fragrant, cup-shaped flowers about six inches across. It is a Chinese species and attains a height of fifty feet in its native country. The magnolias that are colored outside form the group of hybrids of which *M. Soulangeana* is the prototype. They derive their hardiness from the Chinese white magnolia (*M. Yulan*) and their color from *M. obovata*, a tender shrub with petals that are purple outside. Among these hybrids are *Magnolia Alexandrina*, *Lennei*, *Norbertiana*, *Soulangeana*, *speciosa*, *speciosa nova*, *cyathiformis*, *rustica rubra*, *spectabilis*, *superba* and *triumphans*. The colors and seasons of bloom of these have never been carefully recorded and published. Any one who would make a collection of them and furnish these facts to THE GARDEN MAGAZINE would be performing a service to American horticulture.

The azaleas may fairly be called the showiest spring-blooming shrubs for, while lilacs and hydrangeas have larger flower clusters,

azaleas are, or should be more completely covered. Also they have a very wide range of colors, possibly the widest to be found among shrubs. The favorites are the hardy hybrids which are chiefly derived from the Chinese azalea (*A. Sinensis*, but known to nurseries as *A. mollis*). These, however, mostly bloom in May. The best April-blooming azalea is the pure pink azalea (*A. Vaseyi*). The common wild azalea of the North (*A. nudiflora*) has a less showy flower and the color is not so pure a pink.

BLOOMING IN MAY

The flowering dogwood is one of the showiest of the large-flowering trees, possibly even more so than the magnolias. The showy part of the flower is the involucre, the true flower being an insignificant affair in the centre. The involucre is about three or four inches across and composed of four bracts, each of which has a notch in the end caused by the action of frost on expanding buds. One of the wonders of Nature is the fat winter buds of the dogwood, which are not protected by varnish, like the horse chestnut, nor by a woolen overcoat.

PRUNING EARLY-BLOOMING SHRUBS

A good rule is: "Don't." Of course, it is always in order to cut out dead wood, but that is not pruning; pruning is the removal of live wood. More flowers can be secured by heading in slightly, immediately after flowering, because this encourages the production of many small young shoots and since these shrubs bloom mostly toward the ends of the branches, the more shoots the more flowers. But it is better to have fewer flowers and a natural bush than a mere ball of flowers.


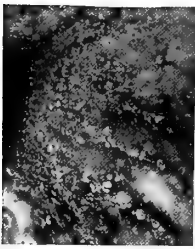

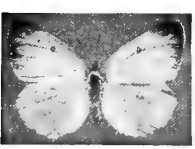
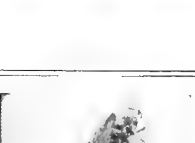


9. The earliest-flowered magnolia, *M. stellata*. Has flat, star-shaped, white flowers in March

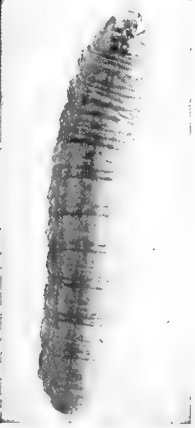
A Spraying Calendar for the Home Garden—By E. D. Sanderson, New Hampshire

THE FIRST COMPLETE PLAN FOR OVERCOMING THE INSECT ENEMIES AND DISEASES OF FRUITS, VEGETABLES, AND FLOWERS—PREPARED SOLELY FOR THE AMATEUR WHO WORKS ON A SMALL SCALE AND WITH SMALL APPLIANCES

THE SMALL FRUIT GARDEN

	NAME OF PLANT	ENEMIES	DESCRIPTION	TIME OF APPEARING	TREATMENT*
	Currant, Gooseberry	Currant worm	Light green worm with black spots. Defoliates the plants.	May, June ..	Spray: Paris green (i) or arsenate of lead (ii). When fruit is half grown spray with hellebore (v).
	Currant	Plant lice	Yellowish plant lice make yellow galls on leaves.	May.....	Spray: whale oil soap (vii) at once, apply on under side of leaves. Repeat in ten days.
		Leaf blight	Round spots on leaves.	June, July ..	Spray: ammoniacal copper carbonate solution (xv) while in fruit. After fruiting Bordeaux mixture (xix).
	Gooseberry	Mildew	Grayish or frosty substance on leaves.	On young growth.....	Spray: Bordeaux mixture (xix) before buds break. When leaves expand use potassium sulphide (xvi) every 10 days.
	Blackberry, Dewberry, Raspberry	Sawfly	Light green caterpillars with black spines skeletonizing the leaves.	June	Spray: Paris green (i) or arsenate of lead (ii) until fruit forms, then use hellebore (v).
		Cane-maggot, cane-borer, tree-cricket ..	Insects boring in canes. Tips of the canes die back.	July to Sept.	Remove infested canes cutting them off below the injury and burning them.
		Rose scale	White scale incrusting canes.	All the year..	Spray: kerosene emulsion (vi) late in May. Remove and burn infested portions.
		Anthraxnose	Brown or purple spots on leaves.	On young canes.....	Spray: Bordeaux mixture (xix) on new canes when six inches high; repeat until two-thirds grown. Remove and burn badly infested canes. Remove and burn affected plants.
	Grape	Rust	Orange rust on under side of leaves.	June	Remove all affected roots and burn them.
		Root knot or crown gall	Knotty formation at crown and hairy out-growths	All the year..	
		Berry-moth	Small caterpillar mining in berries which darken and wither.	June to Aug.	Spray: arsenate of lead (ii) in Bordeaux mixture (xix) in spring.
		Caterpillars.....	Various sphinx or hawk-moth larvæ.	July, August	Same as for berry moth.
		Flea-beetle	Small steel-blue beetle eating buds and grubs on foliage.	May.....	Spray: Paris green (i) or arsenate of lead (ii) as buds swell.
		Leafhopper.....	Light yellowish green; flying in swarms from vines in late summer.	August.....	Spray: kerosene emulsion (vi). Catch on sticky shields.
		Rose chafer	Eating blossoms.	May.....	Spray: arsenate of lead (ii) one pound to five gallons.
		Anthraxnose	Dark spots on leaves, and shoots cracking open, also on berries.	July, August	Spray: iron-sulphate (xxi) applied with brush before buds swell.
		Black rot	Reddish or pale brown spots on leaves. Fruit withers, blackens, hardens and clings to stem.	August, Sept.	Spray: Bordeaux mixture (xix) every day until fruit is nearly grown, then use ammoniacal copper carbonate solution (xv). Destroy diseased fruits.
		Downy mildew	Red spots on upper leaves. Fruit turns brown and shrivels.	July.....	Same as for black rot.
	Strawberry	Powdery mildew	Dull white powdery patches	June	Same as for black rot.
		Leaf roller	Small green caterpillar rolling up and skeletonizing leaves.	Summer	Spray: Paris green (i) or arsenate of lead (ii) in May and August. Burn over beds in fall.
		Sawfly	Pale green worms eating holes in leaves.	May.....	Same as for leaf roller.
		Root-aphis	Dark bluish aphids on roots and stems.	All summer..	Dip: tobacco (x. b.) before planting. Set clean plants. Rotate crops.
		Leaf-blight	Purple or reddish brown spots on leaves.	All summer..	Spray: Bordeaux mixture (xix) before blossoming. After harvest mow and burn and spray new growth with Bordeaux mixture.

THE VEGETABLE GARDEN

	NAME OF PLANT	ENEMIES	DESCRIPTION	TIME OF APPEARING	TREATMENT
	Asparagus	Beetle	Red marked with black. Dark gray grubs.	April, May..	Keep young stalks cut to prevent eggs from hatching. Spray: Paris green (i) or arsenate of lead (ii) after cutting season.
		Rust	Dusty red rust from slits in stalks.	August	Burn over patch in fall. Spray: Bordeaux mixture (xix) three times in August.
	Bean	Anthraxnose	Round spots with purplish border.	July	Spray: Bordeaux mixture (xix) every two weeks until pods form.
	Cabbage	Cabbage worm	Green caterpillars eating foliage.	All summer ..	Spray: resin-lime mixture (iii) as necessary. After heading, spray: hellebore (v).
	Cauliflower	Cabbage plusia ..			
		Aphis.....	Whitish plant lice in masses sucking foliage	All summer ..	Spray: kerosene emulsion (vi), or whale oil soap (vii) upon appearance.
		Harlequin or fire-bug	Red or orange and black bug.	All summer..	Spray: whale oil soap 1½ lbs. to 1 gal. water. Plant early trap crop of kale, or radish, and kill those on trap with kerosene.
		Root maggot	Small white maggots mining in roots.	June, July ..	Teaspoonful carbon bisulphide injected in soil six inches from each plant.
		Club root	Large knots or "clubs" on roots.	June, July ..	Destroy plants. Lime soil heavily. Plant on uninfected soil.

* The Roman numerals refer to the formulæ on page 145.

The Vegetable Garden—Continued

NAME OF PLANT	ENEMIES	DESCRIPTION	TIME OF APPEARING	TREATMENT
Celery.....	Caterpillar.....	Pea green caterpillar; black band on each ring.....	August.....	Spray: Paris green (i) or arsenate of lead (ii) as needed.
	Blight or rust.....	Leaves yellowish with brown spots.....	July, August.	Spray: ammoniacal copper carbonate (xv) or Bordeaux mixture (xix) every ten days.
Corn.....	Earworm.....	Same as tomato fruit worm and cotton boll worm. Eating tip of young ear....	June.....	Plow deeply and harrow soil in winter. Poison: drop dry Paris green in axils of leaves of young plant.
Cucumber..... Melons.....	Aphis.....	Dark green plant lice in masses under leaves.....	July, August.	Spray: kerosene emulsion (vi) or whale oil soap (vii) at once. Fumigate: tobacco (x. c.).
	Striped beetle.....	Small active beetle with black and yellow stripes.....	June.....	Spray: Bordeaux mixture containing arsenate of lead (xix + ii). Keep plants thickly coated.
	Squash bug.....	Dark brown bug sucking foliage.....	July, August.	Hand pick. Destroy eggs which may be found on under side of leaves.
Onion.....	Blight or mildew.....	Spotting of leaves which wither and die..	July.....	Spray: Bordeaux (xix) as soon as plants are established. Keep plants well covered.
	Maggot.....	White maggots mining stem and bulbs..	June.....	Plant trap rows of early radishes. Rotate crops.
	Thrips.....	Small slender brown insects which rasp the surface of the leaves.....	All season..	Spray: kerosene emulsion (vi) or whale oil soap (vii) thoroughly and often.
Pea.....	Anthracnose.....	Circular black spots on bulbs.....	Often in storage.....	Store bulbs when dry. Scatter air-slaked lime on piles.
	Smut.....	Black dusty outbreaks on plants from seed.....		Sprinkle seed with formaldehyde (xvii. b.). Avoid infected land.
	Aphis.....	Large green plant lice on ends of growths	May, June..	Spray: kerosene emulsion (vi) or whale oil soap (vii) whenever discovered.
Potato.....	Mildew.....	White downy growth on leaves and stems.	Late summer	Spray: Bordeaux mixture (xix) which must contain soap or resin-lime mixture (iii).
	Colorado beetle.....	Yellow and black striped beetle and grub.	May to October.....	Spray: Paris green (i) may be added to Bordeaux mixture (xix) when spraying for blight.
	Flea beetle.....	Small blackish beetle which jumps. Perforates foliage.....	May to October.....	Spray: Bordeaux mixture (xix), keep plants covered.....
Squash, Pumpkin..... Sweet Potato..	Blight.....	Tops turn black and prematurely wither.	August, Sept.	Spray: Bordeaux mixture (xix) every two weeks while plants remain green.
	Scab.....	Corky scales on tubers.....	August, Sept.	Soak seed potatoes in corrosive sublimate (xviii) 1½ hours, or formeldahyde (xvii. b.) for 2 hours
	Borer.....	Tunnels in base of stem causing decay....	August.....	Cover joints of vine with soil. Grow early plants for traps and destroy them. Cut out.
Tomato.....	Flea beetle.....	Similar to those on potato.....	Just after planting.....	Spray: arsenate of lead (ii) as soon as planted and keep them well covered.
	Tortoise beetle.....	Bright golden, tortoise-like beetles and grubs covered with an excreta.....	Same as flea-beetle.....	Same as for flea-beetle.
	Black rot.....	Brown patches on root. Flesh becomes black and bitter.....	In storage.....	Take slips from only healthy potatoes. Plant no slip with "black shank."
Tomato.....	Cutworm.....	Grayish striped caterpillars cutting off plants at surface of soil.....	May, June..	Poison: arsenite in bran mash (iv) before setting plants. Fallow land in early spring.
	Flea beetle.....	See under potato.....	Young plants	Same as for potatoes.
	Fruit worm.....	Large yellowish or greenish striped worm boring into green fruit.....	All summer..	Spray: arsenate of lead (ii) in Bordeaux mixture (xix).
	Horn worm.....	Large green worm with horn near one end.....	July, August.	Hand pick. Deep fall or spring plowing.
	Potato beetle.....	See under potato.....	Young plants	Same as for potato.
	Blossom-drop.....	Falling of blossoms; due to over-luxuriant growth.....	July, August.	Avoid heavy applications of nitrogenous manure. Prune to single stem. Give thorough cultivation.
	Blossom end rot.....	Small rotten spots at blossom end of fruit.	August.....	Spray: Bordeaux mixture (xix). Destroy diseased fruits. Cultivate!
	Leaf spot.....	Whitish round spots on leaves.....	July, August.	Spray: Bordeaux mixture (xi): three or four times at intervals of two weeks.
Wilt.....	Sudden wilting of part or all of plant.		Burn plants. It is carried from one plant to another by insects.	



Celery caterpillar



Striped beetle



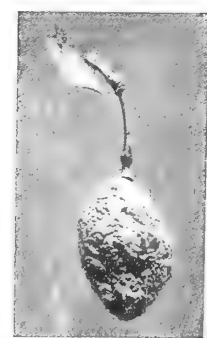
Harlequin bug



Peach leaf curl



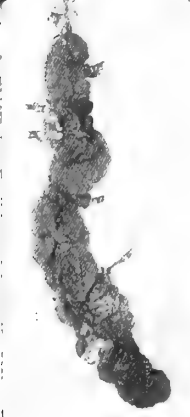
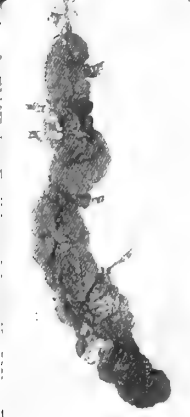
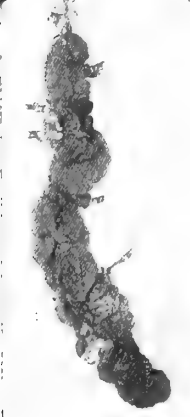
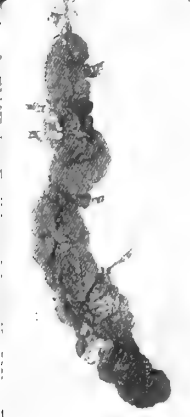
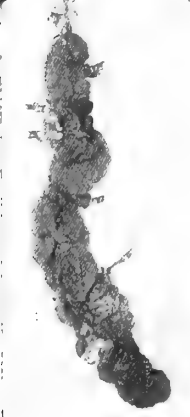
THE HOME ORCHARD

NAME OF PLANT	ENEMIES	DESCRIPTION	TIME OF APPEARING	TREATMENT
Orchard trees..	Crown-gall.....	Large swelling or knot with hairy out-growths at crown.....	All the year..	Dig out all roots and burn on the spot.
	Fall web-worm.....	Hairy caterpillars making webs over foliage and skeletonizing it.....	August, Sept.	Spray: Paris green (i) or arsenate of lead (ii) on first appearance.
	Fruit-tree bark-beetle.....	Makes many small holes in bark from which sap exudes.....	All the year..	Cut out and burn infected wood. Apply carbolic soap (xii) in May.
	San José scale.....	Grayish or blackish scales encrusting bark. Kills the tree.....	All the year..	Spray: lime-sulphur wash (xi) as soon as tree is dormant in fall and again before growth starts in spring.
Apple.....	Borers.....	White grubs mining under bark and tunneling tree.....	Beetle in June.....	Wash: carbolic soap (xii) in May and until mid-summer. Wrap trunk in paper.
	Budworm.....	Small caterpillars mining buds.....	April, May..	Spray: Paris green (i) or arsenate of lead (ii) in Bordeaux mixture (xix) as buds swell.
	Cankerworm.....	Dull colored measuring worm. Eat foliage in spring. Drop from tree by thread.....	April, May..	Band trees in March to prevent female from ascending. Spray: Paris green (i) or arsenate of lead (ii) as for codling moth.




Plum rot

The Home Orchard—Continued

	NAME OF PLANT	ENEMIES	DESCRIPTION	TIME OF APPEARING	TREATMENT
 <p>Tent caterpillar</p>	Apple	Codling moth	Common apple worm entering calyx and boring into core and out.	June	Spray: arsenate of lead (ii) in Bordeaux mixture (xix) as soon as petals drop and repeat three weeks later.
		Leaf aphid	Green plant lice on expanding buds and curling leaves.	April, May	Spray: kerosene emulsion (vi), whale oil soap (vii) or tobacco (x) before foliage opens.
		Oyster-shell bark-louse	Brown scales shaped like an oyster shell encrusting bark.	All the year	Spray: kerosene emulsion (vi) when the young crawl in late May or early June.
		Plum curculio	Crescent-shaped marks causing knotty growth of fruit.	May	Spray as for budworm. Cultivate orchard.
		Railroad worm	White maggot mining pulp of summer apples.	August	Destroy windfalls and cultivate orchard.
		Red-humped caterpillar	Stripping foliage from ends of limbs inward.	August	Hand pick. Spray: Paris green (i), arsenate of lead (ii), kerosene emulsion (vi) or whale oil soap (vii).
		Root or woolly-aphid	Aphid covered with white woolly wax, causing knots. Also on leaves.	All the year	Remove soil and give liberal dose of tobacco (x. a.) and cover.
		Tent caterpillar	Hairy caterpillar with white streak down back. Makes webs in spring.	April, May	Spray webs while dew is on with kerosene. Spray: Paris green (i) or arsenate of lead (ii). Cut off eggs in winter.
		Yellow-necked caterpillar	See red humped caterpillar.		
		Bitter-rot	Makes brown threads through flesh which terminate at skin. Tastes bitter.	July, August	Spray: Bordeaux mixture (xix) once before buds open and every two weeks from July until fruits are almost ripe. Remove mummies and limb-cankers.
 <p>Scab</p>	Rust	Bright yellow spots on leaves and fruits.	May, June	Spray: Bordeaux mixture (xix). Destroy cedars with "cedar-apples."	
	Scab	Dark spots on leaves and fruit. Fruit scabby and cracks.	July, August	Spray: Bordeaux mixture (xix) once before blossoming, and twice after.	
	Aphid	Green or brown plant lice on leaves of twigs. Leaves curl.	May, June	Spray: kerosene emulsion (vi), whale oil soap (vii), or tobacco (x. b.) when the first few appear and before leaves curl. If leaves have curled cut them off.	
	Curculio	See under plum.			
 <p>Tent caterpillar web</p>	Slug	See under pear.			
	Black knot	See under plum.			
	Brown rot	See under peach.			
	Leaf blight	See under plum.			
 <p>Tent caterpillar web</p>	Aphid	Black plant lice curling leaves and knotting roots.	May, June	Spray: kerosene emulsion (vi), whale oil soap (vii), or tobacco (x. b.) as soon as they appear, before leaves curl.	
	Curculio	See under plum.			
	Brown-rot	Fruit turns brown, dries up and hangs on tree. Worse in damp seasons and localities.	July, August	Spray: copper sulphate (xiii) just before buds swell. Spray: Bordeaux mixture (xx) when buds are opening and when fruit is set. Spray fruit: copper carbonate (xv) as needed.	
	Leaf curl	Leaves pucker and curl with yellow or red patches.	June, July	Same as for brown rot. Spray: lime-sulphur wash while buds are dormant.	
 <p>Tent caterpillar web</p>	Yellows	Foliage turns yellow. Yellow water sprouts with leaves in whorls. Fruit premature with red spots.		Cut out trees and burn.	
	Leaf-mite	Causes black blisters on leaves.	June	Spray: kerosene emulsion (vi) or lime-sulphur wash (xi) in winter.	
	Psylla	Small winged bug which jumps sucking foliage. Excretes honey-dew copiously.	July, August	Spray: kerosene emulsion (vi) or whale oil soap (vii) very thoroughly and repeat.	
	Slug	Yellow slugs eating surface of leaves.	June	Spray: Paris green (i) or arsenate of lead (ii) or dust air-slaked lime on appearance.	
 <p>Tent caterpillar web</p>	Fire-blight or twig-blight	Foliage on twigs turns dark brown or black.	June to Aug.	Cut off and burn, cutting back into healthy wood.	
	Leaf-blight or spot	Reddish brown spots which turn black on leaves and fruits.	May	Spray: Bordeaux mixture (xix) as for scab.	
	Rust and scab	See under apple.			
	Aphid	Same as cherry and peach.			
 <p>Tent caterpillar web</p>	Curculio	Crescent scars on fruit. White grub in stone. Fruit drops.	May, June	Spray: Paris green (i) or arsenate of lead (ii) as buds expand and again in a week. Every morning in May jar adults from trees.	
	Brown or ripe rot	See under peach.			
	Black knot	Black knotty swellings on twigs.	All the year	In fall or winter remove limbs with knots cutting four inches below knot. Spray: Bordeaux mixture (xix), as buds swell but use a weaker solution (xx) after blossoming.	

THE FLOWER GARDEN AND GREENHOUSE

	NAME OF PLANT	ENEMIES	DESCRIPTION	TIME OF APPEARING	TREATMENT
 <p>Blister mite</p>	Carnation	Aphid	Pale green plant louse on stems and leaves.	All the year	Fumigate: tobacco (x. c.). Spray: whale oil soap (vii) or tobacco (x. c.).
		Red spider*	Microscopic red mites causing foliage to blanch.	All the year	Spray: clear water, or sulphur (ix). Keep house moist.
		Anthracnose	Grayish brown sunken spots on bases of leaves.		Spray: Bordeaux mixture (xix), or if in bloom ammoniacal copper carbonate (xv).

The Flower Garden and Greenhouse—Continued

NAME OF PLANT	ENEMIES	DESCRIPTION	TIME OF APPEARING	TREATMENT
Carnation Chrysan- themum	Rust	Reddish brown powder from blisters on leaves and stems.	September	Spray: copper sulphate (xiii) every week or ten days.
	Aphis	Dark brown plant lice on buds.	September	Spray: whale oil soap (vii) or tobacco (x. b.). Fumigate: tobacco (x. c.).
Dahlia	Leaf spot	Small dark brown spots on foliage which grow larger.	August, September	Spray: ammoniacal copper carbonate (xv) every ten days to two weeks.
	Tarnished plant bug	Very active small brown bug which stings bud causing discoloring and malformation.	July, August	Hand pick in early morning, spray young bugs kerosene emulsion (vi).
Hollyhock	Rust	Yellowish or brownish dusty spots on leaves.	May, June	Spray: Bordeaux mixture (xix) in spring when foliage expands and at frequent intervals.
Morning-glory	Tortoise beetle	See under sweet potato.		
	Leaf cutter	Yellowish green caterpillar three-quarters inch long with black spots.	June, July	Spray: arsenate of lead (ii).
Rose	Aphis	See under carnation.		
	Leaf-hopper	Small elongated green bug which jumps quickly. Sucks foliage.	July	Spray: kerosene emulsion (vi) or tobacco (x. b.).
	Rose chafer*	Brown beetle eating flowers.	May, June	Hand pick. Spray: arsenate of lead (ii).
	Scale	See raspberry.		
	Slug	Slug-like larvæ eating surface of leaves.	June to August	Spray: arsenate of lead (ii) when it appears. Dust with air slaked lime.
	Black spot	Black spots on upper sides of leaves.	June	Spray: ammoniacal copper carbonate (xv) once a week.
	Mildew	Edges of leaves curl. White powdery growth on leaves.		Spray: sulphur (ix). Put paste of sulphur and lime on heating pipes.
Sweet Pea	Aphis	See under pea.		
Violet	Aphis	Brownish plant lice on crown, stems and under leaves.		Spray: whale oil soap (vii) or tobacco (x. b.).
	Cutworm	Eating flowers and foliage.		Poison: arsenite (iv). Do not use soil from fresh sod.
	Leaf tyer*	Small green caterpillar eating out patches of leaf surface.		Spray: arsenate of lead (ii). Fumigate: tobacco (x. c.).
	Sawfly	Dull olive or slate-colored larvæ two-fifths of an inch long eating surface of leaf.	May, June	Spray: tobacco (x. b.) or when not blooming arsenate of lead (ii).
	Blight or spot	Whitish round spots with darker rings on leaves.		Spray: Bordeaux mixture (xix) repeat every ten days, or when in bloom ammoniacal copper carbonate (xv). Destroy affected leaves.



Potato beetle



Red-humped caterpillar



Squash bug

Insects marked with an asterisk () attack many greenhouse and flowering plants other than those mentioned.

Up-to-Date Remedies for Insect and Fungus Pests

(The Roman numerals connect the formulæ with the instructions given under "Treatment" on the foregoing tables)

Insecticides

Insecticides form two classes: (1) *poisons* which kill by being eaten, such as Paris green and arsenites, used for insects which *chew* their food, such as caterpillars, beetles, grasshoppers, etc., and (2) *contact insecticides* (oils or dusts), which kill the insect by penetrating the skin or clogging the breathing pores, used for insects which *suck* the food through a small beak, and so are not affected by poisons applied to the surface of the foliage, such as plant lice, scale insects, etc. Bordeaux mixture sometimes acts as a repellent to sucking insects.

FOR BITING INSECTS

Most of the insecticide poisons are compounds of arsenic. Remember that they are all dangerous to human life. Keep them well labeled and locked up.

Unless otherwise directed, dry arsenites may be either sprayed or dusted. Dusting is often more convenient on low growing plants, but dust does not stick as well as liquid spray. Dust only in early morning while dew is on. When used dry, arsenites are usually diluted with flour or land plaster

and applied with a bellows, perforated can, or powder gun.

When adding a dry arsenite to water for spraying, first mix it in a little water to form a paste; then dilute.

I. PARIS GREEN

(a) One ounce of Paris green and two ounces freshly slaked stone lime to ten gallons of water. May be combined with Bordeaux mixture, adding to the latter at same rate as to water and omitting the lime. Keep well stirred while spraying. Costs twenty to twenty-five cents per pound.

(b) Green arsenoid, paragne, Scheele's green. These are substitutes for Paris green of nearly the same chemical composition. They are fully as effective, as safe, cheaper and are lighter than Paris green and so will remain suspended in water much better. The above brands are trade names and have been carefully tested. Do not use every new arsenite claimed to be as good as Paris green. Use in same manner as Paris green.

II. ARSENATE OF LEAD

Rarely burns the most delicate foliage. Remains in suspension and adheres to foliage

much better than Paris green. A white paste. Ordinarily use four ounces to five gallons of water but may be used one pound to five gallons without injury to most foliage. Costs fifteen to twenty-five cents per pound.

III. RESIN-LIME MIXTURE

Pulverized resin	5 pounds,
Concentrated lye	1 pound,
Fish oil or any cheap animal oil except tallow	1 pint,
Water	5 gallons.

Place oil, resin, and a gallon of water in an iron kettle and heat until resin is softened; add lye solution made as for hard soap; stir thoroughly; add remainder of water and boil about two hours, or until the mixture will unite with cold water, making a clear, amber-colored liquid. If the mixture has boiled away too much, add sufficient boiling water to make five gallons.

For use, dilute one gallon of this stock solution with sixteen gallons of water (or may be diluted with Bordeaux mixture), add three gallons of milk of lime, or white-wash, and one fourth pound Paris green or other arsenite.

This is used on plants having very smooth foliage.

IV. POISONED BRAN MASH

Wheat bran.....	40 pounds,
Molasses (cheapest).....	2 quarts,
Arsenite.....	1 pound,
Water.....	Enough to make a thick mash.

Keep poultry out of fields treated. For cutworms apply a day or two before setting plants as near evening as possible, a heaping tablespoonful near each plant.

V. HELLEBORE

Fresh white hellebore.....	1 ounce,
Water.....	3 gallons.

Not so energetic a poison as the arsenites and may be applied a short time before fruit is ripe. May be dusted, diluted with five to ten parts of flour or plaster. For currant and strawberry worms, cherry slug, etc.

FOR SUCKING INSECTS

VI. KEROSENE EMULSION

Hard soap.....	$\frac{1}{2}$ pound,
Boiling water.....	1 gallon,
Kerosene.....	2 gallons.

Dissolve the soap in the water, add the kerosene (away from the fire), and churn with a pump by pumping back and forth, or with a hoe, for five or ten minutes. Dilute four to fifteen times before applying. Use strong emulsion for scale insects. Dilute ten to twelve times for plant lice and soft-bodied bugs. Contact insecticides are often used for soft-bodied caterpillars, which chew their food, but which are killed more quickly with strong emulsion or soap.

VII. WHALE OIL SOAP

For San José and other scale insects, dissolve two pounds in one gallon hot water and apply while warm. For plant lice, slugs, etc., one pound to six to eight gallons of water. Costs five to ten cents per pound. A solution of any common soap is effective for plant lice on house plants.

VIII. PYRETHRUM OR INSECT POWDER

Not poisonous to man in ordinary quantities, and therefore used against household pests and on vegetables nearly ready for market. Used either as powder or spray. Burn in room to destroy mosquitoes. Used in water at a rate of one ounce to twelve gallons, which should stand a day before using. Use in hot water for immediate application. Keep in tight cans—deteriorates with age.

IX. SULPHUR

Apply at rate of one ounce to a gallon of water for red spider and mites. Sprinkle in greenhouses, especially over steam or hot water pipes.

X. TOBACCO

(a) Dust. Useful against plant lice, particularly root-feeding aphides, and for driving such insects as the striped cucumber beetle.

(b) Spray. Place old stems or leaves in a tight vessel, cover with hot water and allow

to stand several hours. Dilute three to five times and apply. Much more convenient and uniformly effective are the prepared tobacco extracts, several of which are on the market.

(c) Fumigation. The tobacco extracts may be evaporated by heat to form a vapor which is fatal to insect life. Several brands of papers which have been saturated with these extracts are now on the market. The latter are burned and the smoke fumigates. The "fumigating kind" of tobacco powder may also be used for fumigating. The best method of controlling plant lice and similar pests in greenhouses, coldframes, and upon melons and other plants which may be readily covered with a canvas frame (see THE GARDEN MAGAZINE, June, 1906 page 290.)

XI. LIME-SULPHUR WASH

Slake four pounds of best stone lime in kettle over a fire, and add three pounds of sulphur, stirring constantly until all the lime slakes, and after adding the sulphur stir frequently until the mixture has boiled at least thirty and preferably forty-five minutes. Strain through burlap or fine wire screening into the spray barrel and add enough water to make ten gallons.

XII. CARBOLIC SOAP

One pint crude carboic acid added to ten gallons thick solution of caustic soap, preferably whale oil soap. Applied to trunks and branches of trees to prevent egg-laying of borers.

Fungicides

XIII. COPPER SULPHATE SOLUTION

Three ounces of copper sulphate dissolved in five gallons of water.

XIV. COPPER CARBONATE MIXTURE

Two ounces of copper carbonate dissolved in five gallons of water.

XV. AMMONIACAL COPPER CARBONATE

Dissolve one ounce of copper carbonate in one-half pint of ammonia diluted with two quarts of water, and dilute to ten gallons of water. Used to avoid spotting of nearly ripe fruit.

XVI. POTASSIUM SULPHIDE

Stir three ounces of potassium sulphide into ten gallons of water.

XVII. FORMALDEHYDE

(a) One ounce of formaldehyde in three and one-half gallons of water.

(b) One ounce of formaldehyde to two gallons of water.

XVIII. CORROSIVE SUBLIMATE

One ounce of bichloride of mercury (poison) in eight gallons of water. Melt the chemical in a gallon of warm water with a teaspoonful of common salt added; and dilute.

XIX. BORDEAUX MIXTURE

Dissolve one pound of copper sulphate (bluestone or blue vitriol) in a gallon of water by hanging in a bag. Slake one pound of

fresh stone lime and dissolve in one gallon of water. Add four pints of the copper sulphate solution to a bucket ($2\frac{1}{2}$ gals.) of water, and six pints of the lime solution to another bucket of water. Pour the buckets of dilute copper sulphate and dilute lime together into a third vessel, stirring thoroughly, to make five gallons. The remainder of the gallon of bluestone solution and lime solution can be similarly diluted and mixed when needed for later sprayings. Resin mixture (III) may be added to secure greater adhesiveness.

XX. DILUTE BORDEAUX MIXTURE

Prepared the same as above but with one-half as much copper sulphate and lime. For use on peach, plum and tender foliage.

XXI. IRON SULPHATE-SULPHURIC ACID SOLUTION

Dissolve as much iron sulphate (copperas) in hot water as it will take up. Add one part of commercial sulphuric acid. Prepare just before using. Can be used only when vines are perfectly dormant.

How to Apply the Remedies

For a few bushes nothing is better than a whisk broom such as one buys from the store or it may be made by tying together tips of small-branched trees—the birch is excellent for this.

The easiest way of applying the spray is by means of a knapsack or a compressed air sprayer which have tanks holding four or five gallons. The former is worn, like a knapsack, a handle being suspended over the shoulder with which to pump out the liquid. The compressed air sprayer is simply a tank which one carries slung under his arm. To get pressure there is an air pump which pumps air into the tank getting a compression, which will throw a spray for several minutes.

The small air sprayer which will hold only a quart or two of liquid are only toys and really cannot be recommended.

Be sure that all the working parts of the pumps are of brass—not iron—and do not buy outfits with galvanized iron tanks for the copper quickly eats through the iron.

When a pump is used which gives sufficient force to make a spray the kind of nozzle to use is an important question. For general use there are but two types which are worth recommending, the Vermorel and the Bordeaux. The Vermorel nozzle makes the finer spray of the two in a cone shaped form and is the favorite for fruit tree spraying and some people prefer to use it.

The Bordeaux nozzle makes a flat, fan-shaped spray and is preferred by, many for spraying vegetables, potatoes and sometimes for trees where it is wished to cover a large leaf surface in a short time,

One advantage of the Bordeaux nozzle is that it may be regulated to produce a fine spray yet it is very easily cleaned of any clogging. The Vermorel is furnished with a cleaning pin but in spite of that it sometimes becomes badly clogged.

A Pathway Garden of Annuals—By A. Radclyffe Dugmore

A PLANTING PLAN THAT WILL ENABLE YOU TO REPRODUCE THE GARDEN SHOWN ON THIS MONTH'S COVER—HOW TO LINE A WALK WITH FLOWERS—ESPECIALLY VALUABLE FOR A SUMMER HOUSE

A GARDEN of annuals was, by force of circumstances, the only kind of a flower garden we could have last year, as we could not have any work done at our summer home until we went there in April. Moreover, with the exception of some hollyhocks, we had no plants on hand and did not feel that we wanted to spend much money on the luxury of flowers. Therefore, seeds were bought at a cost of about three dollars, and as I knew that I should be away the early part of the summer, the garden was planned to be its best from July 15th to August 31st.

I was never more surprised in my life than when I came home in July after an absence of several weeks, to see this garden as it is shown on this month's cover.

rotted manure, with a little nitrate of soda and lime, was worked in. On April 23d, the soil being in good condition, I began sowing the seeds. First of all, I marked off where each kind should be, then a couple of pailfuls of top soil was thoroughly pulverized and sprinkled on the finer seeds.

The arrangement of the flowers was as follows: A row of dwarf nasturtiums (transplanted from the reserve beds) bordered the path; against this were irregular masses of red and yellow portulaca, pinks (*Dianthus Chinensis*), phlox (*P. Drummondii*, var. *coccinea*, large blood-red and dwarf Cecily), California and the splendid scarlet tulip poppy (*Papaver glaucum*); back of these also in separate irregular masses which ran into each other, were *Chrysanthemum coronarium*, blue and yellow cornflower (*Centaurea Cyanus* and *Centaurea suaveolens*), blue-eyed African daisy (*Arctotis grandis*) Shirley poppies, marigolds (Prince of Orange, Eldorado, Legion of Honor and dwarf pulchra), lupines, Gaillardias and rudbeckias. These were protected by a tall row of sunflowers (Stella, many-flowered, double, and Russian), Golden Glow and pink and red hollyhocks. The Golden Glow failed to grow, so climbing nasturtiums were planted in its place.

We are unfortunate in having very late, and what seem always to be unexpected, frosts, as we live in the high country of Northern New Jersey at an elevation of nearly 1,000 feet, and even in the middle of May one is not absolutely safe. My seeds were up an inch, when one of these wretched frosts came. The gaillardias and some of the marigolds were killed, but otherwise not very much damage was done. Wherever gaps occurred, dwarf nasturtiums were planted from that useful reserve bed.

Of all the flowers, none proved more thoroughly satisfactory than the summer chrysanthemum (*C. coronarium*). Its sturdy growth, fine foliage and wonderful profusion of pure lemon-yellow flowers should make it far more popular than it is. From July 10th

until the middle of October, when we had had several frosts, we gathered flowers every few days. The tulip-poppy was all that could be desired in the way of intense brilliant scarlet, but it did not bloom "till frost" or anywhere near it, notwithstanding what the catalogues claim. We tried a few of Burbank's crimson-flowering eschscholzia, but the results were unsatisfactory. The flowers lacked vigor, though the other poppies were remarkably strong. The blue-eyed daisy flowered almost as long as the chrysanthemum.

In growing annuals, it seems to me advisable to keep in reserve some plants that will



The California poppy (*Eschscholzia Californica*), perennial but cultivated as an annual

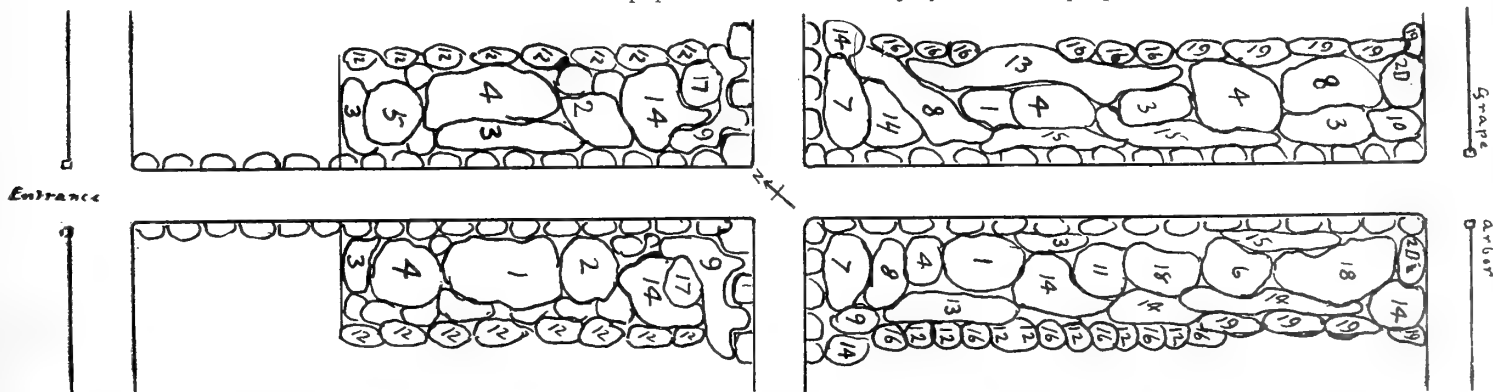


Corn poppy (*Papaver Rhoeas*). The Shirley poppy is a development of this

The part of the vegetable garden which we were going to devote to flowers was a strip six feet wide on either side of the central path, which was seventy-eight feet long. This path starts at a grape arbor and runs to the edge of the woods.

On April 5th, the soil, which is somewhat of a clayey nature, was thoroughly spaded and two weeks later the spading was repeated and a mixture of hardwood ashes and well-

stand transplanting late in the summer to fill in gaps as they occur. The flowers should be in solid masses with no bare ground to detract from the effect and allow moisture to escape and weeds to grow. There should be some device to support such plants as poppies and cornflowers. A wire netting placed over the entire bed might answer the purpose and it would not be seen.



1. Kaiser Wilhelm cornflower (*Centaurea Cyanus*)—2. African daisy (*Arctotis grandis*)—3. Annual phlox (*Phlox Drummondii*)—4. Shirley poppy (*Papaver Rhoeas*, var. *Shirley*)—5. California poppy (*Eschscholzia Californica*)—6. Tulip poppy (*Papaver glaucum*)—7. Golden Gate poppy (*Papaver somniferum*)—8. African marigold, Prince of Orange and Eldorado (*Tagetes erecta*)—9. French marigold, Double Pulchra and Legion of Honor (*Tagetes patula*)—10. Chinese pink (*Dianthus Chinensis*)—11. Texas lupine (*Lupinus subcarnosus*)—12. Chrysanthemum-flowered sunflower (*Helianthus decapetatus*, var. *multiflorus*)—13. Stella sunflower (*Helianthus debilis*, var. *Stella*)—14. Annual calliopsis (*Coreopsis coronata*)—15. Rose moss (*Portulaca grandiflora*)—16. Hollyhocks (*Althaea rosea*)—17. Sweet sultan (*Centaurea moschata*)—18. Annual chrysanthemum (*C. coronarium*)—19. Tall nasturtium (*Tropaeolum majus*)—20. Coneflower (*Rudbeckia bicolor*, var. *superba*)—Unnumbered spaces, dwarf nasturtium (*Tropaeolum minus*)



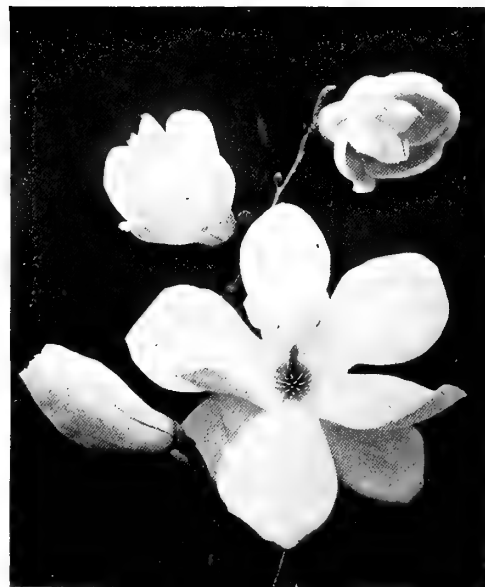
The purple magnolia (*M. obovata*)

An Old Collection of Hardy Magnolias

A COMPARATIVE STUDY OF SIXTEEN MAGNOLIAS THAT HAVE ATTAINED MATURITY IN THE NORTH—THE TREES THAT HAVE THE LARGEST FLOWERS—THEY MUST BE PLANTED IN APRIL

By John F. Johnston, ^{Long Island,} N. Y.

THE oldest collection of magnolias in America, so far as I know, is that made by the late Mr. Charles A. Dana, formerly editor of the *Sun* newspaper of New York, at his summer home, Dosoris, Glen Cove, Long Island. Mr. Dana was a noted patron of horticulture, and during his life time his place was visited by distinguished horticulturists from all parts of the world.



The white Chinese magnolia (*M. Yulan* or *conspicua*)



Soulangiana, First of the hybrids which get their color and hardiness respectively from the above species

The collection of evergreens is the largest one of any considerable age in the vicinity of New York and probably ranks second only to that of Mr. Hunnewell at Wellesley.

As magnolias have the largest flowers of any trees in cultivation and are consequently very popular, the Dana collection has peculiar interest, and all the more so since magnolias are rather high-priced and very particular about transplanting. While the headquarters for information about any group of trees is the Arnold Arboretum at Jamaica Plains, Mass., the Dana collection has great interest in the history of American horticulture because of the numerous trees and shrubs that are hardy here but not at Boston, and because many species have bloomed or fruited here for the first time. For example, *Magnolia grandiflora* is not hardy here, but it is kept alive by wrapping its trunk and branches with straw each winter and *Magnolia hypoleuca* has fruited here, probably for the first time in this country.

The Dana collection of magnolias comprises all the hardy species described and distinguished in *THE GARDEN MAGAZINE* for June, 1906, except *M. acuminata*, but it does not contain all the beautiful hybrids of the *Soulangiana* group.*

The table on page 149 is far from ideal, as it omits several species and gives the dates for only one season and one locality, viz. 1905 at Dosoris, but it is published here because a few definite facts are better than vague generalities. Unfortunately, I am not able to give comparative dates for *M. acuminata*, *Kobus* and *tripetala*.

I. Blooming Before the Leaves

The species whose flowers appear before the leaves are early-blooming (March, April) and show to better advantage if a dark, evergreen background appears instead of a deciduous one. They often look well

*It is to be hoped that some one will make a complete collection of these hybrids and give us a table of blooming dates and colors. Twelve or more kinds can be secured in different parts of the world. *THE GARDEN MAGAZINE* will be glad to assist anyone who wishes to secure a complete collection.

against a house and are great favorites for specimen planting in front yards. They are more splendid, however, in large masses. Of the eight American species, none blooms before the leaves.

The only species with starry flowers are *M. stellata* and *Kobus*, all other magnolias having cup-shaped blossoms.

M. stellata is the first of all magnolias to blossom, being usually a week earlier than *M. Yulan*. It is more or less bushy, while the other starry-flowered species assumes tree form in its native country. *M. stellata* is one of the loveliest early-flowering shrubs. Its numerous white petals radiate like a star, flutter in the breeze and are deliciously fragrant. The whole bush is covered with flowers and begins to bloom when only two feet high. It was introduced from Japan some thirty years ago by Dr. Hall, after whom it is often called *M. Halliana*. It is very hardy

M. Kobus, a handsome pyramidal tree, is one of the best for lawn specimens, being attractive throughout the season, but it is slow to come into bloom. Mr. F. W. Barclay says that a three-foot tree planted in 1897 showed no bloom in 1906, though eighteen feet high. However, it is worth waiting for.

The most famous magnolias are the hybrids, of which the type is *M. Soulangeana*. These derive the pink or purple color on the outside of their petals from *M. obovata*, which is the darkest of all, rather tender

speciosa nova, *spectabilis*, *superba*, and *triumphans*.

I believe that Mr. Miller was too hard upon *M. obovata* in his article. It is neither so uninteresting nor so tender as he says. The

THE BLOOMING AND FRUITING OF HARDY MAGNOLIAS AT DOSORIS

Common names	Standard names	Time of flowering		Size of flowers (inches)	Leaves appeared	Fruit	Height (feet)
		Began	Ended				
Starry	<i>M. stellata</i>	April 5th	May 2d	3 to 4	April 20th	Inconspicuous	8
Large white Chinese ...	<i>M. Yulan</i>	April 12th	April 30th	4 to 6	April 28th	Inconspicuous	30
Soulange's	<i>M. Soulangeana</i>	April 20th	May 15th	4 to 6	May 2d	Inconspicuous	25
Lenne's	<i>M. Lennei</i>	May 1st	May 18th	3 to 5	May 10th	.....	15
Purple	<i>M. obovata</i>	May 3d	May 22d	3	May 15th	.....	8
Japanese Lacquer Tree	<i>M. hypoleuca</i> ..	May 10th	End June	4 to 6	May 5th	Cone rounded, scarlet	28
Ear-leaved	<i>M. Fraseri</i>	May 18th	End June	4 to 6	May 8th	Cone pointed, vivid red	30
Large-leaved Cucumber Tree	<i>M. macrophylla</i>	May 20th	End June	8 to 10	May 12th	Cone round, rose	20
Watson's	<i>M. Watsoni</i> ...	May 25th	End June	3 to 4	May 12th	.....	8
Sweet bay	<i>M. glauca</i> ..	May 25th	July 15th	2 to 3	May 18th	.....	18
Bull bay	<i>M. grandiflora</i> ..	May 28th	End July	4 to 5	May 18th	Brownish	10

and not very profuse of bloom. All other magnolias have white petals. The hybrids get their hardness, tree-like habit and freedom of bloom from *M. Yulan*, which is the best white magnolia that blooms before the leaves. The only hybrids in the Dana collection are *M. Alexandrina*, *grandis*, *Lennei*, *nigra*, *Soulangeana* and *speciosa*. Others are *cyathiformis*, *Norbertiana*, *rustica rubra*,

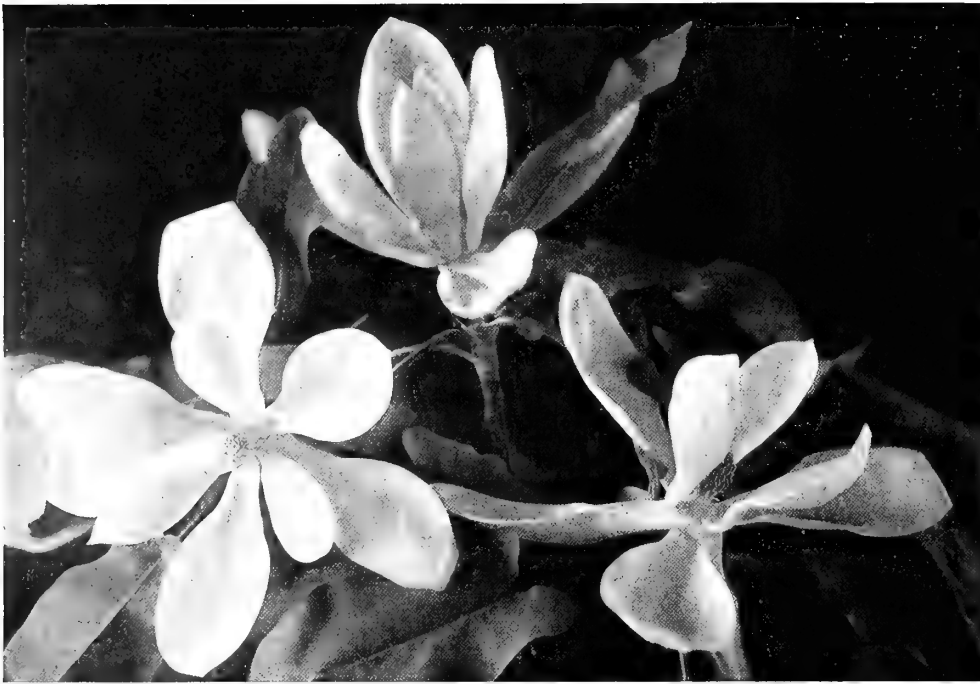
petals are long, narrow, rather pointed and of a deep, rosy purple color.

II. Blooming after the Leaves

These species are not so popular as the preceding, probably because they are later and not so completely covered with flowers. The blossoms are sometimes more or less hidden by the foliage.



The whole tree covered with flowers six inches across on May 5th. *M. Alexandrina*, a hybrid with lighter-colored flowers than *M. Soulangeana*



The ear-lobe magnolia (*M. Fraseri*), which is instantly recognized by the ear-like lobes of the leaf

The large-leaved magnolia (*M. macrophylla*) has both the largest leaves and largest flowers. The blossoms are ten or twelve inches across and the leaves from one to three feet long. Unfortunately, the blossoms have a heavy odor and attract the rose bugs. Also, the leaves are so thin

that they are easily lacerated by the winds. Therefore, the tree must be put in a sheltered spot or it will have a bedraggled appearance. This species has something of a tropical appearance.

The sweet bay (*M. glauca*) is an evergreen tree in the South, but in the North it is a

deciduous shrub. It grows in swamps, where it is so crowded that one rarely sees a perfect specimen. I should like to know whether it is always scraggly in cultivation. Its small white flowers are deliciously fragrant and the plant is easily distinguished from other American species by the silvery under surfaces of the leaves.

The bull bay (*M. grandiflora*), is a magnificent evergreen tree with thick glossy leaves, the under surfaces of which are a beautiful brownish red. Its flowering period is a long one. The blossoms are thick, waxy and emit a sweet perfume.

The umbrella tree (*M. tripetala*), is so called because of the way its leaves are clustered at the ends of the branches. It is a rapid grower. The flowers, though large, are not particularly showy, as they are of a dull, creamy white color. Nevertheless, it is a grand tree and very interesting when in fruit.

The ear-lobed magnolia (*M. Fraseri*), is the only one that has two prominent lobes at the base of each leaf. It has fairly large, creamy yellow flowers and vivid colored fruits.

There are three Japanese species that are particularly attractive because of the bright red stamens in the centre of the flower. These are *M. hypoleuca*, *Watsoni* and *parviflora*. The last two are much alike but *M. parviflora* has large pink sepals. *M. Watsoni* has larger flowers, with brighter stamens and is exceedingly sweet scented. *M. hypoleuca* has the largest flowers of the Japanese species. They are six or seven inches across.

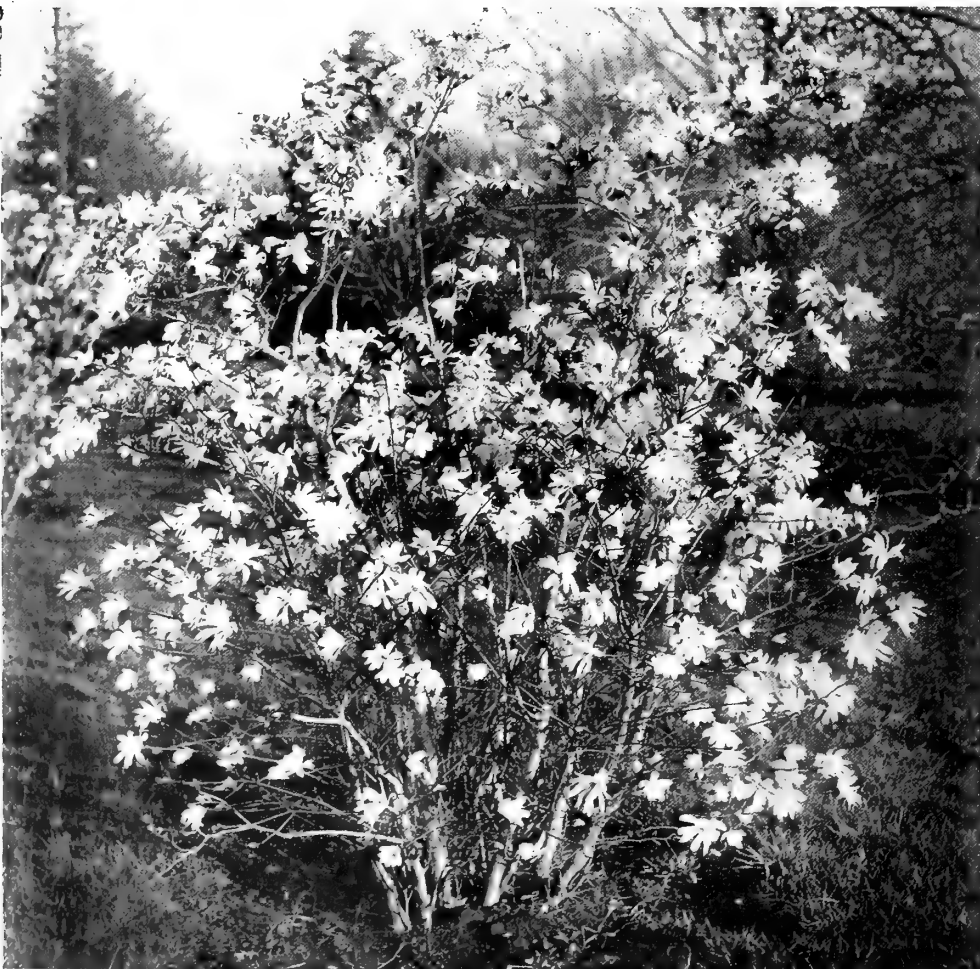
MAGNOLIAS WITH BEAUTIFUL FRUITS

None of the magnolias that bloom before the leaves have strikingly beautiful fruits, as do the later ones. The fruits of *M. tripetala*, *Fraseri*, *macrophylla*, and *hypoleuca* are particularly showy. They are curious, cone like structures, which take on the most lovely rosy tints as they ripen. Later they open and suspend their bright red seeds on delicate white silky threads, the strength of which is marvelous. The fruits of *M. hypoleuca* are perhaps the most vivid of all. The noble specimen in the Dosoris collection fruited last year, for the first time, but it has fruited sparingly during the last three years on Prof. Sargent's place in Brookline, Mass.

Most of the magnolias that blossom before the leaves have little odor in their flowers. The starry magnolia is an exception. All those that bloom with the leaves have a most decided odor, but it is not always pleasant. The sweet bay and bull bay are noted for their sweet perfume and their flowers find a ready sale. The ear-lobed magnolia (*M. Fraseri*) has a delicious fragrance but it is not equal to that of *M. Watsoni*. The odor of *M. hypoleuca* appears rather sweet at first, but after awhile it becomes heavy and sickening. *Magnolia tripetala* and *macrophylla* have much too heavy an odor to be pleasant.

CULTURE OF MAGNOLIAS

Magnolias have one prominent limitation. Their roots are soft, spongy and brittle, and if badly broken, are slow to recover.



The Starry, or Hall's magnolia (*M. stellata*), the only common one with starry, instead of cup-shaped flowers

Consequently, April is the best time to transplant magnolias, as severed roots heal more easily then. The mortality among "cheap" magnolias is very high. The truth is that magnolias do best when moved with a ball of earth, but this is necessarily expensive. The only true economy is to pay the highest retail price and get large specimens each of which is balled and burlapped.

It is a good rule never to ship magnolias in the fall, but it is not a difficult thing to move magnolias from one part of an estate to another in the autumn. If this has to be done, I should prefer to do it in early fall, but Mr. F. W. Barclay states that he moved successfully thirty magnolias in winter at Haverford, Pa., being careful to have a large ball of frozen earth so that none of the roots were broken.

It is a great mistake to try to make an avenue of magnolias, because they vary too much in habit for formal effect. A gentleman near Philadelphia who tried to grow all the hardy kinds in this way, was so dissatisfied with the result that he moved them all out after they had attained considerable size.

When you receive from the nursery any of the species that bloom before the leaves, be sure to remove all the flower buds, as the trees have all they can do to develop their leaf buds the first season. These flower buds are unmistakable. They are at the ends of the branches and large—sometimes two inches long. The leaf buds are small and on side shoots. When removing the flower buds, be careful not to break the wood. It is also wise to cut back or thin out some of the shoots.

Another important precaution is to stake, or stay, newly planted, large or tree-shaped magnolias, for a high wind will move them back and forth enough to disturb the roots greatly.

Magnolias must never be allowed to suffer for water during the summer. You must be particularly careful the first season after planting. Don't sprinkle the surface daily. Anything short of a good soaking will never do. Then mulch the base of the tree to conserve moisture in the ground and keep the roots cool. Use decayed leaves, with strawy material on top to keep them from blowing away.

In winter, also, it is important to mulch them, as the alternate thawing and freezing toward the break-up of winter heaves and breaks the roots of plants.

Plant magnolias in a spot that is sheltered from biting winds, and if you want a cheap form of insurance during the critical first winter, put up a broad shelter on the windward side.

Don't put them on knolls or on the top of a bank. Be sure that there is perfect drainage. They cannot endure any stagnation of water.

Magnolias want rich, deep soil. A rich compost of good loam with some peaty material and sand added is just the thing.

Magnolias can be propagated by seed. It is a good way, but slow. It is best to sow the seeds as soon as they are matured. If that is not convenient, then it is better to



Watson's magnolia, *M. Watsoni*. The red filaments of the stamens make a glorious spot of color

stratify them—i. e., pack them in soil and keep in a cool place. Propagation by green wood cuttings is sometimes advocated, but I believe it is rather an uncertain and unprofitable method. Nevertheless, it is worthy of a trial. July is a good time to get the material. Select a green shoot with a heel or portion of old wood attached. After-

wards, place the cutting in sandy soil, under glass; keep moist and shaded.

Magnolias, like rhododendrons, layer readily. Layering consists in bending down shoots to the ground and there making them firm by pressing soil around. July is a good time of the year for this operation. Leave the shoots undisturbed until the next spring.



The Japan lacquer tree, *Magnolia hypoleuca*. Note the exquisite texture of the leaves. May 10th.



Prune the grape in winter—November to February



The two arms for next season's growth



All the other wood is removed

The Best Grapes for Home Use—By Julian Burroughs, ^{New} York

A FRANK AND VIGOROUS DISCUSSION OF COMPARATIVE MERITS AMONG VARIETIES—SOME FAMOUS MARKET SORTS THAT ARE WORTHLESS FOR THE AMATEUR—THE WHOLE STORY OF GRAPE CULTURE BRIEFLY TOLD

THERE are so very many kinds of grapes listed by nurserymen that a person who has not spent a lifetime in testing them may well become bewildered in trying to make a selection for home use. It takes four years, too, to correct a mistake. Also some very popular market grapes are of little value in the garden, and on the other hand, some grapes never grown for market are a delight to the home-garden. These varieties have been selected regardless of their value as market grapes.

THE BLACK GRAPES

Moore's Early (or Moore) is a widely grown and recommended grape that, like the Champion, Telegraph, and other early market kinds, is scarcely fit to eat. It is a shy and uncertain bearer, sour, dry, and tasteless.

The first good black grape to ripen is Campbell (or Campbell's Early), which is fully as early as the Moore, and a wonderful variety for home use. It is a heavy bearer, large, handsome, tastes like an Emerald Gem muskmelon, and can be left to hang on the

vine until frost. No other early grape can do this. The berry is large, with a tough skin, and young vines have a tendency to produce straggly bunches. As the flavor is very rich, spicy, and aromatic some people do not like it.

Worden, a seedling of the Concord, is the next standard black grape to ripen. It is a heavy bearer, large, very sweet, tender, and juicy. Compared with the high-spiced Campbell it is rather tasteless, but when one is hot and thirsty it is one of the most refreshing of grapes.

In my experience the Herbert makes the best and highest flavored grape juice, but otherwise it is of little use.

The Mills is the latest and longest-keeping and highest-bred black grape we have. In New York State it will keep until Christmas. Many people do not like the Mills, but those that do praise it above all other grapes. It is an American descendant of the Black Hamburg, and has a very compact, meaty, and delicious berry. It is an after-dinner fruit, being essentially a luxury. The vines

require careful spraying and in some places winter protection. The thirty degrees below zero in 1904 froze my Mills to the ground—the first time in twelve years.

Concord is still a standard grape, easy to grow and liked by many people.

WHITE GRAPES

Green Mountain or Winchell is the earliest and sweetest of all grapes. It soon, however, becomes over-ripe and tasteless. It is a most delicate and tender grape, having large bunches with small, thin-skinned berries. Though almost invaluable for the garden a few vines of Green Mountain are enough.

Moore's Diamond is also a handsome, early white grape, spicy and high-flavored. It makes the best white wine of any of our Eastern grapes. A vine or two of this high-bred grape should be in every garden.

In my opinion the queen of all grapes, the handsomest, the most delicious, the most aromatic and the one that pleases the most people is the Niagara. It comes the nearest to being the ideal, all-round grape. The



Prune so as to keep the spur short



After pruning tie the cane with raffia



How a vine should look after pruning

"All intelligent pruning of the grape rests upon the fact that the fruit is borne in a few clusters near the base of the growing shoots of the season, and which spring from wood of last year's growth."—Bailey

aroma of a Niagara vineyard in late September is perceptible for a long distance. Every grape has its champions, but I have yet to find a person who does not like the Niagara. It will hang on the vines until frost and its amber color, aroma, and honey-comb flavor increase with every day. It must have good soil, sweet and well drained, plenty of fertilizer, and thorough spraying. Given this, it makes grapes like the Martha, Pocklington, Empire State, etc., sink into utter insignificance.

RED GRAPES

Among red grapes the Delaware is the best known and most widely grown. Like the Niagara it must have good cultivation and when given this it is a heavy bearer of tender, delicious grapes. It has large, handsome bunches with very small berries and tender skin. The foliage is luxurious and requires careful spraying.

Wyoming Red is a large grape with a strong foxy flavor.

Brighton is also a large grape, tender, insipid, with a most unpleasant color.

Salem, in some localities, makes a good late grape.

The famous Catawba is a late grape and has a strong, piney flavor.

The Vergennes is a late red grape, enormously productive of big solid bunches, and has a very tough skin but a most individual flavor that some people like better than that of any other grape.

Gaertner is the handsomest and highest-bred of any of the red grapes, forming enormous bunches of the most brilliant ruby red. The flavor has a suggestion of cologne and is liked by everyone. It is, unfortunately, one of the most difficult of all grapes to grow. Unless you have good soil and expect to give your grapes good care you should never set out Gaertner. When grown to perfection it creates a sensation whenever shown.

Where properly grown and fertilized a hundred grape vines will yield nearly a ton of grapes year in and year out. Were I to set a hundred vines I would set 50 Niagara, 2 Diamond, 3 Green Mountain, 10 Campbell, 5 Worden, 5 Herbert, 5 Mills, 5 Delaware, 5 Gaertner, 5 Vergennes.

This would leave room to try some of the other kinds. The Gaertners should be scattered among the other vines. If you do not care for grape juice, omit the Herberts.

GRAPE CULTURE IN BRIEF

Grapes require a southern exposure and good, sweet, well-drained soil. Loam and shale agree with them best. Concords can be grown, sometimes, without spraying, fertilizer, or clean cultivation; but to grow large, handsome and well-flavored grapes you must give each vine every year a pound of fertilizer, careful spraying, pruning, trimming, and clean cultivation.

The care required for grapes is insignificant compared with that required for strawberries, and unlike small fruits grapes yield every year and continue to bear from the same vines on the same soil for a hundred years.



"Niagara is the best all 'round grape." It requires a deep, rich, well-drained soil

One part of muriate or sulphate of potash with two parts bone meal, also a little stable manure or a leguminous cover crop, make the best and cheapest fertilizer for grapes. If the soil shows any tendency to get sour add lime. Wood ashes, if used to excess, cause the young wood to grow tender and break badly in June winds. Subsoil drains should be dug before setting out the vines. Get the best vines of a good nurseryman and plant them in the fall or early spring. Set them deep, spreading the roots carefully and covering with surface soil. Put a handful of fertilizer under the roots.

The first year tie the young shoots to a short stake (never grow field crops among grapes). In the fall cut back to the ground, set posts and string wires.

The next summer the best young shoot should be trained up to the top wire and the four arms established.

This is called the Kniffin system of training. Really good grapes were never yet grown on an arbor.

The third summer a very few grapes may be gathered. After that the regular routine

of winter trimming, spring tying, summer pruning, spraying, plowing, and cultivating goes on.

The tying should be loose enough to allow for the summer growth. Bordeaux mixture should not be made too strong, must be kept stirred, and *not* put on while the grapes are in bloom. The June pruning must not be too severe, simply enough to prevent the shoots from entangling and running from one vine into the next.

The plowing must not be too deep, four or five inches being enough. Never girdle.

Young vines must not be allowed to overload. I have often cut off three-fourths of the green grapes on a vine and found even that not enough. The Campbell is especially prone to overload and must be "scissored off" unmercifully. This is also true of the Mills. The best time to take off the extra load is in July. Leave from one to three bunches on a shoot, according to the size of the bunches and age of the vine. Twenty pounds of grapes is a good load for any vine. The poor, ill-formed, and straggly bunches should be, where possible, the ones dropped.



Campbell Concord Gaertner Delaware Niagara Worden Mills

The best seven varieties of grapes for the home fruit garden, according to Mr. Burroughs

A New Way to Select Annuals—By Thomas Murray, Tuxedo, N. Y.

FOLLOW THIS PLAN, INSTEAD OF THE OLD HIT OR MISS WAY, AND YOU WILL SAVE A LOT OF WORK, HAVE MORE CUT FLOWERS, A BETTER DESIGN AND THE BEST COLOR HARMONIES YOU HAVE EVER HAD

THE *wrong* way to make out your seed order is to check off the items in a seed catalogue that happen to strike your fancy and trust to luck that you will use them all and the colors will all gibe. The *right* way is to make a rough pencil sketch of each place where you want flowers and then *aim directly at artistic effects*.

For example, make a sketch of the beds in front of your house. Then decide what permanent vines you will want and locate them in the sketch. Then choose your annual vines, with due thought of color.

Finally, put in your low, or bedding, annuals and your color scheme is complete.

Last April we published a "Classified Planting List for Annuals" showing thirteen special purposes to which certain annuals are adapted, but here is a much better idea, for the following list shows first of all the *five most important objects* which we ought to aim at in buying flower seeds, viz. cut flowers, mass effects, temporary vines, edgings and the beautifying of rough places. Clearly, color is the second most important consideration; season of bloom, the third and height

the fourth. Precisely this order is followed below save that the season of bloom is not given, as that is best supplied from your own garden diary or from the catalogue of the best seedsmen in your vicinity. Instead of season of bloom, which you can get in any catalogue, Mr. Murray gives the *duration of bloom in weeks* which is even more important in helping to save your money and the kind of thing you can never get in catalogues.

Valuable information concerning where to plant and how to grow these annuals will be found on page 176.—THE EDITORS.

THE MOST USEFUL ANNUALS FOR CUTFLOWERS

COMMON NAME	SCIENTIFIC NAME	HEIGHT (inches)	DURATION OF BLOOM (weeks)	COMMON NAME	SCIENTIFIC NAME	HEIGHT (inches)	DURATION OF BLOOM (weeks)
BLUE				WHITE			
Ageratum	<i>Ageratum conyzoides</i>	10	All summer	Giant-flowering snapdragon	<i>Antirrhinum majus</i>	24	Eight
Giant comet aster	<i>Callistephus hortensis</i>	15	Four	White Bentley aster	<i>Callistephus hortensis</i>	24	Four
Victoria aster	<i>Callistephus hortensis</i>	18	Four	Annual chrysanthemum	<i>Chrysanthemum coronarium</i>	18	Twelve
Jubilee aster	<i>Callistephus hortensis</i>	24	Four	Giant-flowering cosmos	<i>Cosmos bipinnatus</i>	48	Six
Cornflower	<i>Centaurea Cyanus</i>	24	Till frost	Baby's breath	<i>Gypsophila paniculata</i>	12	Twelve
Navy Blue sweet pea	<i>Lathyrus odoratus</i>	60	Eight	Emily Henderson sweet pea	<i>Lathyrus odoratus</i>	60	Six
Dwarf lobelia	<i>Lobelia Erinus</i>	6	All summer	Ten weeks stock	<i>Matthiola incana</i> , var. <i>annua</i>	15	Ten
				White swan poppy	<i>Papaver somniferum</i>	24	Five
YELLOW				RED AND SCARLET			
Giant-flowering snapdragon	<i>Antirrhinum majus</i>	24	Eight	Giant aster	<i>Callistephus hortensis</i>	24	Four
Klondyke cosmos	<i>Cosmos sulphureus</i>	48	Six	Jubilee aster	<i>Callistephus hortensis</i>	24	Four
Stella sunflower	<i>Helianthus debilis</i> , var. <i>Stella</i>	36	Ten	Victoria aster	<i>Callistephus hortensis</i>	18	Four
African marigold	<i>Tagetes erecta</i>	24	Twelve	Giant flowering cosmos	<i>Cosmos bipinnatus</i>	48	Six
Tom Thumb nasturtium	<i>Tropæolum minus</i>	12	Twelve	Salopian sweet pea	<i>Lathyrus odoratus</i>	60	Eight
Double Mammoth zinnia	<i>Zinnia elegans</i>	24	Fifteen	Ten weeks stock	<i>Matthiola incana</i> , var. <i>annua</i>	15	Ten
				Bonfire salvia	<i>Salvia splendens</i>	24	Twelve
PINK				LILAC AND PURPLE			
Victoria aster	<i>Callistephus hortensis</i>	18	Four	Peony-flowered aster	<i>Callistephus hortensis</i>	24	Four
Branching aster	<i>Callistephus hortensis</i>	24	Four	Late-branching aster	<i>Callistephus hortensis</i>	24	Four
Jubilee aster	<i>Callistephus hortensis</i>	24	Four	Victoria aster	<i>Callistephus hortensis</i>	18	Four
Clarkia	<i>Clarkia elegans</i>	18	Six	Double purple balsam	<i>Impatiens Balsamina</i>	20	Eight
La Malmaison balsam	<i>Impatiens Balsamina</i>	20	Eight	Ten weeks stock	<i>Matthiola incana</i> , var. <i>annua</i>	15	Ten
Blanche Ferry sweet pea	<i>Lathyrus odoratus</i>	48	Eight	Giant Bluebird petunia	<i>Petunia hybrida</i>	18	Ten
Sander's tobacco	<i>Nicotiana Sanderæ</i>	30	Eight	Carnation-flowered poppy	<i>Papaver somniferum</i> , var. <i>fimbriatum</i>	24	Five
Drummond's phlox	<i>Phlox Drummondii</i>	18	Twelve	Peony-flowered poppy	<i>Papaver somniferum</i> , var. <i>pæoniæflorum</i>	24	Five
Mammoth verbena	<i>Verbena hybrida</i>	12	Ten	Mammoth verbena	<i>Verbena hybrida</i>	12	Ten

THE BEST ANNUALS FOR MASS EFFECTS

BLUE				YELLOW			
Tom Thumb ageratum	<i>Ageratum conyzoides</i>	6	All summer	Dwarf nasturtium	<i>Tropæolum minus</i>	12	Twelve
Amethyst	<i>Browallia demissa</i> (<i>B. elata</i>)	18	All summer	Double Mammoth zinnia	<i>Zinnia elegans</i>	20	Fifteen
Slender lobelia	<i>Lobelia Erinus</i> , var. <i>gracilis</i>	9	All summer				
Crystal Palace lobelia	<i>Lobelia Erinus</i> , var. <i>compacta</i>	6	All summer				
YELLOW				RED AND SCARLET			
Double Sulphur rose moss	<i>Portulaca grandiflora</i>	6	Twelve	Love-lies-bleeding	<i>Amarantus caudatus</i>	30	Ten
African marigold	<i>Tagetes erecta</i>	24	Twelve	Giant snapdragon	<i>Antirrhinum majus</i>	30	Eight
				Globe amaranth	<i>Gomphrina globosa</i>	18	Ten
				Double rose moss	<i>Portulaca grandiflora</i>	6	Twelve

THE BEST ANNUALS FOR MASS EFFECTS—Continued

COMMON NAME	SCIENTIFIC NAME	HEIGHT (inches)	DURATION OF BLOOM (weeks)	COMMON NAME	SCIENTIFIC NAME	HEIGHT (inches)	DURATION OF BLOOM (weeks)
RED AND SCARLET				ROSE AND PINK			
Bonfire salvia	<i>Salvia splendens</i>	18	Twelve	Sander's tobacco	<i>Nicotiana Sanderæ</i>	24	Eight
Mammoth zinnia	<i>Zinnia elegans</i>	20	Fifteen	Annual phlox	<i>Pblox Drummondii</i>	18	Twelve
WHITE				LILAC AND PURPLE			
Sweet alyssum	<i>Alyssum maritimum</i>	12	Twenty	Double purple balsam	<i>Impatiens Balsam-</i>		
Candytuft	<i>Iberis amara</i>	12	Four		<i>ina</i>	20	Eight
Rose moss	<i>Portulaca grandiflora</i>	6	Twelve	Bluebird petunia	<i>Petunia hybrida</i>	12	Ten
Madagascar periwinkle	<i>Vinca rosea</i> , var. <i>alba</i>	15	Twelve	Mammoth purple verbena	<i>Verbena hybrida</i>	12	Ten

THE BEST ANNUALS FOR EDGINGS

WHITE				PINK AND ROSE			
Tom Thumb alyssum	<i>Alyssum maritimum</i>	6	Twenty	Sander's tobacco	<i>Nicotiana Sanderæ</i>	24	Eight
Browallia	<i>Browallia demissa</i> (<i>B. elata</i>)	12	All summer	Double rose moss	<i>Portulaca grandiflora</i>	6	Twelve
Little Prince candytuft	<i>Iberis amara</i>	6	Four	Mammoth verbena	<i>Verbena hybrida</i>	12	Ten
The Bride torenia	<i>Torenia Fournieri</i> , var. <i>alba</i>	9	All summer	Madagascar periwinkle	<i>Vinca rosea</i>	12	Twelve
Madagascar periwinkle	<i>Vinca rosea</i> , var. <i>alba</i>	12	Twelve	YELLOW			
RED AND SCARLET				Dwarf snapdragon	<i>Antirrhinum majus</i>	6	Eight
Dwarf snapdragon	<i>Antirrhinum majus</i>	6	Eight	California poppy	<i>Eschscholzia Californica</i>	12	Three
Drummond's phlox	<i>Pblox Drummondii</i>	15	Twelve	Double rose moss	<i>Portulaca grandiflora</i>	6	Twelve
Double scarlet rose moss	<i>Portulaca grandiflora</i>	6	Twelve	French marigold	<i>Tagetes patula</i>	12	Eight
Mammoth verbena	<i>Verbena hybrida</i>	12	Ten	Golden Gate nasturtium	<i>Tropæolum minus</i>	12	Twelve
BLUE				LILAC AND PURPLE			
Blue Star ageratum	<i>Ageratum conyzoides</i>	6	All summer	Bluebird petunia	<i>Petunia hybrida</i>	12	Ten
Browallia	<i>Browallia demissa</i> (<i>B. elata</i>)	12	Eight	Mammoth verbena	<i>Verbena hybrida</i>	6	Ten
Crystal Palace lobelia	<i>Lobelia Erinus</i> , var. <i>compacta</i>	6	All summer				

THE BEST ANNUALS FOR COVERING ROUGH GROUND

WHITE				PINK AND ROSE			
Tom Thumb alyssum	<i>Alyssum maritimum</i>	6	Twenty	Annual gypsophila	<i>Gypsophila elegans</i>	18	Ten
Browallia	<i>Browallia demissa</i> , var. <i>alba</i> (<i>B. elata</i>)	9	Eight	Shirley poppy	<i>Papaver Rhæas</i> , var. <i>Shirley</i>	15	Four
Little Prince candytuft	<i>Iberis amara</i>	6	Four	Drummond's phlox	<i>Pblox Drummondii</i>	15	Ten
Moonflower	<i>Ipomæa Bona-nox</i>	180	Ten	Double rose moss	<i>Portulaca grandiflora</i>	6	Twelve
Double rose moss	<i>Portulaca grandiflora</i>	6	Twelve	Mammoth verbena	<i>Verbena hybrida</i>	12	Ten
Catch fly	<i>Silene pendula</i> , var. <i>compacta</i>	6		YELLOW			
RED AND SCARLET				Golden Wave calliopsis	<i>Coreopsis Drummondii</i>	18	Twelve
Corn poppy	<i>Papaver Rhæas</i>	12	Five	California poppy	<i>Eschscholzia Californica</i>	12	Four
Double rose moss	<i>Portulaca grandiflora</i>	6	Twelve	Double rose moss	<i>Portulaca grandiflora</i>	6	Twelve
Bonfire salvia	<i>Salvia splendens</i>	15	Twelve	Tom Thumb nasturtium	<i>Tropæolum minus</i>	12	Twelve
Othello nasturtium	<i>Tropæolum minus</i>	8	Twelve	LILAC AND PURPLE			
Mammoth verbena	<i>Verbena hybrida</i>	12	Ten	Giant Admiration petunia	<i>Petunia hybrida</i>	12	Ten
BLUE				Mammoth verbena	<i>Verbena hybrida</i>	12	Ten
Perfection ageratum	<i>Ageratum conyzoides</i>	8	All summer				
Browallia	<i>Browallia demissa</i>	9	Eight				
Slender lobelia	<i>Lobelia Erinus</i> , var. <i>gracilis</i>	9	All summer				

THE BEST ANNUAL VINES FOR COVERING ARBORS AND PIAZZAS

WHITE				MIXED COLORS			
Cobœa	<i>Cobœa scandens</i> , var. <i>alba</i>	30	Eight	Morning glory	<i>Convolvulus tricolor</i>	20	Ten
Moonflower	<i>Ipomæa Bona nox</i>	30	Ten	Japanese hop	<i>Humulus Japonicus</i>	30	For foliage
BLUE				Hyacinth bean	<i>Dolichos Lablab</i>	10	Ten
Cobœa	<i>Cobœa scandens</i>	30	Eight	Cypress vine	<i>Ipomæa Quamoclit</i>	20	Ten
				Gourds	<i>Luffa Ægyptiaca</i>	20	Eight
				Nasturtiums	<i>Tropæolum majus</i>	10	Ten
				Canary-bird vine	<i>Tropæolum peregrinum</i>	8	Ten

Bulbs for April Planting—By Thomas McAdam, ^{New Jersey}

A "ROUND-UP" OF THE "HALF-HARDY" BULBS FOR SUMMER AND AUTUMN BLOOM IN THE GARDEN, WHICH MAY BE PLANTED BEFORE DANGER OF FROST IS PAST—SOME FLOWERS WORTH TRYING IN THE WINDOW GARDEN

Photographs by N. R. Graves and others

MOST of the hardy bulbs are planted in autumn and bloom in spring. The spring-planted bulbs bloom in summer, are taken up in fall and kept in the cellar over winter. The *half-hardy* kinds, i. e., those which may be planted before the danger of

spring and fall by seedsmen as well as nurserymen. It has the largest flowers of all irises—often nine inches across and a superb set of colors.

II. The Half-Hardy Bulbs

THE FIVE MOST IMPORTANT KINDS

Of the half-hardy bulbs for spring planting, the first five are the most popular.

Gladioli are easily the most important flowers mentioned in this article, their only rivals among the summer-blooming bulbs, besides lilies, being cannas and dahlias, which have to be planted later. Gladioli are usually planted about the middle of April near New York, or as soon as the ground is fit to work, and for succession



Gladiolus, the most important spring-planted bulb. Best grown in vegetable garden for cut flowers



The largest-flowered of all irises is the Japanese (*I. laevigata*). Flowers often nine inches across. Not bulbous, but planted in spring as well as fall

until the last of June. It is also a good plan to risk a few of the gladioli a month earlier, or when sweet peas are planted, in order to get the earliest possible flowers. The subject of gladiolus is so important that it is reserved for a separate article. I will merely remark that the interest now centres in Groff's hybrids.

Next to the gladiolus in historical importance is the florists' anemone (*A. coronaria*), but this has never become popular in the United States because its outdoor culture is too particular. It has the widest range of color among anemones, and differs from the other plants here mentioned in being a spring flower, but its curious flat tubers will not survive our Northern winters, though they are commonly offered in both fall and

spring catalogues. These anemones have remarkably pure reds and blues, and were long ago brought to a high pitch of perfection by European florists. They are still forced occasionally for sale in March or April, but I doubt whether any American has had continuous successful experience with them in the garden. If so, THE GARDEN MAGAZINE would be glad to hear about it, as the only satisfactory way we know of raising them is by the aid of coldframes.

The red-hot poker plant (*Tritoma Uvaria*), is one of the most peculiar and interesting plants in the vegetable kingdom. It has bright orange-red, tubular flowers crowded into a spike four to six inches long, which crowns a naked stalk three or four feet high. The correct name of this plant is *Kniphofia aloides*, and "torch lily" is a better popular name for it, being quite distinctive and less vulgar. There are at least twenty-five horticultural varieties advertised by the Dutch bulb dealers, but how much variation there is in season of bloom and size of flowers does not appear in horticultural literature. The colors range from whitish and pale yellow through yellow and orange to brick red, but there is probably no red as intense as that of the scarlet sage. It is to be hoped that some American amateur will grow all these varieties and report upon their relative merits. Probably the most valuable is *Pfitzerii*, which is called the ever-blooming torch-lily. There are two drawbacks to the torch-lily. It will not usually survive the winters as far north as New York. It naturally blooms late and has a short season. However, its season has been greatly extended



Golden-banded lily (*Lilium auratum*). Often planted in spring. Most gorgeous lily, but short-lived

frost is past, are treated in this article. The *tender* kinds, such as cannas and dahlias, which are best planted after the danger of frost is past, will be described in May.

I. The Hardy Bulbs

The only important *hardy* bulbs that are commonly offered in spring are certain lilies, but there can be no question that September and October are the best months for planting them. All lily bulbs are soft and sappy and they lose a great deal of vitality in the winter if stored in a warm, dry place. An American specialist who grows lily bulbs commercially tells me he stores them in moist sphagnum moss which keeps them from drying out. He declares that many of his customers report success from spring planting. Nevertheless, the only reason for planting lilies in the spring is that you have forgotten to do so in the fall, and it would be unwise to risk any large sum of money on spring-planted lilies. The favorite lilies for spring planting seem to be *auratum*, *longiflorum*, *speciosum* and *tigrinum*.

The Japan iris is not a bulbous, but a rhizomatous species. It is, however, often classed with hardy bulbs and is sold both

in recent years, and the ever-blooming variety, with good management, will give scattering flowers from July until frost.

Everybody knows, or ought to know, the cinnamon vine (*Dioscorea divaricata*), so called because of the cinnamon-like fragrance of its small white flowers. It is chiefly valued, however, for the rapidity of its growth and beauty of its heart-shaped leaves. It is a twiner which grows from ten to thirty feet in a season. This interesting plant is really a variety of the yam, or Chinese potato, and although a native of the Philippines, it is tolerably hardy in New York. It bears little tubers in the axils of the leaves and these are what we plant to produce the vine. It is not until the second year that the large roots or yams are produced. Its nearest alliance is to the lily family. It is excellent for porch decoration and the roots are easily stored over winter in the cellar.

The summer hyacinth (*Galtonia candidans*), is disappointing if grown singly, but very effective in masses. It belongs to the lily family and has small white, six-parted flowers shaped like a hyacinth, but in a larger and looser cluster. It grows about two and one-half to four feet high and bears from twelve to twenty of its fragrant flowers in a raceme. Although it comes from South Africa, it is hardy in New York and tolerably so in New England when heavily covered.

The following are interesting, but of minor importance.

BULBS OF THE LILY FAMILY

The Mexican star (*Milla biflora*), has fragrant, waxy white, salver-shaped flowers about two inches across and grows from six to eighteen inches high. It can be grown in gardens for summer bloom, but is probably commoner as a window plant for late winter and early spring bloom, being treated like *Freesia*.

The coral drops (*Bessera elegans*), has umbels of pendulous flowers which are

vermillion outside and have a white cup inside with long purple stamens. There are usually four to ten flowers in an umbel. A strong variety will sometimes send up six to ten stalks with ten to twenty flowers in an umbel. This plant grows one or two feet high and is said to bloom for two months in late summer or early autumn.

BULBS OF THE AMARYLLIS FAMILY

The rain lily and evening star (*Cooperia pedunculata* and *Drummondii*), have waxy white, fragrant, solitary flowers about two inches across and are often tinged red outside. They are natives of Texas, where they spring up in three days after a rain. There is a full account of them in *THE GARDEN MAGAZINE* for June, 1906, page 273.

The zephyr flowers (*Zephyranthes*), are probably more grown in windows than in



Another unusual picture showing a singular stage in the development of the Montbretia flower

gardens. The Atamasco lily (*Z. Atamasco*), is a white-flowered, spring-blooming species, native to the southern United States. Its flowers are about three inches long and appear from March to June. The best autumn-blooming species with white flowers is *Z. candida*, with flowers one and a half to two inches long; the best yellow-flowered species is *Z. Andersonii*; the best rosy-flowered species is *Z. carinata*, a summer-blooming species with flowers two and one-half to four and one-half inches across. This description should be carefully compared with the plant commonly offered under the name of *Z. rosea*, which, according to books, has flowers that are only one and one-half inches broad. The zephyr lilies are all natives of South America and cannot stand any frost.

The Alstroemerias are interesting because they have the colors of a parrot—red, green and yellow. Unlike most South American plants, they will survive our northern winters



The torch lily or red-hot poker plant. A splendid scarlet-orange flower. The best variety is the Ever-blooming (*Tritoma Pfitzeri*)

if heavily covered with leaves, but they multiply so rapidly that it is better to lift them every year and replant them. They have tubers attached to a common stem something like a sweet potato, and demand partial shade and an abundance of water at all times of the year. Plant the bulbs six inches deep. Some of the species commonly offered by northern seedsmen are *aurantiaca*, *Brasiliensis* and *Chilensis*.

BULBS OF THE IRIS FAMILY

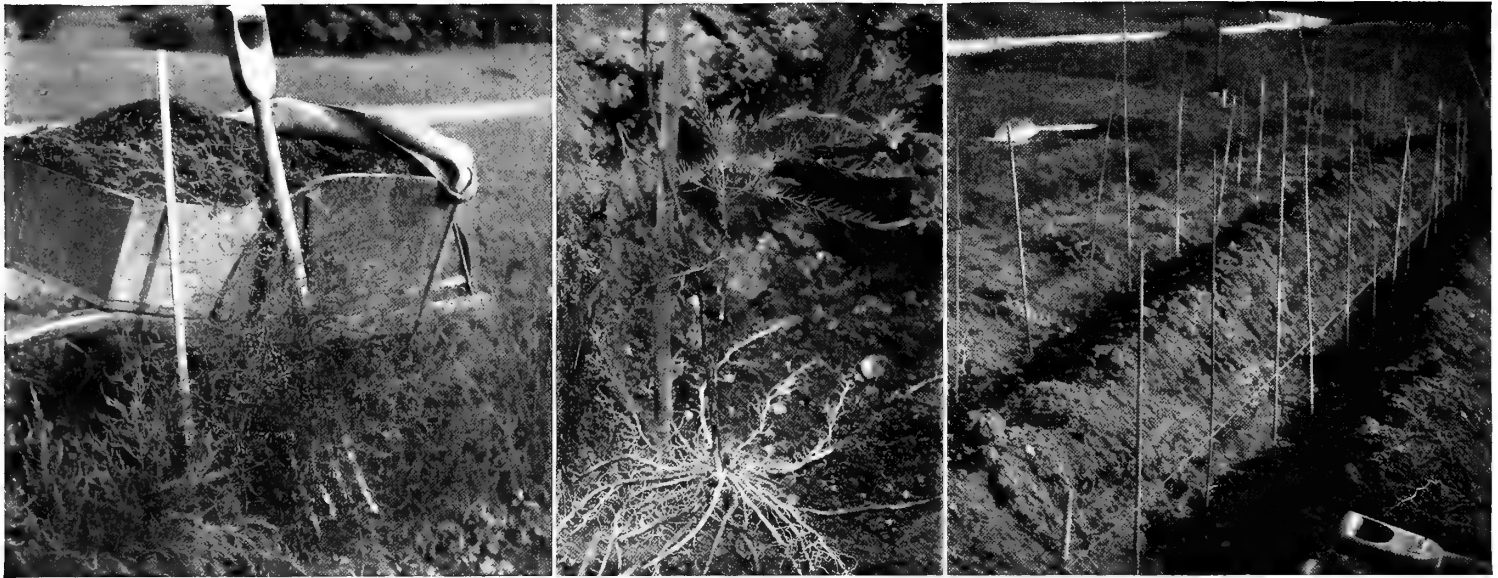
The most popular plant in the group is Montbretia, which has numerous orange-red flowers, and is interesting as being a bi-generic hybrid (its parents being *Crocus aurea* and *Tritonia Pottsii*). Its correct name is *Tritonia crocosmaeflora*. This plant may be heavily mulched and left in the ground all winter, but the flowers are much better if the plants are lifted every fall and stored in damp earth indoors over winter.

I have never heard of any white gladiolus of prime merit, and, indeed, white is a rare color in the iris family, but there is a plant which might be called a white gladiolus which is known to the trade as *Watsonia Ardernei*. Its correct name, however, is *Watsonii iridifolia*, var. *O'Brieni*. This grows three to four feet high and bears about a dozen flowers, each two inches across. This is treated exactly like gladiolus in California, but here must be raised under glass.

There is a charming little flower from Abyssinia called *Acidanthera bicolor*, which has gladiolus-like foliage and fragrant white flowers about two inches across with a large triangular blotch in the centre. The flower tubes are about six inches long. This plant grows about two feet high and blooms in July or August. Keep the bulbs warm and dry through winter.



An unusual picture of Montbretia, showing its delicate beauty in fruit



A year-old asparagus plant in flower. Do not allow the plants to make seed

Set each plant on a little mound about one inch high

Trench ready for planting. The bamboo stakes are set to plant and tie to

Slow but Sure Asparagus Culture—By Allen French, Massachusetts

RAISING ASPARAGUS FROM SEED INSTEAD OF SQUANDERING MONEY, AS HUNDREDS OF INEXPERIENCED PEOPLE DO, ON TWO- OR THREE-YEAR-OLD ROOTS, WHICH WILL NEVER GIVE AS GOOD RESULTS

ASPARAGUS, our best early vegetable and our longest-lived, is commonly set out from roots bought of a seedsman or nurseryman. There are, however, advantages in growing plants from seed. Well fertilized and well watered from the start they will be much stronger than if grown under ordinary conditions of field culture, and will thus better resist rust. Again, most of our seedsmen offer for sale only two-year-old roots, while some even urge three-year-old roots upon the purchaser. Now it has been established by conclusive tests that asparagus does best when set out from one-year-old roots, and that in a very few years the weight of the crop will be considerably larger than that from older roots. Under these circumstances it is wise to raise the plants from seed.

It is the old custom to sow about an ounce of seed to sixty feet of drill, and to let the plants grow without thinning. But here it is well to consider the habit of the plant, as illustrated in the photographs. The vital part is the crown, a bulb-like central portion, which, so long as the plant continues to grow, adds others to itself. From the base of the crowns spring the shoots.

The crown and shoots are fed by thick storage-roots, which in turn are maintained by the small feeding-roots. All of these parts are delicate and brittle. It is the storage-roots which make possible the continuous spring cutting, and which allow the easy transplanting of asparagus.

SEEDS SLOW IN STARTING

The seeds are slow of germination, and in a late spring will sometimes require twenty days before they send up shoots. The plant, while still clinging to its seed, at once forms its crown, and is early capable of sending up a second shoot if the first is broken off. In thinning, therefore, it is

not sufficient merely to pull the shoot in order to destroy the plant: the crown must come up also. Moreover, before many weeks the plant of its own accord sends up a second shoot, and where there are several roots in the space of an inch their shoots will so mingle together that the plants cannot be distinguished from above ground. The work of thinning such thickly sown plants, if not early and savagely prosecuted, thus becomes impossible without digging out the crowns.

Plant the seed "when the ground is fit," that is, as soon as the frost is out and the soil sufficiently dry to be workable. The time will thus vary with the soil and the season, from the first to the third week in April, or in northerly localities later still. Asparagus may thus be sowed with the other early seeds, as soon as the ground has been turned over and smoothed off. If the planting has been delayed, some time may be gained by soaking the seed from one to two days.

The seed should be the best that can be got. As to variety, it will be well to choose one that has done well in the locality. That most desirable thing, a rust-proof variety,



An asparagus root at the end of the first season from seed—two feet across



Plants stunted by crowding—nine plants in five inches. Plant only the larger ones

has yet to be found, and though breeding experiments are in progress, nothing positive has been accomplished.

Sow the seed an inch apart (which will mean about three hundred feet to the ounce) and an inch deep; if but half of it sprouts, a poor percentage, it will even then have to be thinned.

The germination being delayed by cold nights, plants will come up in ten to twenty days. Thin the plants as soon as they can be handled, not more than a week after they appear. Thin to at least three inches apart, better to six, and if possible to nine inches or a foot. At three inches the tops and roots will both interfere. At six inches the tops will do well enough, but the roots will cross and occasionally pierce each other. But at a foot the plants will scarcely trespass; therefore if there is so much space for them give it.

Throughout the growing season the plants should be well fertilized; asparagus can scarcely be overfed. In any drought the plants should be watered; regular irrigation in the best possible thing for them. In the meantime prepare, as deeply and richly as possible, the soil for the permanent bed. Asparagus will send its roots as deeply as it has any encouragement, six feet and more; at the same time it is able to support itself entirely by its lateral feeding roots, and the expense of deep preparation and deep setting is now considered unwarranted. As to depth of setting, it is now usual to set the crowns an inch or two below the depth of ordinary cultivation, seven to nine inches down.

WHEN TO TRANSPLANT

In mild climates plants may be transplanted in the first fall, but usually it is best to do the work in the second spring. Dig the roots up carefully with a fork, first loosening the earth at least a foot away from the row on both sides. The trenches should be already prepared, of the desired depth and a foot wide at the bottom, so that the plants can be set immediately, a few at a time as they are dug, with the least possible exposure to sun and wind. It is well, by the way, not to dig the plants until the shoots have started, in order to be able to discard any which were winter-killed. Transplanting may even be delayed until the shoots have leaved out, but this of course is not

to be advised. The rows should be from three to six feet apart; four feet is plenty for a hand-cultivated garden. The plants in the row should be two feet apart if possible, and 150 of them will, when in full bearing, yield three or more bunches a day.

Careful selection of the roots is of importance. Choose those which have thick storage-roots and whose crowns are larger than the average, even if they may be fewer. They will send out large stalks, and are to be preferred to those which will send out more but smaller shoots. In growing seedlings it is therefore wise to have twice as many as will be needed, in order to be able to choose only the large, coarse-growing plants.

In the trench set each root upon a little mound, an inch or less high, made by the hand. Spread out the roots so as not to interfere with each other, firm the earth over them to a depth of three inches, give a quart of water if possible, to settle the earth, and when it has drained away mulch lightly with dry soil. This will take less than a minute to each plant, and the time is well bestowed. It is a French habit, and a good one, to set a stake beside each plant (set it first, so as not to injure the roots) and to tie the shoots to it as they grow, lest by moving in the wind they keep the crown loose in the earth.

Finally, fill in the trench, while cultivating during the summer, until in the fall the ground is level. Such is the best gardening method of raising and setting asparagus roots.

FOR EARLIER RESULTS

There is another way, which with less labor will give earlier results, although for the first year the work is greater. By this method the plants are sown where they are to stand.

Make the trenches as before, but a little deeper; scatter in fertilizer or work manure into the subsoil; cover this with an inch of



Plants ready for setting. By letting them start those winter-killed can be discarded

loam, sow the seed at generous distances, and cover about an inch. Thin as before, to the permanent spacing, and fill in the trenches as the plants grow; when the tops are dead and pulled, level off the bed. By this method there will be no transplanting at the period of spring rush, and the plants will send up much larger shoots. And one of the best results will be in the rust-resisting power of the plants. In my own bed I found that while my shallow-sown plants, well fed as they were, showed signs of rust by mid-September (and that is a good record) my deep-sown plants remained green till their tops were killed by frost. This was probably due to the more certain water supply, but it says much for the method. Selection of the more vigorous plants is quite possible, if the seed is sparsely sown, by delaying thinning until the plants are growing well, and show their characteristics.



The difference between shallow-sown and deep-sown seed. The back row, shallow-sown, became badly rusted about the middle of September; the front row, sown eight inches deep, was immune

Tested Planting Tables for

THE FIRST CULTURAL DIRECTIONS IN TABULAR FORM EVER VERIFIED
TION OF VEGETABLES AND MORE KINDS OF INFORMATION AVAILABLE

Hardy vegetables are those which will endure frost and for the early crop they may be planted by March 15th near New York, but outdoors until all danger of frost is past, e. g. May 10th. *Half-hardy* vegetables may be planted a week before all danger of frost is past,

Part I. Planning

NAME	IN ¼ ACRE GARDEN PLANT (square feet)	HILLS OR DRILLS	DISTANCE BETWEEN ROWS (inches)	DISTANCE BETWEEN PLANTS (inches)	SEED PER 100 FT. ROW	YIELD FOR 100 FT. ROW	READY TO EAT (days)	CONTINUE IN BEARING (days)	SUCCESSION CROPS
<i>Hardy</i>									
Beet	100	D	12 to 18	6 to 10	2 ounces	1 to 1½ bushels	50 to 150	Early var. 30 Late all winter	Various
Cabbage	200	D	30 to 42	20 to 24	¼ ounce	50 heads	Early 100 Late 150		Lettuce or plants follow an early crop
Carrot	100	D	12 to 18	4 to 6	1 ounce	1 to 1½ bushels	70 to 120	Early varieties 30	
Cauliflower	200	D	30	18	¼ ounce	75 heads	105 to 115		Usually follows an early crop
Celery	300	D	24 to 72	6 to 12	⅓ ounce	100 to 200 heads	160 to 175	Early varieties 30	Follows an early crop
Lettuce	40	D	18	6 to 12	¼ ounce	100 to 200 heads and thinnings	21 to 65	14	Various, either as suc- cessors or companion
Onion	100	D	12 to 20	½ to 3	⅓ to 1 ounce	⅓ bushel	100 to 150		
Parsnip	100	D	15 to 18	4 to 6	½ ounce	200	125 to 140	Keeps all winter	None
Pea	100	D	24 to 48	1 to 2	1 quart	1 to 3 bushels in pods	36 to 80	10 to 15 (2 or 3 pickings)	Corn, celery cabbage
Potato	3500	D	36 to 42	12 to 18	2 quarts cut to eyes	1 to 1½ bushels	80 to 140		
Radish	50	D	6 to 12	1 to 3	1 ounce	30 to 50 bunches	25 to 45	7 to 14	Various, usually grown as companion crop
Turnip, flat	100	D	12 to 18	3 to 8	½ ounce	1½ to 3 bushels	45 to 70	Early crop 30	Various, and some- times broadcast
<i>Half-hardy</i>									
Beans, bush	500	D	18 to 36	3 to 6	1 quart	⅔ to 1½ bushels	45 to 90	14 to 28	Squash
Corn, sweet	3000	H	36 to 48	36 to 48	⅓ to 1 gill	100 to 150 ears	60 to 95	10 to 20	
<i>Tender</i>									
Beans, pole	500	H	36 to 48	36 to 48	1 pint	1 to 1½ bushels	110 to 120	Until frost	
Cucumber	150	H	48	48	½ to 2 ounce	30 to 75 per hill	50 to 75	14 to 42	
Muskmelon	200	H	48 to 72	48 to 72	½ ounce	90 fruits	90 to 140	Until frost	
Pepper	40	D	18	12 to 24		100 to 500 fruits	135 to 160	Until frost	
Squash, summer	150	H	48 to 60	48 to 60	1 ounce	6 to 12 fruits per plant	55 to 65	42	Beans
Squash, winter	400	H	72 to 96	96 to 240	2 ounces	150 to 400 lbs.	115 to 125	Until frost	
Tomato	150	H	36 to 60	36 to 72		5 to 10 lbs. per plant	90 to 150	Until frost	
Watermelon	250	H	96 to 120	96 to 120	½ ounce	3 to 6 per plant		Until frost	

Vegetables—By C. L. Brown, Somerville, Mass.

IN EVERY PARTICULAR BY ACTUAL EXPERIMENT—A NEW CLASSIFICATION FOR READY REFERENCE THAN IN ANYTHING YET PUBLISHED

the main crops are planted April 15th, or when the trees leaf out. *Tender* vegetables are injured by even a slight frost and are not sown or May 1st. In reckoning dates, allow six days difference for every hundred miles of latitude. North of New York later, south earlier.

Part II. Planting and Cultivating

NAME	DEPTH TO PLANT SEED (inches)	HOW FAR APART (inches)	PLANTING		WHEN TO THIN	SPECIAL DIRECTIONS
			FIRST	LAST		
Beet	1 to 2	$\frac{1}{2}$	April	July	Gradually for greens	Like deep, cool, rich soil. Dig before frost and pack in sand. Use some thinnings for greens; transplant others.
Cabbage	$\frac{1}{4}$ to $\frac{3}{4}$	1, closer in seed bed	March 1	June 15th	When fourth leaf 1 inch long	Cool, moist, heavy soil, much manure, some lime. Savoy best flavored variety. Check bursting by breaking part of roots.
Carrot	$\frac{1}{2}$	$\frac{1}{2}$	April	June	2 in. high	Plant radish seeds with carrots to break crust for latter. Keep weeds out or there will be trouble.
Cauliflower	$\frac{1}{4}$ to $\frac{3}{4}$	1, closer in seed bed	April	June	When fourth leaf 1 inch long	Will not head in hot midseason. Plant for early or late. Tie leaves when plants are 4 or 5 inches across.
Celery	$\frac{1}{4}$ to $\frac{1}{2}$	1, closer in seed bed	April		Transplant every 2 in. in growth	Needs cool, moist, rich land. Never hoe or bank when wet and don't let earth touch "heart" of plant.
Lettuce	$\frac{1}{8}$	1	April	Aug. 31st	As leaves become large enough to eat	Buy plants for early. Start in seed bed. Use as filler. Shade in hot weather. Heading kinds have best flavor.
Onion	$\frac{1}{4}$	$\frac{1}{4}$	April	July	3 in. high	Best soil. Earliest grown from sets. Will crowd one another out and make good size if left one-half inch apart.
Parsnip	1	$\frac{1}{2}$	April		2 in. high	Plant radish seed to break crust for parsnips. In fall take up enough for winter; leave rest in ground.
Pea	Early 1 Late 2 to 6	1 to 2	April	July 20th	3 in. high	Plant smooth varieties in light soil for early; wrinkled in heavier soil for late. Plant three kinds or sow every ten days.
Potato	Early 2 Late 4	12 to 18	April	June		For early crop, sprout before planting and set shallow. For late crop, fill trench as plants grow. Level culture best.
Radish	$\frac{1}{2}$	$\frac{1}{2}$	April	June	1 in. high	Light, sandy soil. Cool weather crop. Shade in midsummer. Sow between other crops or in beds by themselves.
Turnip, flat	$\frac{1}{2}$	1	April	Aug. 15th	Gradually and eat	Sandy, moist, cool soil. Won't stand hard freezing. Store for winter in moist, not wet, sand in frost-proof cellar.
Bean, bush	2	1	May	July	When $\frac{1}{2}$ ft. high	Don't cultivate when soil is wet or beans will rust. To prolong crop allow no seeds to ripen.
Corn, sweet	1 to 2	6 or 7 kernels to allow for rotting	May	July	When 6 in. high	Needs warm, rich soil and warm nights. Plant three varieties first and early kinds every ten days after.
Bean, pole	2	12 seeds to hill	May 10th	July	When 6 to 12 inches high	Before planting set poles 6 to 8 feet long firmly in centre of hills. Plant limas with the eye down.
Cucumber	1 to 2	12 seeds to hill	May 20th	July	After striped beetle disappears	Transplant when fourth leaf is well out. Let no fruit go to seed. Plant every two weeks for succession.
Muskmelon	1	12 seeds to hill 2 in. apart	May 20th	July	After striped beetle disappears	Needs long, warm season for high flavor. Start in sod or paper pots indoors. Never cultivate when leaves are wet.
Pepper			Set plants May 20th to June 20th			Buy plants of sweet or salad varieties, not red hot kinds, e.g. Sweet Bell or Ruby King.
Squash, summer	1 to 2	12 seeds to hill	May 15th		After bugs disappear	Bush kinds, e.g. scalloped and Summer Crooknecked. For earliest, start a few on inverted sods in coldframes.
Squash, winter	1 to 2	12 seeds to hill	May 20th		After bugs disappear	Vine kinds. Set all vine crop seeds edgewise with eyes down in deep, warm, light, rich soil.
Tomato	Set plants deep		Set plants May 20th to June 20th			Buy plants. Tie to trellis or fruits will rot. Before frost pull vines and let fruit ripen in cellar or barn.
Watermelon	1	12 seeds to hill 2 in. apart	May 15th		After bugs disappear	Need rich, sandy soil, and long, hot season. Get varieties adapted to North.



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Part I. Planning

NAME	IN 4 ACRES GARDEN PLANT (square feet)	HILLS OR DRILLS	DISTANCE BETWEEN ROWS (inches)	DISTANCE BETWEEN PLANTS (inches)	SEED PER 100 FT. ROW	YIELD FOR 100 FT. ROW	READY TO FAT (days)	CONTINUE IN BEARING (days)	SUCCESSION
									CROPS
<i>Hardy</i>									
Beet	100	D	12 to 18	6 to 10	2 ounces	1 to 1½ bushels	50 to 150	Early var. 30 Late all winter	Various
Cabbage	200	D	30 to 42	20 to 24	½ ounce	50 heads	Early 100 Late 150		Lettuce or plants follow an early crop
Carrot	100	D	12 to 18	4 to 6	1 ounce	1 to 1½ bushels	70 to 120	Early varieties 30	
Cauliflower	200	D	30	18	½ ounce	75 heads	105 to 115		Usually follows an early crop
Celery	300	D	24 to 72	6 to 12	½ ounce	100 to 200 heads	160 to 175	Early varieties 30	Follows an early crop
Lettuce	40	D	18	6 to 12	½ ounce	100 to 200 heads and thinnings	21 to 65	14	Various, either as suc- cessors or companion
Onion	100	D	12 to 20	½ to 3	½ to 1 ounce	½ bushel	100 to 150		
Parsnip	100	D	15 to 18	4 to 6	½ ounce	200	125 to 140	Keeps all winter	None
Pea	100	D	24 to 48	1 to 2	1 quart	1 to 3 bushels in pods	36 to 80	10 to 15 (2 or 3 pickings)	Corn, celery cabbage
Potato	3500	D	36 to 42	12 to 18	2 quarts cut to eyes	1 to 1½ bushels	80 to 140		
Radish	50	D	6 to 12	1 to 3	1 ounce	30 to 50 bunches	25 to 45	7 to 14	Various, usually grown as companion crop
Turnip, flat	100	D	12 to 18	3 to 8	½ ounce	1½ to 3 bushels	45 to 70	Early crop 30	Various, and some- times broadcast
<i>Half-hardy</i>									
Beans, bush	500	D	18 to 36	3 to 6	1 quart	¾ to 1½ bushels	45 to 90	14 to 28	Squash
Corn, sweet	3000	H	36 to 48	36 to 48	½ to 1 gill	100 to 150 ears	60 to 95	10 to 20	
<i>Tender</i>									
Peas, pole	500	H	36 to 48	36 to 48	1 pint	1 to 1½ bushels	110 to 120	Until frost	
Cucumber	150	H	48	48	½ to 2 ounce	30 to 75 per hill	50 to 75	14 to 42	
Muskmelon	200	H	48 to 72	48 to 72	½ ounce	90 fruits	90 to 140	Until frost	
Pepper	40	D	18	12 to 24		100 to 500 fruits	135 to 160	Until frost	
Squash, summer	150	H	48 to 60	48 to 60	1 ounce	6 to 12 fruits per plant	55 to 65	42	Beans
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			FIRST	LAST		
Beet	1 to 2	½	April	July	Gradually for greens	Like deep, cool, rich soil. Dig before frost and pack in sand. Use some thinnings for greens; transplant others.
Cabbage	¼ to ¾	1, closer in seed bed	March 1	June 15th	When fourth leaf 1 inch long	Cool, moist, heavy soil, much manure, some lime. Savoy best flavored variety. Check bursting by breaking part of roots.
Carrot	½	½	April	June	2 in. high	Plant radish seeds with carrots to break crust for latter. Keep weeds out or there will be trouble.
Cauliflower	¼ to ¾	1, closer in seed bed	April	June	When fourth leaf 1 inch long	Will not head in hot midseason. Plant for early or late. Tie leaves when plants are 4 or 5 inches across.
Celery	¼ to ½	1, closer in seed bed	April		Transplant every 2 in. in growth	Needs cool, moist, rich land. Never hoe or bank when wet and don't let earth touch "heart" of plant.
Lettuce	½	1	April	Aug. 31st	As leaves become large enough to eat	Buy plants for early. Start in seed bed. Use as filler. Shade in hot weather. Heading kinds have best flavor.
Onion	¼	¼	April	July	3 in. high	Best soil. Earliest grown from sets. Will crowd one another out and make good size if left one-half inch apart.
Parsnip	1	½	April		2 in. high	Plant radish seed to break crust for parsnips. In fall take up enough for winter; leave rest in ground.
Pea	Early 1 Late 2 to 6	1 to 2	April	July 20th	3 in. high	Plant smooth varieties in light soil for early; wrinkled in heavier soil for late. Plant three kinds or sow every ten days.
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Radish	½	½	April	June	1 in. high	Light, sandy soil. Cool weather crop. Shade in midsummer. Sow between other crops or in beds by themselves.
Turnip, flat	½	1	April	Aug. 15th	Gradually and eat	Sandy, moist, cool soil. Won't stand hard freezing. Store for winter in moist, not wet, sand in frost-proof cellar.
Bean, bush	2	1	May	July	When ½ ft. high	Don't cultivate when soil is wet or beans will rust. To pro- long crop allow no seeds to ripen.
Corn, sweet	1 to 2	6 or 7 kernels to allow for rotting	May	July	When 6 in. high	Needs warm, rich soil and warm nights. Plant three varieties first and early kinds every ten days after.
Bean, pole	2	12 seeds to hill	May 10th	July	When 6 to 12 inches high	Before planting set poles 6 to 8 feet long firmly in centre of hills. Plant limas with the eye down.
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Tomato	Set plants deep		Set plants May 20th to June 20th			Buy plants. Tie to trellis or fruits will rot. Before frost pull vines and let fruit ripen in cellar or barn.
Watermelon	1	12 seeds to hill 2 in. apart	May 15th		After bugs dis- appear	Need rich, sandy soil, and long, hot season. Get varieties adapted to North.



Improving the lawn and gathering salad at the same time. The dandelion will creep into it, do what you will. Use a long-bladed knife, insert it well below the crown of the plant and pull up the top. Do this as early as it is possible to work on the lawn

Restoring a Run-down Lawn—By Leonard Barron, ^{New York}

THE PHILOSOPHY OF ROLLING LAWNS AND THE FINE ART OF FEEDING AND MAINTAINING THEM—HOW TO ROOT OUT WEEDS AND KEEP THEM OUT—APRIL INSURANCE AGAINST AUGUST DROUGHT

ONE day's work in April will do more toward putting a lawn into thoroughly good condition than will a week's work in June. The lawn demands attention as early as possible in the season, because the young grass plants start into growth almost as soon as the frost is out of the ground, and being shallow rooters, they generally suffer very largely from heaving of the soil in winter owing to the alternate freezing and thawing.

THE ONE GREAT RULE

The very first thing to be done is to see that the roots are brought into close contact with the soil. Even if nothing else is done, this will accomplish much, the chief great benefit of which will be fully realized when the hot, dry weather of August sets in with all its intensity.

The roots and soil can be brought into contact by beating or by rolling. Rolling is perhaps best. The ground being still soft in the very early spring, beating may result in irregularities of surface which, to a large extent, can be obviated through rolling. I would not use too heavy a roller. A light draught roller, such as one can pull

without any effort, should be taken over the entire surface of the grounds at the earliest possible date, and if you can do it two or three times, it will be all the better.

HOW WINTER ACTS

Usually the most visible effect of the winter stress upon the lawn is the presence of patches of earth from which the grass has died out. Repair all such by slightly scratching the surface, scattering over it a light covering of finely sifted garden soil—a soil that has been thrown out from greenhouse benches would be ideal for the purpose. Then lightly scatter on the surface a pinch or two of seed of any first-class lawn mixture. The surface should then be lightly rolled so as to insure perfect contact between the seeds and the soil and at this time of year germination is both quick and sure. Where the grass appears unduly thin, as often occurs on insufficiently prepared land, the best temporary relief is obtained by scratching the entire surface with a sharp-toothed iron rake, broadcasting over the whole surface a light dressing of the same sort of soil that might be used for filling in hollows, and

sowing seed on the top of this, using about one-quarter of the quantity of seed that would be used in making new lawns. That is to say, give a pint of seed to 600 square feet. On very poor soils, or where the stand of grass has been unusually bad, double this quantity can be used.

FILLING IN HOLLOWES

Depressions and hollows in the surface which result from the irregular sinking and settling of the soil below are far better repaired in the spring than at any other time of the year, although the careful lawn-master will be at all times on the lookout and ready to fill up, or even up, any irregularities of the surface that appear. The perfection of a lawn is its absolutely even surface.

Where there is a good growth of grass, slight depressions may be filled up by putting soil on top of the grass, but in no case should more than one-half inch be applied in this way. Any greater depression must be remedied by making a clean cut in the sod, with a spade, and then with a sharp spading fork, working under the sod, gradually raised up a portion, leaving a space that can be filled

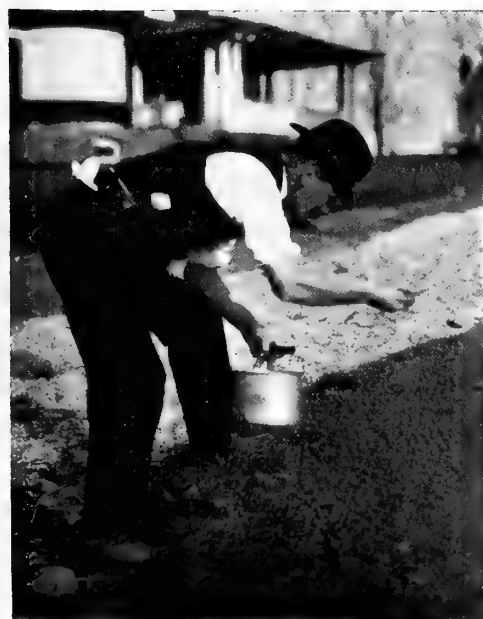
in with new soil sufficient to hold the turf at the desired level. Withdrawing the spade after distributing the soil, the piece of loosened turf should be firmly beaten into contact with the new soil, so that the growth may be renewed immediately.

A heavy roller, let it be as heavy as you can possibly work, can be used on grass to very great advantage after the growth has once thoroughly started.

The cause of all the trouble with most lawns is that the ground has not been sufficiently prepared; that it has not been fertilized, and that it has not been trenched to sufficient depth to give the roots of the grass all the chances they need to grow. Under these conditions, feeding by top dressing becomes imperative. Where the preliminary preparation has been properly attended to, subsequent surface feeding becomes a matter of very small moment for a great many years.

FEEDING AND NURSING

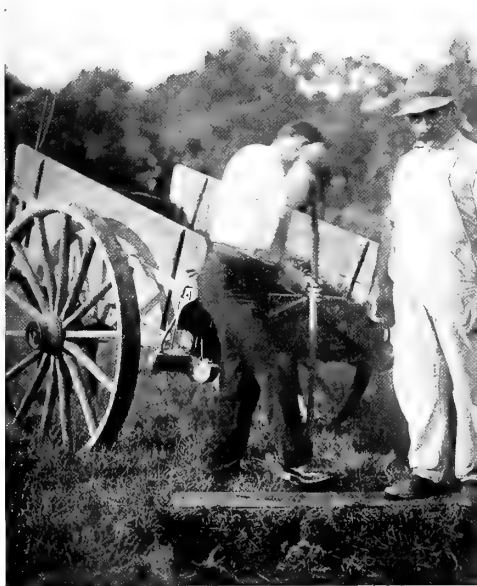
For surface feeding, chemical fertilizers are generally to be preferred to the natural manures. Unless the manures are fairly well-rotted or otherwise specially treated, there is always the danger of carrying in weed seeds. Dried pulverized sheep manure is the best of the natural manures, because there is no danger of importing weeds as a result of its use. Top dressings of soluble chemical fertilizers have the special advantage that they are quickly washed down to the roots and become immediately valuable to the growing plants. For this reason, nitrate of soda, applied early in the year at the rate of 200 pounds to the acre, will give remarkable results. Indeed, you can almost "see the grass grow," if applied just at the time when active growth is beginning, and it will give an added intensity of color that is most refreshing to the eye. This should be scattered on the surface of the lawn just in advance of a rain storm.



Reseed bare or worn patches in April. Let the seed drain from the lower part of the fist, which is moving in a circular manner, over the surface to be seeded

Much damage can be done to the grass by the application of chemical fertilizers during dry weather. They will absorb the moisture from the soil or from the tissues of the plants themselves and the result is "burning" of the foliage and an unsightly disfigurement of the lawn.

Of course, this damage is only temporary, and the growth which will be immediately started as a result of the dressing will quickly improve the general appearance. On the other hand, damage may be done to the roots themselves. In dry weather, therefore, chemical fertilizers should be applied in the liquid form, and the solution of nitrate, one pint in forty gallons of water, will be the proper strength. Commercial kiln-dried sheep manure may also be used as a top



When cutting turf for repairs, use a board to guide the cutting knife to insure perfectly true edges. Make all cuts at right angles

dressing up to as heavy a quantity as one ton to the acre.

The most commonly used spring top dressing for lawns is a mixture of finely ground bone meal and sifted wood ashes in equal parts by weight, which is broadcasted at the rate of 500 pounds to the acre. There is no need to be exact in these quantities, as the eye can be relied upon as an efficient guide in the use of this mixture. Scatter it over the surface of the grass as evenly as possible and in sufficient quantity to give the surface a perceptible, but slightly grayish tinge.

There is not the same danger of burning from the use of these materials as there is from the nitrate of soda, and it can be scattered on the lawn much more heavily than most people would imagine before having tried it. As the wood ashes and the bone meal are not so quickly available to the plants, being less soluble than nitrate of soda, a full dressing can be given with advantage at one time, whereas with the soda, the greatest efficiency will be had by distributing the full quantity in two or three dressings at different times. The results from nitrate of soda will be more apparent on light soils than on heavy ones.

At any time during the season, when



Some patching of a worn lawn is best done by turf. Beat it into close contact. Water thoroughly

growth seems to become unduly slack or where bare spots have appeared on the surface, top dressings of nitrate of soda will often do wonders in starting a fresh growth and usually will give better results than reseeding late in the season.

On sandy soils, where, in all probability, there is some acidity (and this is usually the case on the seaboard) excellent results will follow top dressings of lime. A mixture may be prepared with wood ashes, in equal parts, and may be used as indicated for the other mixture. Lime is, however, better applied as a winter dressing. It is especially beneficial to Kentucky blue grass, which will absolutely refuse to grow in a very acid soil. Don't use quick-lime on the lawn. Be sure that the lime is air-slaked. Lime applied to the soil during winter will help to kill moss and sorrel, two characteristic weeds of sour soil.

WEEDS THE WORST ENEMY

Don't let the weeds get ahead of you in the early spring. They will start into growth about the same time as the grasses and it will pay you to make sure that they are not permitted to seed at any time. Don't even allow them to flower. If sorrel and moss are present, winter dressings of lime should be given, or lime and wood ashes may be applied in the very early spring. Better still, however, put in tiled drains where it is possible and so drain off the unnecessary moisture.

In spring time, if moss is present, rake the surface of the lawn and don't be afraid of cutting too deeply. You may sacrifice some grass plants but you will kill the moss also and a dressing of grass seed, which will increase the stand, will largely crowd out the moss.

The best way to keep weeds out of the lawn is to keep the grass in. In other words, never leave a bare patch to itself, but as soon as it is noticed top dress it with fine soil and scatter grass seed on it.

The most troublesome weeds to be sought in early spring are dandelions and plantains, or rib grass. There are two of these rib grasses, one having long, narrow leaves and the other having broad, oval leaves. Regarded as weeds on the lawn, there is not much to choose between them, except that the broad form is more of an eye-sore. These weeds should be cut out by inserting a sharp knife well below the crown, severing the root. If a small crystal of sulphate of copper is



A patch of lawn that was not visited by the dandelion digger in April

then dropped into the hole, so as to come into contact with the remaining portion of the root, its death is almost a certainty.

When working over the lawn in early spring removing these and other deep-rooted weeds, carry with you a box of finely sifted earth, a handful of which may be taken up and a small quantity sifted into the hole made by the removal of the intruding plant. Press this in firmly with the fingers, making the surface smooth, and if you drop two or three grass seeds on the top of this again, so much the better.

You can "kill two birds with one stone" if your land is infested with dandelion. There is hardly a better salad plant than dandelion just starting into bloom. It is almost impossible to exclude this weed. It will filter in



Keep weeds out by keeping grass in. The left-hand portion of this picture shows how weeds will grow more where a piece of turf has been removed

from outside sources no matter how persistently one cuts it out each year. But, after all, it is perhaps not to be despised. In suburban districts wandering Italians can be seen tramping about during March and April, asking permission to cut out the dandelions from the lawns. They will do this work merely for the privilege of taking away the dandelions, which they sell in the markets of the larger cities where dandelion salad is appreciated at its proper worth.

CARE IN SUMMER TIME

In the early part of the year, the whole object of attention to the lawn is securing a strong new growth. In the summer time, the whole effort must be toward conserving whatever vigor is already in the grass plants. In very severe cases on very light soils, feeding may be continued well into the summer, but generally speaking, feeding should cease about June, and the whole subsequent attention consist of rolling, watering and raking.

Where the previous preparation of the soil was what it should have been, watering is reduced to a minimum, and on average soils may even be dispensed with.

The many fancy sprinklers are responsible for more subsequent failures of lawns than perhaps any one would think. Light surface waterings always have a tendency to draw the roots to the top, and as a result, this watering, once commenced, must be persisted in throughout the hottest weather as otherwise the sun, during the month of August, will so dry out the surface soil and roots that the death of the plants is sure to follow.

It is largely to avoid this possibility that rolling and feeding is adopted in the early spring. At that time the tendency of the roots is to run down—encourage that tendency to your utmost. Persistent rolling with a heavy roller is the best possible summer care of the lawn. It will keep the roots and soil in contact, it will draw the soil moisture to the roots by capillarity, and it will keep the surface of the lawn perfectly level.

Cutting is a necessary evil. As the grass attains length, the appearance of the lawn becomes ragged and so it must be mowed. The great trouble with the average suburbanite is that he mows by calendar instead of necessity, and usually with knives set too low. Do not crop your grass shorter than two inches, and for best general effect, do not let it grow longer than four inches. If the grass is allowed to grow to any greater length, the lower parts will lose color, and not being cut often, the lawn will present a brownish appearance resembling a dried-out, or burnt, effect.

When you do cut the grass, leave the clippings where they fall. They will mulch the roots and besides, will dry out so quickly in the sun's heat that within a short time they will never be seen. If, however, the grass has become six inches long when it is cut, the clippings should be raked off, as they will cover the grass too heavily, resulting in disfiguration or even rot.

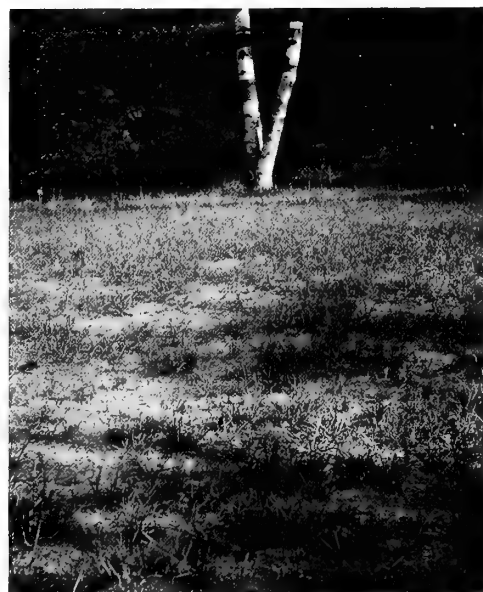
Where the turf is very dense, the clippings



Eternal vigilance is the price of a perfect lawn. If chickweed appears, rake it out

may also be raked off. In using the lawn mower, remember this—that the faster the knives work, the better the cut; therefore, don't dawdle. Get a good gait and keep at it until the job is completed. You will in this way get a perfectly even cut, whereas otherwise the lawn is left with a peculiar undulated or wave-like effect.

Patching worn-out places with pieces of good turf from elsewhere can be done at any time during spring and summer, and for ordinary repairs on small lawns is perhaps the most satisfactory method. But good turf is difficult to procure. It must be cut with sharp edges to make unions easy, and after being put in place, must be well beaten into contact and watered copiously until vigorous growth is manifest.



A hopeless case. Better dig up the soil anew than waste time patching and renovating. Under trees where ordinary mixtures do not thrive use one containing one-half wood meadow grass



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THE largest blue flower of the wonderful composite family, which includes China asters, chrysanthemums, dahlias and many other extremely varied flowers, is Stokes's aster (*Stokesia cyanea*), a flower that once seen is never forgotten, because of the unique shape of its florets, which are like five-pointed trumpets. The whole flower head has the appearance of a monstrous glorified cornflower. It is a hardy perennial plant which may be treated as an annual.

While I was acting as propagator for one of the largest seed firms in America, I had the pleasure of developing this flower in a way that led directly to its extraordinary popular success. This development illustrates several important points in plant-breeding that every amateur should understand.

1. Most of the important improvements that have been in floriculture have originated by selection, not hybridization, i. e., simply by sowing seeds and saving the new varieties thus secured. This fact should greatly encourage the amateur who wishes to do plant-breeding in his own backyard.

2. There is a splendid opportunity for amateurs in developing American wild flowers, which have hitherto been improved in Europe, and often in a climate unfavorable to producing the best results.

3. It is a most surprising fact that many Southern plants have proved hardy in the North, and a good number of plants actually thrive better in cultivation under conditions widely different from those we find in Nature.

I find that Stokes's aster was introduced into England as long ago as 1766, and that it furnished the chief supply of blue flowers to the Covent Garden market from September to November, in the early days of its discovery. Possibly the climate of Europe is not as well adapted to this flower as our own, but the chances are that it never amounted to anything there simply because of our blind habit of following literally Nature's hints.

Stokes's aster grows wild in the wet pine barrens of the Carolinas, yet strangely enough the plant is easily killed in cultivation in the North if it is allowed to have "wet feet" in winter. The soil must be perfectly drained, if the plant is to be cultivated as a perennial.

Another one of Nature's false clues is the fact that it grows in the Coastal Plain of the Southern States, and, therefore, ought not to



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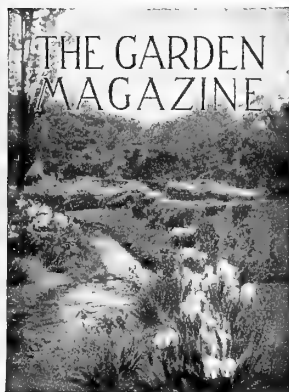
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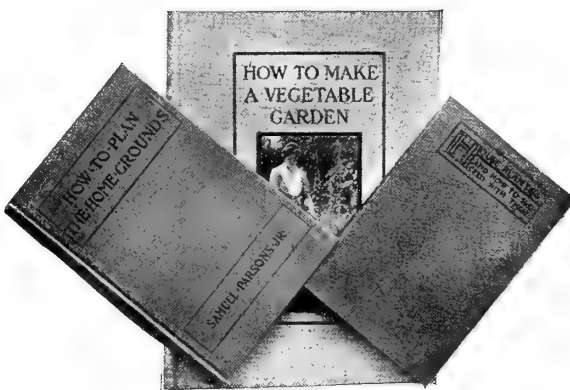
House Plants and How to Succeed With Them. By Lizzie Page Hillhouse. (A. T. De La Mare, 1899, 50 cents net.) 225 pages, fully illustrated and neatly bound in heavy red paper. It covers in a remarkable, interesting and thorough fashion all the varieties of plants and flowers suitable for house cultivation.

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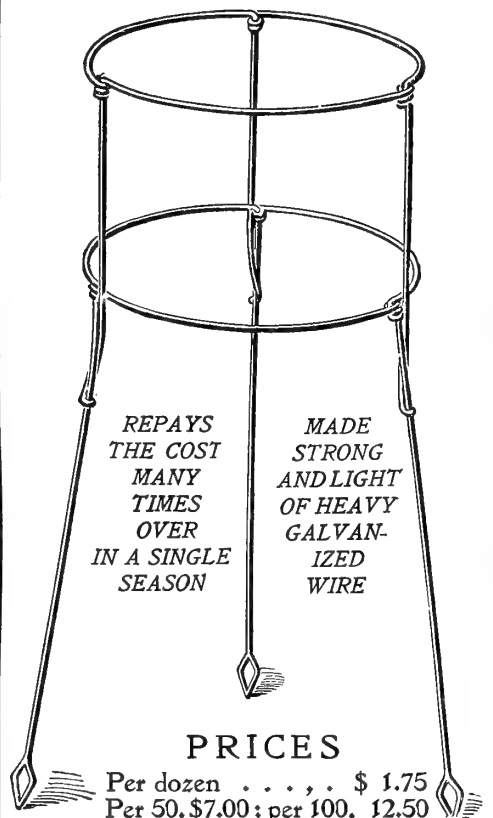
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be expected to survive the Northern winters. There is a host of charming plants from the southern Appalachians which are hardy in New England, but we are only beginning to learn which plants of the southern Coastal Plain are hardy, and right here is a very promising field of work for the amateur plant-breeder.

It is well known in the trade that the easiest way to get most species of American wild flowers is to import them from European seedsmen and nurserymen, because that is following the regular channels of the world's trade. In the spring of 1898, the firm with which I was then connected, imported 250 plants of Stokes's aster, of which ninety were dead on arrival, while the others were small, half-starved plants which had been grown in 2½-inch pots. It set me to thinking that for the price we pay the Europeans for a few dozen imported plants, any one with a little enterprise could collect American wild flowers by the thousand.



The largest blue flower of the composite family. Stokes' aster (*Stokesia cyanea*), a hardy perennial that blooms the first year from seed. Flowers four or five inches across when well grown

I had forty plants to set out that spring, and planted them in conditions utterly unlike their native ones—in a well enriched, sandy loam where no water ever reached them except rains and the early morning dews. Nevertheless, they thrived wonderfully, flowered freely, and produced the seed which started them on their popular career. This seed was sown in the greenhouse the following January and produced between three and four thousand plants, which were pricked off into flats, hardened in coldframes and set outdoors in early May, being planted a foot apart in a black, friable loam which was very retentive of moisture and had to be

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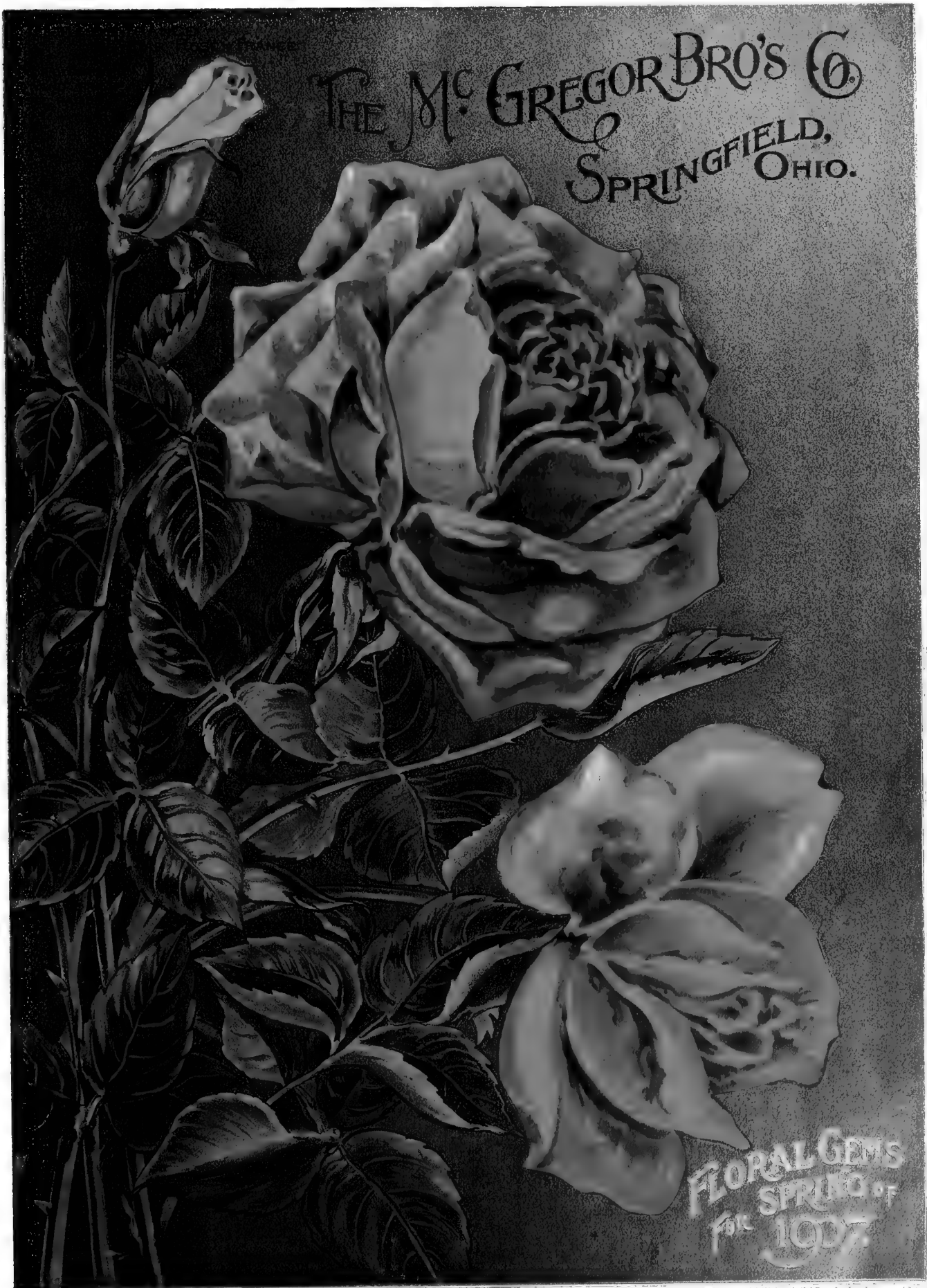


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 2-year plants, extra strong, for immediate effect, 50c. each, 3 for \$1.35; per dozen, \$5.25.

HARDY AND EVERBLOOMING

A BED OF BABY RAMBLER ROSES
 1 yr. old (will bloom at once) 10¢ EACH 3 FOR 25¢ 75¢ PER DOZ.
 2 yr. old (FOR IMMEDIATE EFFECT) 35¢ EACH 3 FOR 1.00 3.50 PER. DOZ.



HYDRANGEA PANICULATA
 FIELD GROWN PLANTS 30¢ EACH 3 FOR 75¢



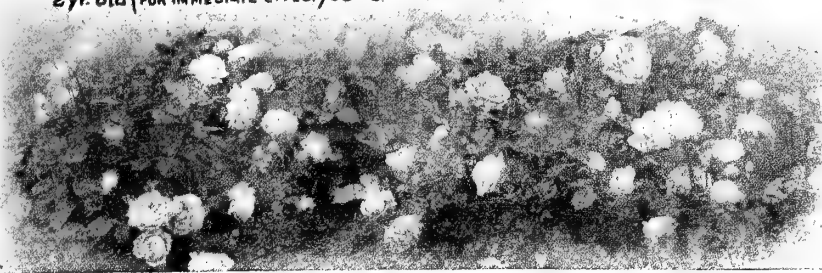
15¢ PER PKT.
 3 PKTS. FOR 35¢
SWEET PEA
 COUNTESS SPENCER.



CLEMATIS PANICULATA 10¢ EACH
 95¢ PER DOZ.



LILIUM
 LONGIFLORUM
 20¢ EACH
 1.90 PER DOZ.



McGREGOR'S
 CATALOGUE FOR 1907 OFFERS

Something for Every Garden; Everything for Some Gardens

Here are a few Collections selected from our new 1907 Catalogue; plants, bulbs and seeds at no higher prices than are frequently asked for unsatisfactory stock.

TAKE ADVANTAGE RIGHT NOW of the opportunity to beautify your home surroundings at a little expense while the offer is before you.

SEE DISCOUNTS BELOW
ROSES

American Beauty.....	1 yr. 20c.	2 yr. 35c.
Richmond.....	1 yr. 20c.	2 yr. 35c.
Frau Karl Druschki.....	1 yr. 25c.	2 yr. 50c.
Dorothy Perkins.....	1 yr. 10c.	2 yr. 35c.
Crim. Phila. Rambler.....	1 yr. 15c.	2 yr. 50c.
Wichuriana (Creeping).....	1 yr. 10c.	2 yr. 25c.
Gen. Jacqueminot.....	1 yr. 15c.	2 yr. 35c.
Prairie Queen.....	1 yr. 10c.	2 yr. 25c.
Hermosa.....	1 yr. 10c.	2 yr. 25c.
The entire collection of roses 1 yr. old by mail for.....	\$1.05	
The entire collection of roses 2 yr. old by express for.....	\$2.50	

SHRUBS—Hardy

Lilac-purple.....	1 yr. 15c.	2 yr. 35c.
Hydrangea Paniculata-white.....	15c.	2 yr. 35c.
Weigelia pink.....	15c.	2 yr. 35c.
Althea-salmon.....	15c.	2 yr. 35c.
Spirea Billardii-Pink.....	15c.	2 yr. 35c.
Snowball-white.....	15c.	2 yr. 35c.
Japan-quince.....	15c.	2 yr. 35c.
The entire collection of shrubs 1 yr. old by mail for.....	80c.	
The entire collection of shrubs 2 yr. old by express for.....	\$2.00	

DECORATIVE PLANTS

Cycas (Sago Palms).....	\$1.00
Latania Barbonica Palm.....	1.00
Sanseveria Zelanica.....	.25
Picus Elastica Rubber Plant.....	.75
Fern Whitmanii (The newest most feathery fronds).....	1.00
Araucaria Excelsia (Pine).....	1.00
Palm Kentia Belmoreana.....	1.00
The entire collection of decorative plants by express.....	\$4.80

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Lilium Auratum.....	20c.
" Album.....	20c.
" Roseum.....	20c.
" Rubrum.....	20c.
" Longiflorum.....	20c.
" Candidum.....	20c.
Double Tiger Lily.....	15c.
Lemon Lily.....	15c.
The entire collection of Hardy Lilies by mail for.....	\$1.20

VINES—Hardy

Clematis Jackmanii.....	50c.
Clematis Paniculata.....	10c.
Dutchmans Pipe.....	40c.
Boston Ivy.....	10c.
Wisteria, Blue.....	20c.
Honeysuckle.....	15c.
Akebia Quinata.....	15c.
Hardy English Ivy.....	10c.
The entire collection of Hardy Vines by mail for.....	\$1.35

SEE DISCOUNTS BELOW
HARDY PERENNIALS

Stokesia Cyanea.....	1-yr. 15c.
Achillea, The Pearl.....	10c.
Delphinium.....	15c.
Shasta Daisy.....	15c.
Hollyhock, Red.....	20c.
Tritoma Pfitzerii.....	15c.
Phlox, Prof. Schileman.....	10c.
Hardy Pink, Her Majesty.....	10c.
Rudbeckia (Golden Glow).....	15c.
The entire collection of Hardy Perennials by mail for.....	\$1.00

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1 Packet Sweet Pea Countess Spencer Hybrids mixed.....	15c.
1 Packet New Annual Hollyhocks mixed.....	15c.
1 " Nasturtium, Brilliant Beauty.....	15c.
1 " Sweet Pinks, New Japanese.....	5c.
1 " New Blue Eyed African Daisy.....	10c.
1 " Gaillardia mixed.....	5c.
1 " Portulaca, Double and Single.....	15c.
2 " Poppy, Tulip and Shirley.....	15c.
2 " Chrysanthemum, Dbl. and Sing.....	10c.
2 " Sunflower, Double and Single.....	20c.
2 " Phlox Drummondii, crimson and white.....	20c.
2 Packets Centaurea, Blue and Yellow.....	10c.
2 " Marigold, Orange Prince and Eldorado.....	15c.
Complete Collection of (20) packets, value \$1.70, for.....	\$1.50

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Tuberoses.....	6c.	per doz. 60
Caladium.....	15c.	\$1.50
Gladiolus.....	3c.	.30
Lilly of the Valley.....	5c.	.50
Fancy Caladium.....	20c.	1.90
Tuberous Begonias.....	10c.	.95
The entire collection of summer flowering Bulbs by mail.....	50c.	

FRUITS

Strawberries.....	Each. 25	Doz. 2.50
Red Raspberry, Brilliant.....	.10	1.00
Blackberry, Ward.....	.10	1.00
Grapes, Campbells Early.....	.25	2.50
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Loganberry.....	.20	2.00
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The entire collection of fruits by mail for.....	90c.	

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Canna, Fgandale.....	15c.
Chrysanthemum, Golden Wedding.....	15c.
Coleus.....	5c.
Acalypha Tricolor.....	10c.
Hibiscus Mineatus.....	10c.
Geranium Bruant.....	10c.
Salvia Splendens.....	10c.
The entire collection of bedding plants by mail for.....	60c.

DISCOUNTS

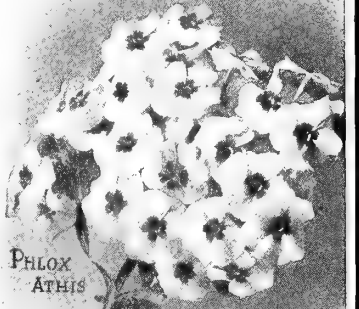
Any item in dozen quantities at single price named, less 20%.
 Any three Collections at Collection prices named, less 5%.
 Any five collections at Collection prices named, less 10%.
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All orders will be carefully packed (mail orders postpaid), and guaranteed to reach you in good condition.

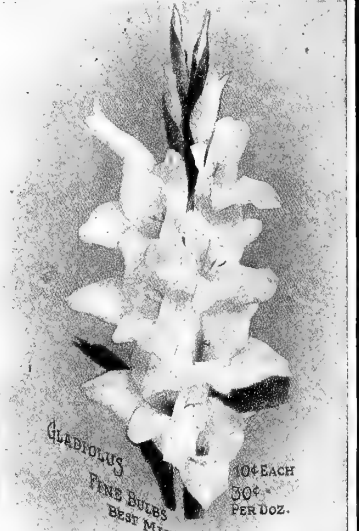
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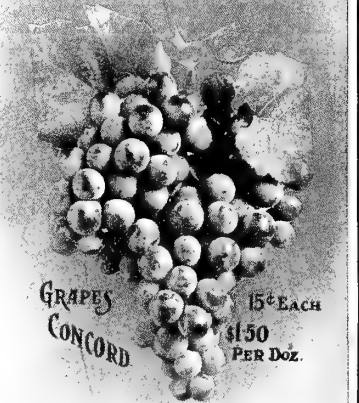
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A BED OF CANNAS WITH
 BORDER PLANTS
 BED 3 FT. IN DIA. \$1.00
 " 5 " " \$1.95
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ROSES
 OF A
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*From one who Knows and—Yes—
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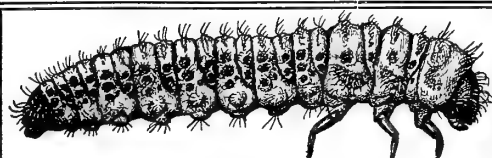
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Spring is the time to combat the ELM LEAF BEETLE. We can save your foliage and will guarantee results.

Scientific Tree Work of All Descriptions

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Pruning **Forestry** **Tree Surgery**
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Last year we sent out a large number of our collections "Grandmother's Flower Garden." We sold them at less than cost but we gained many new customers. This year we are anxious to hear from still more. Our "Novelty Collection" is composed of 10 full sized packets of valuable novelties in flowers not one of which retails for less than 10 cents.

Our Offer

Send us 20 cents (cash or 2 cent stamps) and we will mail you the full collection and our 72 page illustrated catalogue of plants and seeds. Less than cost to us, but we want you to test our seeds. Send at the same time names of three flower loving friends and we will include a packet of our "Japanese Flower Garden."

MONADNOCK GREENHOUSES

Keene, N. H.

We are prepared to furnish penny packets for school and mission work. *Write us.*

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A STAIN AND VARNISH COMBINED



BE SURE IT'S JAP-A-LAC,

the original stain and varnish combined. Don't accept anything but JAP-A-LAC—this caution is for your own protection, as there are inferior articles offered as substitutes for JAP-A-LAC, and claimed to be "just as good". Be sure the name JAP-A-LAC appears on the label. Some imitations use a name ending in "Lac". This is for the purpose of deception. Insist on the genuine. Our name and our trade mark appear on every can. Look for the Green Label.

JAP-A-LAC is used for refinishing everything about the home from cellar to garret. It produces a beautiful, lustrous, mirror-like finish that "wears like iron". JAP-A-LAC will save you many dollars a year by its magical effect in renewing the finish on scuffed or scratched Furniture, Floors, Interior Woodwork, and all articles of wood or metal.

Get JAP-A-LAC to-day. All sizes, from 15c to \$2.50. For Sale by Paint, Hardware and Drug Dealers.

Write for beautiful illustrated booklet, and interesting color card. FREE for the asking.

If building, write for our complete Finishing Specifications. They will be mailed free. Our Architectural Green Label Varnishes are of the highest quality.

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432 Rockefeller Bldg., Cleveland.

If YOUR dealer does not keep JAP-A-LAC, send us his name and 10c (except for Gold which is 25c) to cover cost of mailing and we will send FREE Sample (quarter pint can) to any point in the United States.

Bricks Without Straw

TO MAKE paint without ZINC is as difficult to-day as the Israelites of old found it to produce bricks without straw. It can be done, but when done the paint is not good paint. It may pay the manufacturer who makes it or the painter who applies it, but it doesn't pay the property owner who buys it. It loses its color and lustre early; it chinks off soon and fails to protect. Paint is a profitable investment, but investment in paints not based on OXIDE OF ZINC is "wild cat" speculation.

A suggestive pamphlet, "Paint: Why, How and When," free to property owners.

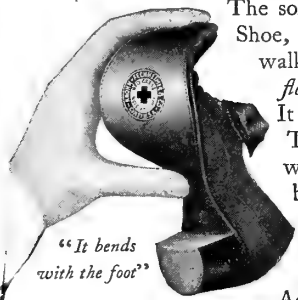
THE NEW JERSEY ZINC CO.
71 Broadway, New York

We do not grind zinc in oil. A list of manufacturers of zinc paints sent on application.

The Most Sensitive feet are Comfortable in the Red Cross Shoe

It is *stiff* soles that make your feet *hurt*.

Every step you take, the ball of your foot *bends*—the *sole* of your shoe remains *rigid*. This continual rubbing makes your feet burn, draw, *ache*!



The sole of the Red Cross Shoe, though of regular, walking thickness, is *flexible*.

It *bends with the foot*. The leather is tanned with genuine *oak bark*, by a process which takes *six months*.

It isn't parched and burned by Acetic acid, to hasten the tanning process. All its *life* and *elasticity* are *preserved*.

The Red Cross Shoe entirely prevents all rubbing and binding—removes all tension and strain. It is *absolutely comfortable*.

And the Red Cross protects the foot and *supports* the arch; better than stiff sole shoes. It is

made in all the latest fashionable lasts, all leathers



No. 142—Red Cross Gun Metal Oxford, \$3.50

More head-aches, back-aches and "nerves" come from aching feet than you have any idea.

Our booklet "Women To-day" shows the importance of foot-comfort to *health*. Write for it.



Leading dealers keep the Red Cross. If yours doesn't we will gladly send you the name of one who does. Or we will supply you direct, *fit guaranteed*. If this trade-mark, with the name *Krohn, Fechheimer & Co.* is not stamped on the sole of the shoe shown you, *don't buy*. Imitations have neither the style nor wearing qualities of the Red Cross. Oxfords, \$3.50; High Shoes, \$4.00.

KROHN, FECHHEIMER & CO.

535-555 Dandridge Street

Cincinnati

constantly worked during the summer to keep it from getting sour. In July, the plants began to send up their flower stems, and instead of having a few flowers only two inches across, as many previous writers had said, I counted as many as twenty-three flowers on a single stem and they averaged four to five inches across! This bed gave a magnificent, continuous display for three months, and it is safe to say that no one plant was through flowering when cut off by frost in the middle of November.

A third year's trial with greatly increased stock only served more fully to insure its success. This time it was planted on high, but well-enriched sandy soil, and by reason of frequent summer rains, it maintained a display equal to that of previous years in moister soil.

In raising plants from seeds, I found an extraordinary diversity in foliage, habit and flower. Some plants did not flower until late fall, while others bloomed very early and kept it up for three months. Thus the process of making sufficiently early a plant that naturally blooms very late was accomplished in three years, whereas in the case of the cosmos, many people have been working at it for half of a century with only slight gains, compared with stokesia. There are relatively few perennials that will bloom the first year from seed even when the seed is started indoors in March, or earlier. The stokesia will do so and this is the most satisfactory way of raising it in large masses for bedding.

Happily, the stokesia can be easily multiplied by division of its roots, each one of which, if disconnected, and given good care, will make a plant and will bloom the same season. This sort of propagation is easily practiced by an amateur and it is the commonest method by which desirable varieties of hardy perennials are multiplied when once these varieties have been furnished by seed. Seeds give variation, but a variety is kept true to the improved type of means of asexual propagation, i.e., any process which does not involve the use of the seed. It is probable that no early-flowered variety of the stokesia ever appeared in Europe, because it is commonly said to bloom so late in Europe that the plants are lifted from the open ground in early fall, potted and placed in conservatories to flower. A few years ago, however, an early variety was discovered in Europe, and distributed under the name of *Stokesia cyanea* var. *præcox*. This produces early flowers even when raised from seed. So freely does this variety bloom from American-saved seed, that the plants exhaust themselves later by trying to make seeds from every flower—a good feature if one desires to raise seedlings annually.

A few white-flowered forms were discovered in the summer of 1901, and were offered for sale for the first time. This variety is similar in every respect to the older form except the color of the flowers, which are pure white.

Stokes's aster has proved perfectly hardy in Western New York and even Boston, and so far as I know, it has no insect enemies or diseases.

Connecticut. HERBERT GREENSMITH.

"From Bean to Cup"

Kuyler's Cocoa AND Chocolate

22% Pure! Delicious! Healthful!

The Name *Kuyler's* ON A PACKAGE IS A GUARANTEE OF PURITY AND DELICIOUSNESS OF FLAVOR

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No Mechanical Ability Needed if you use the Brooks System of exact size patterns and illustrated instructions.

Our Big FREE Illustrated Catalog tells how 21,311 experienced people built their own boats last year at a cost next to nothing—quotes prices on patterns—knockdown frames with patterns to finish and complete knockdown boats—launches—sailboats—rowboats and canoes.

Reduced Prices on Patterns.

BROOKS BOAT MFG. CO.
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Sun=Dials

Furnished by us are correct. Write for free booklet entitled "SUN-DIAL INFORMATION."

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MAKE MONEY CANNING FRUIT

for others. They'll pay high cash prices. Send for free, money-making catalog. Tells all about costs and profits made with our canning outfit. Send now. Begin to reap profits this season.

MODERN CANNER COMPANY
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EVERGREENS

Largest stock in America, including

COLORADO BLUE SPRUCE
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OF COLORADO

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KNIGHT'S FRUIT PLANTS WE HAVE THEM

Do you want the best northern grown Strawberry, Raspberry, Blackberry, Currant and Grape **VINES** at a reasonable price. We guarantee our plants to reach you in fine growing condition and true to name. We have had 30 years' experience and ship plants to every State. Our 32-page Catalog is valuable to any fruit grower. Send for it.

DAVID KNIGHT & SON, Sawyer, Mich.

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DOES THOROUGH WORK QUICKLY AND EASILY

because it has more power than any other hand sprayer made. That also gives it a wider range of usefulness than any other small sprayer. Yet it is the easiest sprayer in the world to operate. *15 seconds'* work at plunger charges it with enough power to throw the spray for *10 minutes*.

The tank holds three gallons of solution and one of compressed air, and two pumpings discharges the whole contents. Our Auto-Pop Nozzle, controlled by one finger, regulates the spray from a stream to a fine mist.

Conveniently carried over the shoulder by a strap. All working parts of brass, no rusting, no clogging of nozzle, nothing to get out of order or cause trouble. Let us tell you what our customers think of it. We make

ALL SIZES OF SPRAYERS

for all purposes, and guarantee every sprayer to prove satisfactory or money will be refunded. Tell us what you want to accomplish and we will suggest the right style for you to use.

WRITE FOR SPRAYING CALENDAR, the most complete and authoritative ever published, and a copy of our catalogue. Address

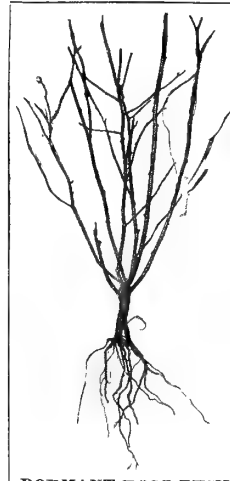


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Sweet Scented Roses

FOR ROSE GARDENS OLD AND NEW

The only kind of rose bushes to plant are those that are two year old field grown. Each plant we send out will give an abundance of bloom the first season and will produce more blooms each succeeding year.



DORMANT ROSE BUSH

HYBRID TEA, SUMMER and AUTUMN. MOSS, for old fashioned borders.

HYBRID PERPETUALS, for June blooming.

ROSA WICHURAIANA, and their varieties.

TEA SCENTED and NOISETTE, EVER-BLOOMING.

JAPANESE, GALLICA, and other kinds.

LORD PENZANCE, and AUSTRIAN SWEET BRIARS.

RUGOSA, for hedge and seaside plantings.

CLIMBING and TRAILING, for all kinds of planting.

BABY AND CRIMSON PINK WHITE and YELLOW RAMBLERS.

We have upwards of 100,000 bushes ready to ship this Spring.

We wish to impress upon the reader to place with us his order at once: delay may mean disappointment.

Consult our new ILLUSTRATED GENERAL CATALOGUE for varieties and other information.

We design and plant Rose Gardens.

The general supervision of private estates and public grounds a specialty. Ask for catalogue. Visitors invited.

We have a number of applications from first-class gardeners desiring positions. We will be pleased to communicate with parties wishing the services of head gardeners or superintendents.

BOBBINK & ATKINS

Nurserymen and Landscape Gardeners Rutherford, N. J.

A SURPRISE

A delightful surprise, full of pleasure and great beauty for the whole summer long, is in store for you if you give your lawns and gardens a liberal application of



Pulverized Sheep Manure

before the springtime wakens into new life the grass and flowers. It will make them revel in verdant growth and wonderful bloom.

This product is truly a Wizard on the lawn and in the garden and you have only yourself to blame if the best possible results in plant, foliage and blossom do not come from your efforts this Summer.

Absolutely pure, finely pulverized, free from weed seeds and disagreeable odor, it is the ideal plant food and soil builder for all purposes.

A large barrel WIZARD BRAND SHEEP MANURE, containing more efficiency than four wagon loads common manure, delivered to your freight station East of Denver for \$4.00, cash with order. **Do it now.**

All kinds of manures for sale.

The Pulverized Manure Co.

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Union Stock Yards, Chicago

A Charming Wild Garden



with its dainty wild Ferns, Lady Slippers, Wood Violets, Trilliums and other wild flowers of woodland and meadow will bring rare delight to your grounds.

The wild flowers of the woods that you love you can grow in the dark, shady places of your garden, and the flowers of the meadow will thrive in open sun.

We have special collections of Ferns for dark shady places and rockeries. Dainty Genti-ans and Lobelias for planting by brooksides.

For twenty-five years we have studied the habits of wild flowers and have imitated their natural conditions of growth in our nurseries as near as possible so that they are preserved here in all their beauty. Grown in cold New England, they are perfectly hardy.

Let us help you in your selection. We also grow the old garden sorts of **Hardy Perennials** like Foxgloves, Larkspurs, Lilies, garden Heliotrope, etc., and the best **Shrubs** suited for this climate, including several adapted for dark, shady places; several are particularly useful in hedgework, like Japanese Berberis, Rosa rugosa and California Privet.

Send for our illustrated descriptive catalogue of over 50 pages, which tells much about this class of plants.

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Thorburn's Seeds

Absolutely the best there are—unequaled for purity and germination and no more expensive than others. If you have not already received our catalogue, send for it now. It costs you nothing.

J. M. THORBURN & CO.
33 BARCLAY STREET through to 38 PARK PLACE
Established 1802 NEW YORK



Why We Do Not Print More Southern Articles

THE GARDEN MAGAZINE has a Southern department and has printed a number of articles on Southern gardening, and would gladly print more if it could get articles by skilled amateurs, such as Messrs. W. C. Egan of Highland Park, Ill., J. N. Gerard of Elizabeth, N. J., and R. B. White of Ottawa, Ontario. It will also welcome articles by beginners if they are as interesting and practical as the other articles by beginners in the magazine. We have often requested Southern articles through the columns of the magazine, and have written dozens of letters inquiring for the names of home gardeners in the South but have not succeeded in getting inspiring and useful articles. The Southern experiment stations and seedsmen have been appealed to in vain.

The following letter throws more light on the situation than any we have ever received: for obvious reasons, we withhold the name and address of the writer.

TO THE EDITOR:

I am in receipt of yours of the 12th inst. asking me to suggest the name of some amateur to write on gardening in the South for THE GARDEN MAGAZINE. After living in the South twenty years and more, I have come across no amateur gardeners. The fact is, that outside of truck crop growing in the tidewater section of Virginia and the eastern sections of North and South Carolina, there is practically no gardening done in the South.

Not one farmer in a hundred has a garden for the production of the commonest vegetables, except to the extent of a few cabbages or kale. He grows his corn and sweet potatoes and peas in the cornfield, and knows and cares for no other vegetables.

Flower growing outside of the florists of the city is unknown, except among a few ladies in different sections. The men regard it as something beneath their attention. Even in our city parks we have no flower beds, only grass and trees.

Personally, I have been an ardent amateur gardener all my life and still am devoted to it. I am one of the very few persons (indeed, I do not know of more than two or three others) who have a greenhouse in this city, and my neighbors all seem to regard me as being a crank to spend my spare time in growing flowers merely for my own pleasure. I am often asked if I sell flowers and when I reply "No," they express astonishment that I spend time and money in producing them.

HEALTHY, NATIVE-GROWN FRUIT TREES

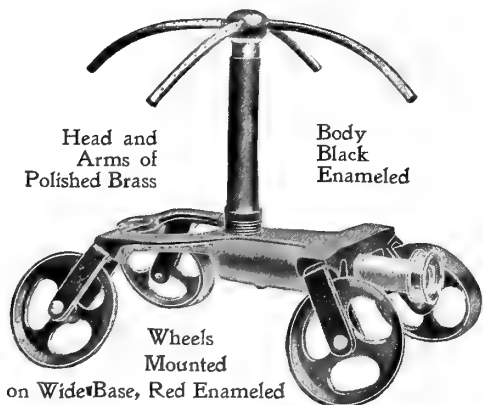
Ornamental Trees, Vines, Shrubs, Etc.

We offer for Spring of 1907 the finest and most complete list of Nursery Stock we have ever grown. Our stock can always be relied upon, for it is all selected and grown on our own grounds under constant expert inspection. We guarantee every specimen true to name and free from disease. Give us a chance to figure on your list of wants before ordering elsewhere. We do Landscape Gardening in all its branches. Write for our **free illustrated catalogue**.

T. J. DWYER & COMPANY, Box 4, Cornwall, N. Y.

The New Century Lawn Sprinkler

Revolves freely with any pressure. Equal spray over circle from three to fifty feet in diameter.



Head and Arms of Polished Brass

Body Black Enameled

Wheels Mounted

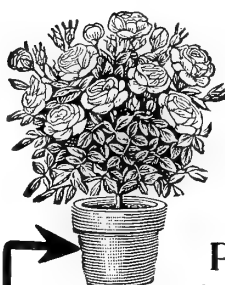
on Wide Base, Red Enameled

SIMPLE AND DURABLE

Your money back if not entirely satisfactory. Sent express prepaid anywhere in United States east of Rocky Mountains for only \$2.50. Descriptive circular free.

THE YOST ELECTRIC MFG. CO.,
Lincoln Ave., Toledo, Ohio, U. S. A.

YOU CAN HAVE THIS POT-GROWN Rose Bush



Delivered for

25c.

Also Seed of this charming **Perfume Plant**

FREE

and our reliable 1907 Catalog of Vegetable, Field, and Flower Seeds. The price—only 25c—for this beautiful hardy, growing, **ever-blooming** Baby Rambler Rose Bush—all delivered prepaid—ought to put one in every home in America. Send for it **at once**. It will bloom indoors or out all summer. A strong, healthy plant on its own root. Grows bushy, about 18 inches high in 6-inch pot.

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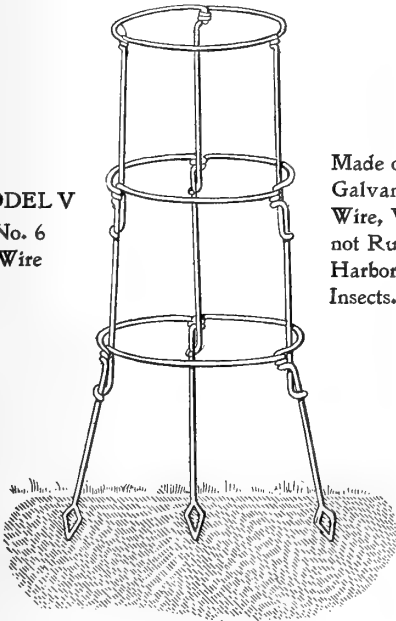
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The reasons why the village improvement idea does not spread so rapidly are two; it usually involves expense which poor people cannot stand, and it generally calls for cooperation, which is often difficult to secure.

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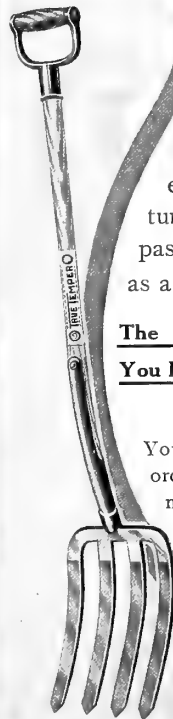
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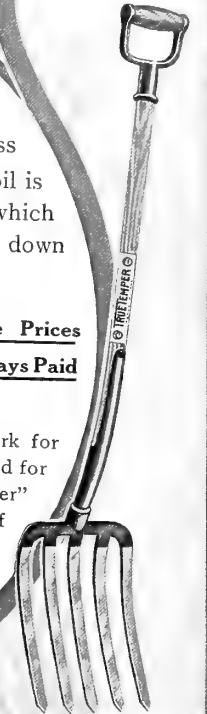
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Lime, Sulphur and Salt Concentrated.

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MOUNT CLEMENS, MICH., Jan. 18, 1907.

MR. BENJAMIN HAMMOND, Fishkill-on-Hudson, N. Y.

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As I stated in my former correspondence, you cannot improve on your Preparation regarding the combining of the sulphur employed, more than you have in this HORICUM.

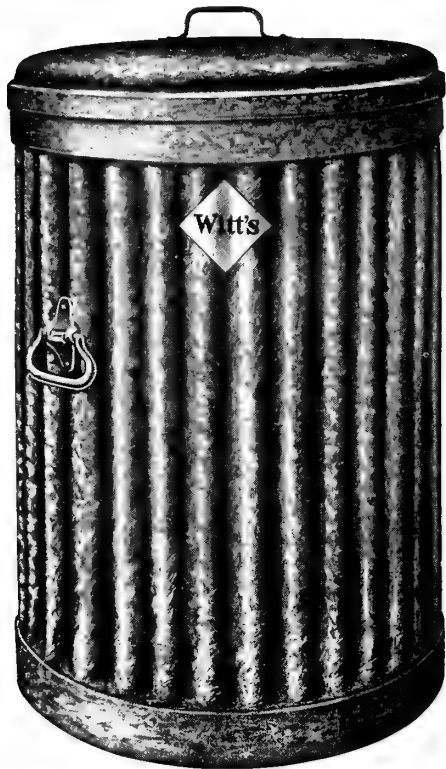
By grading the dilution you can make it of any desired strength. I would strongly advise you to adhere to your present proportions of material as well as your modus operandi.

If Lime, Sulphur and Salt is at all efficacious for the destruction of the San José Scale, HORICUM should be the most desirable for that purpose.

Yours respectfully,
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ANNUAL FLOWERS
 New Ways of Growing Old Favorites

A LIGHT open soil is best for the seed-bed in which to start annuals. If the soil be clayey and liable to bake after watering, add well-rotted leaves and sand. Remove all coarse particles from the surface soil by running one-half inch of top soil through a ¼-inch meshed screen. In the open border, thoroughly rake the surface soil. Plainly mark on a label the name and date of sowing of each variety and put the label at the end of the row. Also put on the date of germination, pricking off, and planting out.

Sow all seeds thinly. Never allow one seed to over-lay another. When sown thickly, the seedlings damp off more easily. In seed-beds from which seedlings are to be transplanted, sow the seeds in rows one to two inches apart, and cover to a depth of twice their thickness. This gives a chance to cultivate the soil around seedlings if they commence to damp off. Cultivation kills the fungus which is the direct cause of damping off. Seeds sown broadcast are harder to cultivate.

The Best Temporary Vines.—The best all-round vine for covering large spaces, such as piazzas, arbors, etc., is the *Cobæa scandens*. It grows rapidly, has good, dark green foliage, which is free from insect pests. The funnel-shaped flowers are pretty and interesting, and they are followed by curious-shaped, showy seed pods.

The best vine for fences, trees and similar heavy objects is the Japanese hop. It is a free, rapid grower with dense foliage.

The best vine for a small arch or a light screen is the cypress vine (*Ipomœa Quamoclit*). It does not start growing until steady warm weather comes—about June 15th—but then it grows very rapidly. Plant seed where the plants are to flower, as they do not transplant easily.

Ornamental gourds may be used among the hop vines, as they take lots of room. The foliage is much like that of the cucumber, but the fruits are very interesting. Some are like eggs, others like snakes, and still others like great clubs, sometimes measuring four feet long.

China Asters.—For an early crop sow the Victoria strain about March 10th, in the latitude of New York, in a greenhouse or a hotbed. In three weeks, or when large enough to handle, transplant, setting the plants two inches apart. About the end of April, transplant to the coldframe, putting the plants ten inches apart each way. These plants will flower in July. For main crop of flowers in August

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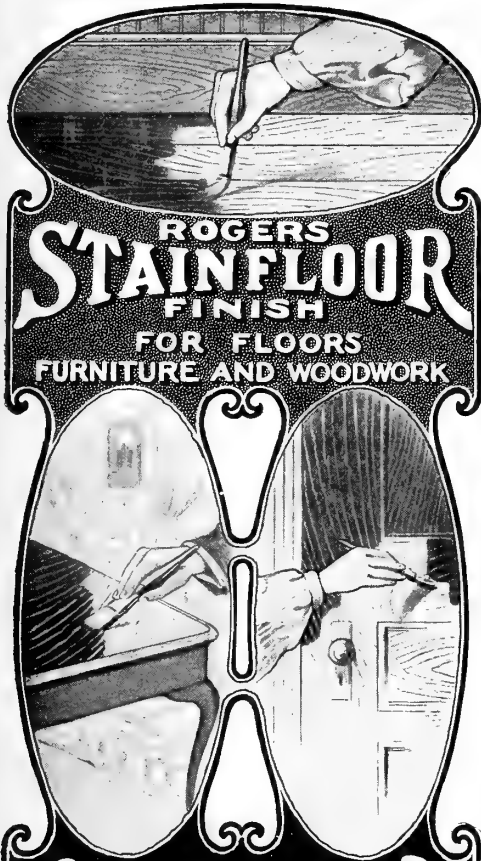
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is through and through a woman's magazine; clean, wholesome and up-to-date, and is recognized as an authority on all matters pertaining to the domestic life of the home, dealing in a practical way with every subject in which women are vitally interested. It is edited by CHARLES DWYER (for the past 20 years editor of *The Delineator*). Its Departments, comprising THE HOUSEHOLD, HOME SERVICE BUREAU, ARTISTIC NEEDLEWORK, GOOD LOOKS, THE OBSERVANCES OF SOCIETY, FASHIONS AND DRESSMAKING AND ILLUSTRATED FEATURE ARTICLES, are all conducted by experts in their respective lines. It publishes the very best Poetry, Serial and Short Stories, and numbers among its contributors for 1907 such high-class authors as F. HOPKINSON SMITH, FLORENCE MORSE KINGSLEY, JULIA TRUITT BISHOP, RICHARD LE GALLIENNE, GRACE BARTON ALLEN, MARY STEWART CUTTING, CAROLYN WELLS, ALBERT BIGELOW PAINE, ANNIE HAMILTON DONNELL, ZONA GALE, and many others equally well known. It is profusely illustrated by artists of reputation, and its handsome colored covers are a special feature. Each number contains from 36 to 48 large pages, 11x16 inches in size. It stands very high in its class, and gives more for the money than any similar publication. It is popular everywhere, and is conceded to be the best magazine published at 50 cents per year, comparing favorably with many magazines of double its subscription price.

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—Your Protection

and early September, sow about the first of April, and with these sow Semple's giant-flowering aster which comes a little later and helps maintain a continuous supply of flowers. On a chance that there will be no heavy, early frost, sow seeds of Ostrich Plume, Comet and Victoria strains about May 25th. These will bloom in September and October. To grow the best asters, give the plants a good, rich soil, full exposure to the sun, plenty of moisture at the root, and frequent sprayings with an insecticide, until flowers show their color. I use a solution of hellebore one ounce to three gallons of water. Aster bug must be hand picked daily.

Poppies are generally sown broadcast and the sower trusts in Providence that they will come up. When they do, they are generally so thick that they choke the life out of each other, or days are wasted thinning them out. If they must be sown broadcast, mix the seeds with sand before sowing, and scatter more freely. Before sowing, loosen the soil with a digging fork. Do not cover seed; let rains and weather do that. To have good poppies and have them when you want them, treat them as you would asters, i. e., sow them in March or April, prick them off singly as soon as they are large enough to be handled. Then, in the latter part of May, plant them one foot apart in a bed or border. At the same time, sow a few seed broadcast in the bed to maintain the succession; they will commence to bloom just as the first crop fades. The single Shirley poppy makes a beautiful showing handled in this way. More care is necessary to grow the double forms of the carnation- and peony-flowered varieties, as they are much more liable to damp off than the single varieties, but the better quality of the flowers pays for the extra trouble.

Mignonette.—Sow seeds for the main crop in the permanent bed or border where the plants are to flower, about the end of May when the soil has become warm. Put them in rows one foot apart. When the seedlings come up thin them, leaving about three inches between the plants, or leave them in clumps of three or four and about one foot apart. Where the soil is liable to bake, cultivate between rows as soon as possible. It sweetens the soil and prevents seedlings from damping off. If there is room in the coldframe, sow seed in March for flowers in June.

Nasturtiums.—Both the Tom Thumb and trailing varieties of nasturtiums should be had in great profusion. They may be used in the hanging basket, vases, on the trellises, among the shrubbery, on walls, in beds and borders. There are always flowers on them and the beautiful leaves are always clean and free from insects. For summer show and cut flowers, sow the seeds outside about the first of May in rows or clumps. When sown in rows, put the seeds six inches apart and a foot between the rows; when in clumps, put six seeds in a circle about a foot in diameter and the clumps about two feet apart. Train the tall-growing varieties on brush, like sweet peas, or plant them by trees, fences or shrubbery. The tall

Cabot's Shingle Stains

FOR—
HOUSES
BARNs
STABLES
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and all rough wood-work, especially shingles. They are softer and richer in color, easier and quicker to apply, wear better, look better, and are fifty per cent. cheaper than paint. Creosote, the chief ingredient, is the best wood-preservative known.

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KALMIA Latifolia

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Delivered prices and sizes on application.
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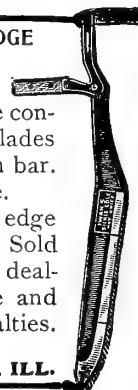
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BEST STANDARD VARIETIES

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The Woman In The Case



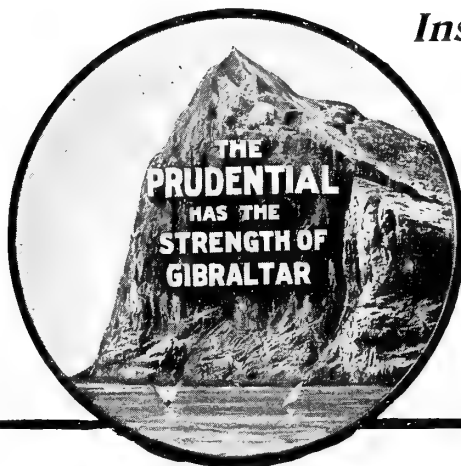
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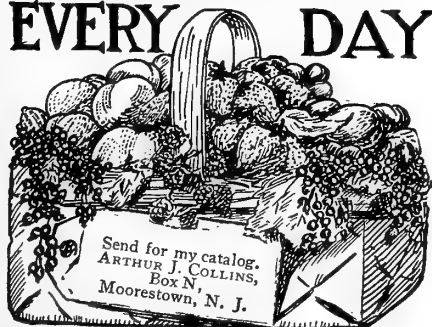
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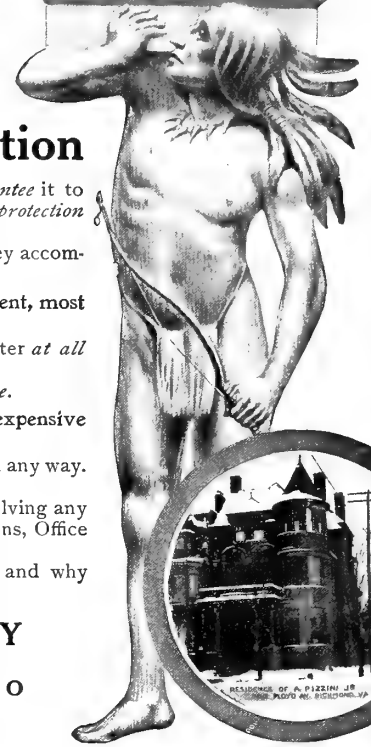
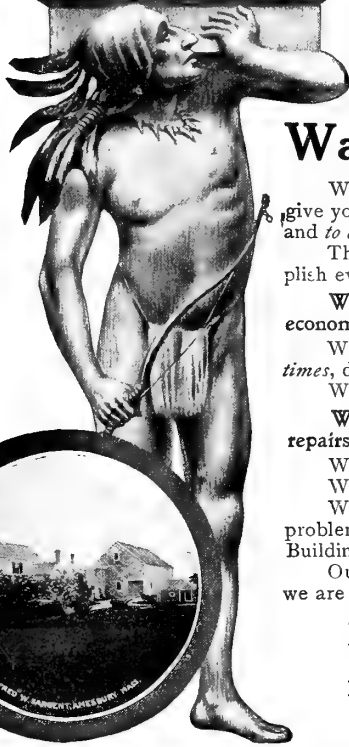
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THE MISTAKES YOU WILL AVOID by "knowing how" will pay for your course the first season, to say nothing of the added satisfaction and pleasure. Write to-day for a free copy of our eighty-page Catalogue.

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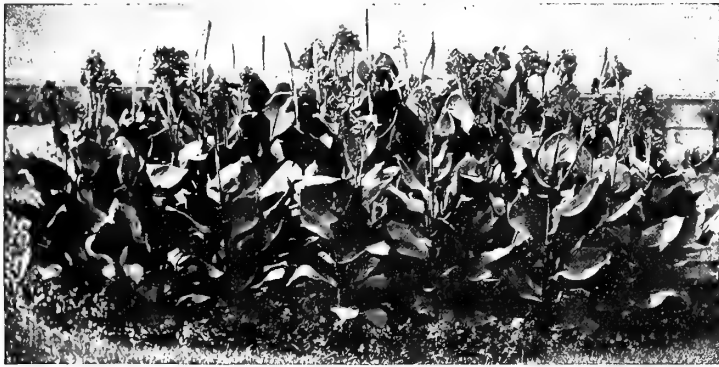


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Our Cannas are all started in pots (not dry bulbs), making a showing when first planted, and also blooming much earlier. The ground need not be raised for these plants.

Our "Popular" Canna Bed

For a 7-foot bed: Center, 6 Duke of Marlborough, dark red; 2nd row, 12 Florence Vaughan, yellow spotted red; 3d row, 18 Mme. Crozy, brilliant vermilion scarlet, deeply edged with golden yellow. For a border, 30 red Salvias. Price, complete by express, \$5.00; by mail, \$5.50. If some other border than Salvia is desired, select from page 4 of our catalog.

For a 5-foot bed: Center, 3 Duke of Marlborough; 2d row, 5 Florence Vaughan; 3d row, 10 Mme. Crozy, and 20 Golden Bedder Coleus for border. Price, complete by express, \$2.50; by mail, \$2.75.

For a 5-foot bed of solid red we will furnish 16 Pennsylvania, a brilliant shade, with 20 Golden Bedder Coleus for border, for only \$2.50 by express, or \$2.75 by mail.

Write for prices on other combinations for larger or smaller beds.

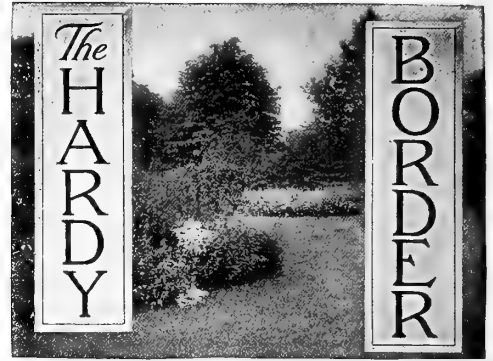
Bedding Geraniums

Nothing improves a yard or lawn so much as a splash of red color. For this purpose nothing excels our special bedding collections.

For a 5-foot bed we especially recommend the brilliant red Heteranthe, the best bedding geranium in America. It will take 20 of these, with 20 Dusty Miller for border. The 40 plants, by express, \$2.00; by mail, \$2.25. Golden Bedding Coleus may be selected instead of Dusty Miller.

OUR 1907 CATALOG—FREE. This contains many other desirable combinations for bedding purposes as well as a full line of all that is desirable in plants, seeds and bulbs. Write for it to-day.

SCHMIDT & BOTLEY Box 65 SPRINGFIELD, OHIO



Two Hellebores Worth Knowing

The first of the hellebores here pictured is the green hellebore (*Helleborus viridis*), a plant with yellowish green flowers about two inches across which blooms in May. It is a member of the buttercup family, and belongs to the same genus with the Christmas rose and Lenten lily, but differs in having deciduous, instead of evergreen, leaves. Also, the color is not quite as pure. While it is undoubtedly inferior from the garden point of view, it is thought worthy of cultivation in Europe and a few American nurserymen keep it. I have never seen it growing wild



The green hellebore (*Helleborus viridis*), a hardy perennial plant with yellowish green flowers about two inches across, which appear in May

A WOMAN FLORIST Hardy Everblooming Roses 25c

On their own roots ALL WILL BLOOM THIS SUMMER
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- 6 Beautiful Coleus, 25c.
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They give the best light, too, because they fit and are made of tough glass, clear as crystal.

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"Everything for the Hardy Garden."

M. M. DAWSON, Manager
JAMAICA PLAIN, MASS.

in America, although it is locally adventive from Europe in waste places in New York, New Jersey, Pennsylvania, North Carolina, and West Virginia.

The American white hellebore (*Veratrum viride*) is not a true hellebore, as it belongs to the lily family. It is a plant of extraordinary and unique beauty in March, because of the plaited character of its unfolding leaves, as shown in the accompanying picture. It is often confused by the public with the skunk cabbage because both plants grow in wet places and make exuberant leaf-growth in early spring, but the unfolding leaves of the American white hellebore have a formal or decorative beauty which is quite absent from the coarse and formless leaf of the skunk cabbage. After once seeing the two plants side by side you will never mistake them

The Secret

of a fine lawn or pasture lies not alone in the seed nor the soil, but in the combination of the two. Your seed must be mixed according to the soil on which you sow it.

Sit down and write us a description of the soil you wish to seed and we will give you a special mixture suitable for it. This way you are certain of a fine lawn or pasture.

We are not a new firm, having been in the seed business for 50 years, specializing in lawn seed. Send for catalog.

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Codling Moth, Bud, Gypsy, Brown-tail and Tussock Moths, Tent Caterpillar, Canker Worm, Pear and Cherry Slug, Vanessa Butterfly, Maple Worm, Potato Bug, Currant Worm, Asparagus Beetle, Cranberry Insects, etc.

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It is full of invaluable information, illustrations of flowers and beautiful lawns.

It shows how the modest as well as the most extensive grounds can easily be made charming and attractive. There is nothing more pleasing and delightful to cultured taste than artistic and properly planted grounds.

We grow and import all of the choicest hardy plants, shrubs, trees, box and bay trees for creating beautiful landscape effects in formal or natural landscape gardening. Write now, lest you forget.

Wagner Park Conservatories
Box 202, Sidney, Ohio



The American white hellebore (*Veratrum viride*), a swamp-loving perennial plant noted for the beauty of its plaited leaves in early spring

and one of the keenest joys of returning spring will be the greeting of this veratrum.

The American white hellebore is cultivated in Europe in bog gardens but is too common in this country to have attracted the attention of cultivators as yet. Hundreds of people who admire its beauty in early spring wonder what becomes of the plant. It sinks out of notice in midsummer because its flowers are small and green, and these are succeeded by green fruits. The plant sends up a single stalk three or four feet high but has nothing attractive about it after the leaves have unfolded. It simply fades into the greenery of the woods.

Pennsylvania. W. E. PENDLETON.

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Every hardy border and bulb bed ought to have a winter covering of litter, not to keep the frost out but to keep it in if possible. It is the alternate freezing and thawing of the ground that kills hardy perennials, bulbous plants and strawberries by heaving and breaking the roots.

Every beginner who uncovers his bulb



Uncovering bulb beds in March. Keep the mulch handy by for protecting the new growth on extra cold nights

The Elm City Nursery Company, New Haven, Connecticut



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Nothing so valuable has appeared for years. A perfectly double form of our native *Hydrangea arborescens*, registered as *Grandiflora alba*. Imagine our beautiful native *Hydrangea* bearing great heads of snowy white sterile flowers fully as large and perfectly formed as the best of the tender tub sorts from Japan. Blooms from June until October. As a single specimen, in groups or as foreground for larger shrubs, it is bound to be a tremendous success. Splendid illustration of it in our new 1907 catalog. Offered this year for the first time. Ready May 15. Well-established from 3-inch pots, each 50 cts.; per 10, \$4.50.

Limited stock of field-grown plants listed in our 1907 catalog. The Elm City Nursery Co., New Haven, Conn. Our 1907 Hardy Tree and Plant Catalog is ready. You can well afford to send for a copy before placing your spring order.

1840 1907

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We Guarantee everything we ship to be true to name and variety, to be healthy and vigorous and otherwise as represented.

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NOVELTY FOR 1907

A strong, vigorous, healthy, firm, staminate variety. A great cropper. A mortgage lifter. All the new and standard varieties for sale. Send for descriptive catalogue. C. S. PRATT READING, MASS.

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MARY'S GARDEN AND HOW IT GREW
by Frances Duncan. A practical treatise on making a flower garden, told in the form of a story in a way to interest young people and help them to lay out and tend a garden. Illustrated, \$1.25. Postpaid by the Century Co., Union Square, New York.

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The Newer Hardy Perennials

are wonderful improvements over the kind that grew in grandmother's garden. Scientific plant breeders both in America and Europe have of late years devoted much time and skill to the improvement of old-fashioned perennials; and to the creation by cross-fertilization of many new hybrids.

Our collection of hardy perennials we believe unequalled in size and embraces every new kind worth growing as well as all the old favorites that have stood the test of time.

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of hardy perennials are made of sorts that are sure to give satisfaction. All with good strong roots and will bloom this season.

12 distinct species, our selection, \$1.50.
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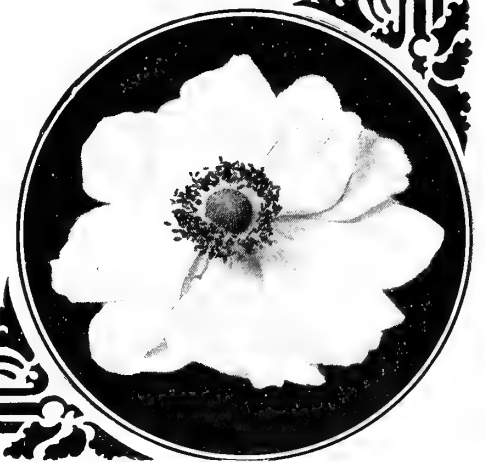
Dreer's Garden Book

contains a special section devoted to hardy perennials in which the worthy novelties and dependable kinds are fully described and illustrated.

Dreer's Garden Book is a veritable encyclopedia of everything pertaining to vegetables and flowers. Beautiful color and duotone plates and 224 pages profusely illustrated. Every grower of flowers or vegetables, whether for pleasure or profit, should write for a copy. Mailed free if the name of the publication in which this appears is mentioned. **Write to-day.**

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Japanese Anemone
Alba



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A book on gardening for the home-maker, by the foremost amateur gardener of the United States. It includes interesting and instructive chapters on-

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Spring Planting

and wish to thank them for the liberal and ever-increasing patronage which has been bestowed upon us. From a modest beginning in 1848 our business has grown until it is the most extensive in New England and one of the largest in the United States. We have several hundred acres continually in Nursery Stock, and our personal attention is devoted to every branch of the business, and our life-long experience enables us to judge as to the varieties best adapted to the different localities.

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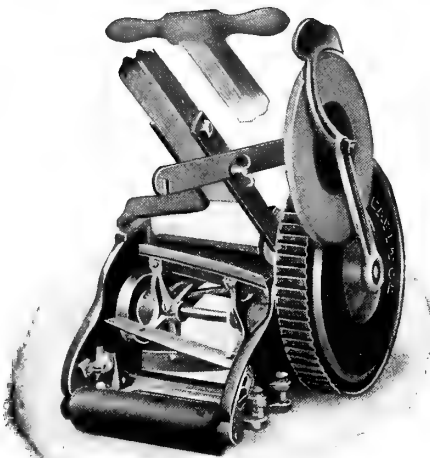
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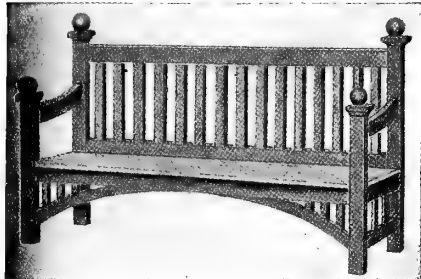
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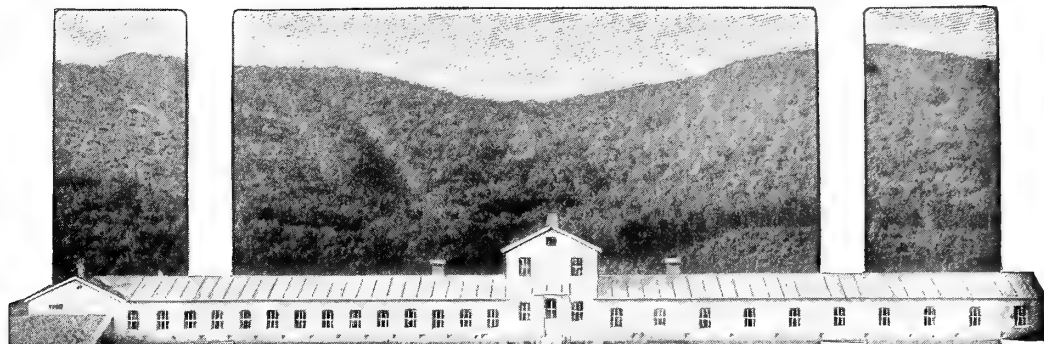


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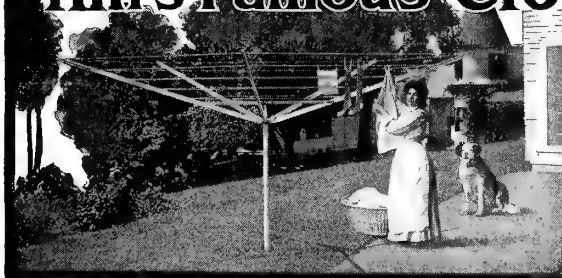
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Tender or Obsolete Varieties	Grouping
Varieties of Doubtful Hardihood	American Evergreen Species
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Soil	Mulching
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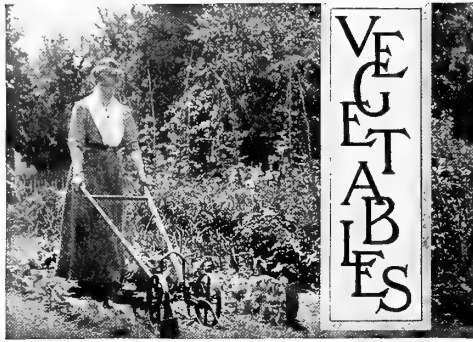


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Some Vegetables Worth Planting in April

THE following half-dozen hardy vegetables should be planted as soon as the ground can be worked for two good reasons: First, the earlier the start the sooner the crop matures; second, because as the season warms up other duties become more pressing. Always plant the hardy vegetables as soon as possible.

Parsnips.—In order to have parsnips of the largest size and best quality, sow seeds in April as soon as the ground can be worked. A clean, deep, rich soil is best. Make the drills one inch deep and fifteen to twenty inches apart. Sow the seed rather thickly as it does not always germinate well. As soon as the plants have attained a height of two inches, thin them to four or six inches apart. Cultivate freely till the ground is well shaded by the leaves. Cultivation may then be dispensed with.

The parsnip is one of the easiest vegetables to grow, but they are very slow to mature. They may be stored in moist sand or soil in the cellar, or they may remain in the ground where they grow, as they will stand any amount of freezing. Parsnips left in the ground attain a fine sugary flavor and keep much better in this way, but they must be covered with three or four inches of coarse litter; and as they can be dug much easier at any time during the winter, where one grows a liberal quantity of them, half may be stored in the cellar and the balance left in the ground till needed.

The two best varieties are Hollow Crown and The Student. The latter variety is adapted for small gardens and is ready for use after the first frosts.

Salsify or Oyster Plant.—This vegetable has the flavor of the oyster, hence its name, and is used for flavoring soup. Give the same treatment as described for parsnips. Any amount of freezing will not harm them, so they may be kept all winter in the ground outdoors where they grew. They are ready for use in late fall. The best variety is Mammoth Sandwich Island.

Swiss Chard.—This delicious vegetable is an excellent one for the hot summer months, and is grown as a substitute for spinach or beet greens. The richly flavored midribs of the leaves are cooked and served as asparagus, or the leaves may be cooked and served as beet greens. Sow the seed, moderately thick, in drills one inch deep and one foot apart. It requires no thinning and is ready for use as soon as the leaves are two

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or three inches in length. Gather when the leaves are young and tender, and as fast as it is picked, more leaves will push out. Sow the seed about April 15th, and for succession every four weeks until July 15th.

Turnips.—There are two classes of turnips, the flat, and the Rutabaga or Swede.

Grow the flat turnips in a moist, loose soil that has had a liberal dressing of air-slaked lime to kill the white maggot, which works its way into the roots and spoils them. Sow the seeds in April as soon as the ground can be worked, in drills one inch deep and one foot apart. Thin to three inches apart, to prevent overcrowding, as soon as they have made two rough leaves.

There is another destructive insect called the flea beetle which attacks the young turnips as soon as they push through the ground. A good dusting of soot or wood ashes, when the dew is on them, will keep this insect in check.

The flat turnip cannot be grown in the hot summer months. Sow seed April 1st, and again for succession May 1st, and for fall and winter use, July 1st and August 1st to 15th.

The turnip will stand some frost, but must not be left in the ground after hard freezing weather sets in. The best varieties are Extra Early White Milan, and Purple Top Strap Leaf.

Rutabagas are grown as a main crop for winter use, and their culture is similar to that of the flat turnip. They require a good, rich, moist soil and must be grown quickly. Seed may be sown any time from June 15th to July 15th in drills one inch deep and eighteen inches apart, moderately thick. Thin to six inches apart. Stir the soil at least once a week to kill weeds and conserve moisture. They are a rich, succulent vegetable, a heavy yielder and an excellent vegetable for winter use. They may be subjected to a few heavy frosts but should be harvested before heavy freezing weather sets in. They may be stored in any ordinary cellar, provided they are well covered with moist, not wet, sand or soil. The best varieties are Family Rutabaga, and Champion, or Swede.

Radish.—Radishes are another very important vegetable and of the easiest culture. A very small space will furnish an abundant supply for an ordinary-sized family.

Sow seeds in the spring, as soon as the ground can be worked, in drills one inch deep and ten inches apart. The richer the soil the better. Some gardeners sow the seeds with other vegetables to indicate where the drills are. Radishes must be grown quickly to be crisp and tender. Like the turnip, they are subject to the white maggot, but a dressing of air-slaked lime or unleached wood ashes, after planting, will hold it in check. Radishes soon become pithy, rendering them useless, so make successional sowings every ten to fifteen days. They mature in three to six weeks.

The best varieties for early spring use are French Breakfast and Olive Shaped Scarlet.

The summer radishes are grown similar to the spring ones; but must be grown in rows which are from twelve to fifteen inches apart,



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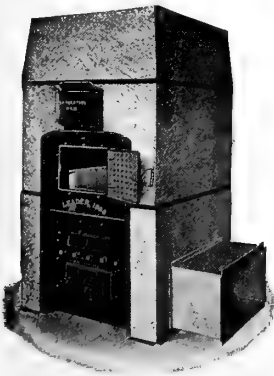
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W. F. McCORD CO., Seedsmen & Nurserymen,
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and the soil should be made firm with the feet or a hoe. It should be kept constantly cultivated to supply all the moisture possible. A situation that is shaded during the hottest part of the day is desirable to insure success. The best varieties for summer and fall use are Chartier, Stuggart and White Summer Turnip.

Winter radishes are of a much slower growth than the preceding ones and may be had for use all winter. Sow the seed from July 15th to August 15th in drills twelve to fifteen inches apart, moderately thick, thinning out about two inches apart. Grow as rapidly as possible, so as to have well-matured roots before freezing weather sets in. Store in the cellar, covered with moist sand or soil, as described for turnips.

Cardoon.—A good winter vegetable but little known in this country, and one that ought to be grown extensively is the cardoon. It is cooked and served like asparagus. It is of the earliest culture, and of similar appearance to the globe artichoke. Sow seeds in the open ground or border about April 15th in drills one inch deep and one foot apart. As soon as they have made their first set of rough leaves, transplant to a specially prepared trench, which has been dug one foot wide and ten inches deep, putting in four inches of thoroughly rotted manure and on this two inches of soil to plant in.

Set the plants two feet apart and select a cloudy day, if possible, to do the work. Water thoroughly after transplanting. They need an abundant supply of moisture, in order to make a strong rapid growth.

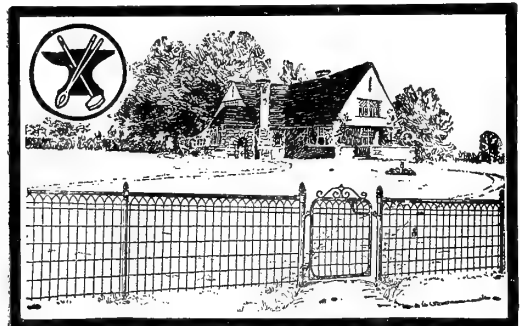
When the leaves are nearly full grown, draw them together and tie at the top with straw or similar tying material that will not cut the leaves, and work the soil up to them to blanch them. Select a dry day for this operation. When danger of frost approaches, bank up the plants with soil and cover the sides of the trench with leaves and short litter so as to protect them securely from severe cold. **GEORGE STANDEN.**

Three Summer-blooming Greenhouse Plants

BEFORE the beginning of April is the best time to sow seeds, or start the tubers of gloxinia, begonia and achimenes. The two first may as well be raised from seeds; that is the way to get a good quantity of the plants for a little cost. Bulbs of these may be started just as well a month later. The achimenes are the most attractive greenhouse plants for summer flowers, and grown in baskets, will give a greater floral display than anything else. The flowers are tubular, but expand into a flattened nasturtium-like flower one to two inches across. The colors are red to purple and white. The tubers are scaly and really look like the flowers of a birch tree. These scales may be sown just like seeds in a light, sandy seed soil.

Heights of Vines—Correction

READERS will please note that on the last table at bottom of page 155 the figures given under the heading "height" signify feet and not inches as might be inferred.



Fences?

THIS is one of the many beautiful Lawn Fences we make—strong, beautiful, durable and very inexpensive considering the quality. Made of heavy woven netting, with the patented Anchor Post Construction—a patented and galvanized Post that keeps the fence in perfect alignment forever, and fully protects it against rust.

We also make and erect—on one contract—all kinds of Iron and Wire Railings, Fences and Gates, for Lawns, Gardens and Farms. Original Designs and Estimates free. If you really want the highest possible quality, write for Catalog No. 30A.

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LANDSCAPE DESIGN A SPECIALTY
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GOLD MEDAL
ST. LOUIS
EXPOSITION
1904

Feb. 28th
Red Letter
Day

*It speaks volumes for the
Rosedale Nurseries*

That one who has had several carloads of our stock has now placed an order for nearly \$2000.00 more— notwithstanding two well-advertised nurseries are eight times nearer.

The first order included stock from all departments, which made the task thro'

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Tarrytown, N. Y.*

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"SCALECIDE"



will positively destroy all soft bodied, sucking insects, including all forms of San José scale. It is simple; cheap, easily applied and wonderfully effective. Endorsed by government experiment



stations, agricultural schools and thousands of fruit growers

The above pictures are made from photographs taken at Sound Beach, Conn., in June, 1906. They were in a like condition the year before. The right hand tree was sprayed with Scalecide and saved. The other tree was left unsprayed and has been killed by scale. For further information address DEPARTMENT E.

B. G. PRATT CO., Mfg. Chemists, 11 Broadway, New York, N. Y.

FARMING ALMANAC

1907



The most beautiful and comprehensive farm almanac ever published. Tells everything of importance to farmers and gardeners. A **SPECIAL FEATURE**:—Twelve "immediate service" coupons in the back of each volume, insuring a personal answer by an expert, to any question pertaining to the farm. Mail one to us and we study your problems for you.

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This invaluable Almanac and a year's subscription to *Farming* absolutely free!

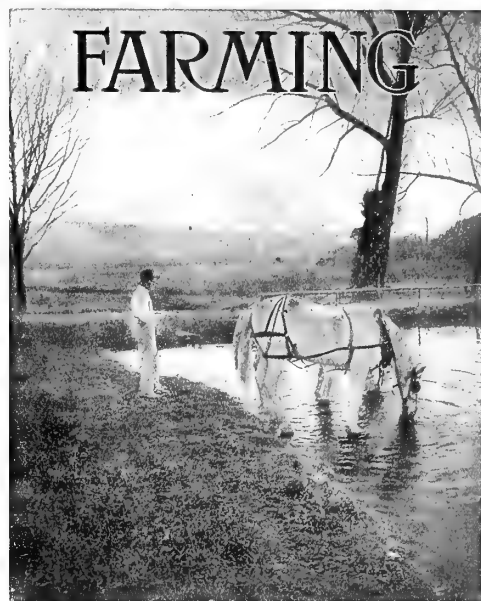
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No. 1.—Send us \$1.00 for your subscription to *Farming* for one year and we will send you the Farming Almanac free of all charge.

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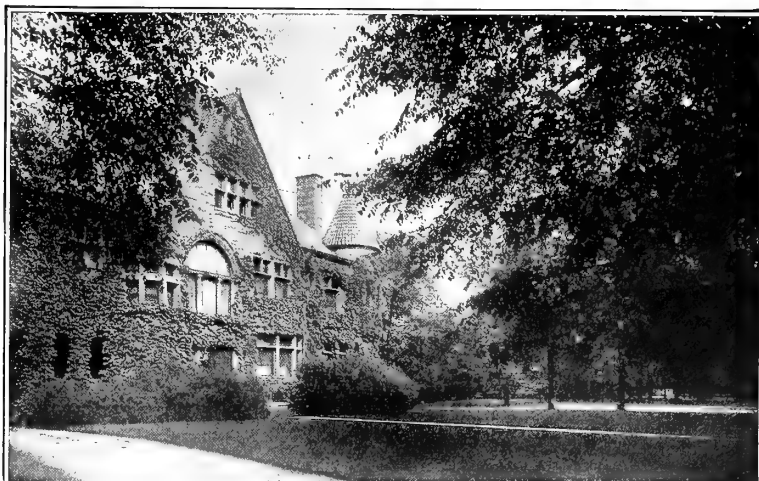
A publication beautifully illustrated, eminently practical, and intensely interesting. It is full of the successful experiences of farmers, explaining their methods and publishing their balance sheets. It tells how some men have made fortunes in a year's time, and how others have doubled the price of their land during the period of a year. Together with the *sound* experiences, it contains much excellent advice from some of the most prominent men of the Department of Agriculture, who keep you in touch with all the newest developments in agriculture.



GET OUT AND DIG!

Spring is here—summer coming—what are you going to do about that garden, and how about that greenhouse you've been thinking about so long? You can't have a greenhouse until you've ordered it any more than you can make a plant grow until you've planted it, so here is the moral: each year you put off that greenhouse, means one year less of greenhouse pleasure and not alone are you one year behind, but consider how much further ahead you would be next year by starting now. If you want that house ready for next year you must certainly build this year. Send 5 cents in stamps for our booklet, "How to Start with a Greenhouse." It will tell you just what you want to know.

HITCHINGS & COMPANY
Greenhouse Designers and Builders
Manufacturers of Heating and Ventilating Apparatus
1170 BROADWAY, NEW YORK.



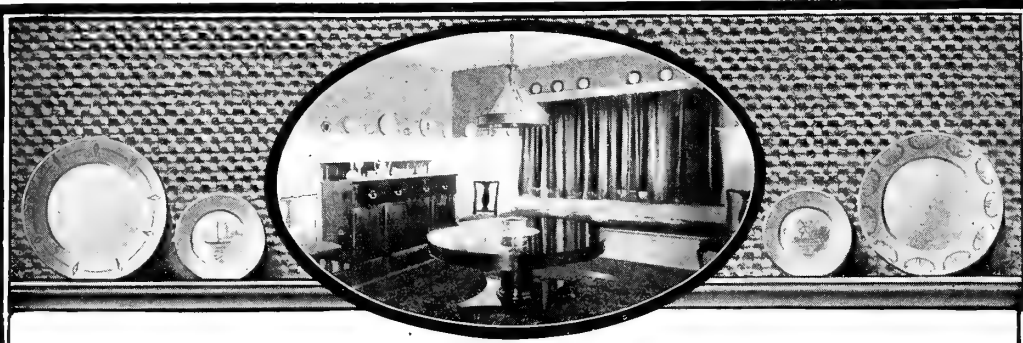
Keep Your Drives Clean.

Don't Dig Weeds



Kill them with **THISTLEINE**. Spray the walks, driveways and gutters with **THISTLEINE**. **ONE SPRAYING WILL KEEP THEM FREE FROM WEEDS AND GRASS THE ENTIRE SEASON.** Kills Dandelions, Burdock and Canada Thistles. **5-POUND CAN OF THISTLEINE will make sufficient solution TO SPRAY 40,000 SQUARE FEET.** Price, \$2.00. If your dealer doesn't keep it, send money direct to **LINDGREN CHEMICAL CO., 26 Scribner St., Grand Rapids, Mich.**

Used for four years by city of Grand Rapids and officially endorsed.



Artistic Simplicity in Wall Decoration

Simplicity is the keynote of harmonious and refined mural effects. There is an artistic touch—a richness of decorative effect in homes where walls are covered with

FAB-RI-KO-NA

TRADE MARK

WOVEN WALL COVERINGS

In such homes you will find that the most artistic and beautiful results obtain, the wall tones blending perfectly with color schemes of furnishings and of adjacent apartments.

FAB-RI-KO-NA combines art and economy in great degree. Made in a great variety of permanent shades, it is strong, durable and pleasing to the eye. FAB-RI-KO-NA cannot be easily scratched or torn; is clean, sanitary and easily hung. It is high-grade, yet not expensive.

We render a special service to all who contemplate interior decoration. Our experts will devise a color scheme adapted to your needs, showing actual samples of FAB-RI-KO-NA in actual shades contrasted with woodwork in natural tints, thus showing how your finished walls will look.

Write us for full information about this special and valuable service.

H. B. WIGGIN'S SONS CO., 34 ARCH ST., BLOOMFIELD, N. J.

Wheelock Rust Proof Guards

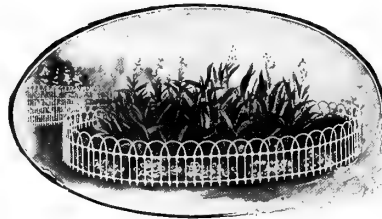
For Flower Beds, Vines, (trellis) Trees, Lawns, etc. (galvanized after weaving).

We are the only makers of a guaranteed Rust Proof Fence.

36 inch Rust Proof Fence, 25c per running foot.

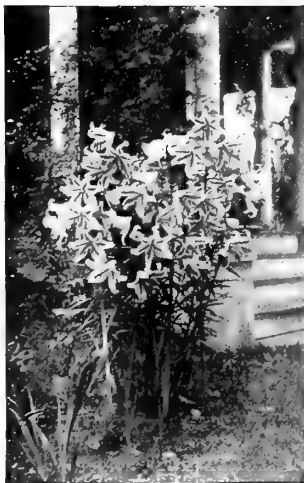
36 inch Regular Galvanized Fence, 20c per running foot.

If your hardware dealer does not have a stock, he will procure it for you. Cheaper than iron or wood and more durable. Catalogue upon request.



Wright Wire Co., Worcester, Mass., U. S. A.

Our Standard DOLLAR COLLECTION of Hardy and Beautiful Lilies



Lillium Auratum

- 1 LIL. AURATUM, white, golden banded
- 1 LIL. RUBRUM, white, rosy spots
- 1 LIL. ALBUM, pure white
- 1 LIL. MELPOMENE, brilliant carmine dashes on white ground
- 1 LIL. BATEMANNIÆ, soft apricot color
- 1 LIL. KRAMERI, most beautiful rose lily in existence
- 1 LIL. TIGRINUM, golden orange spotted

Delivery by mail or express included in price

\$1.00

Our March offer of Japan Dwarf plants holds good for April

Send for our 1907 Spring Catalogue. It is free



Dwarf Pine, very old \$1.00

H. H. BERGER & CO.
47 BARCLAY ST. - - - NEW YORK

The Southerner's Reminder

IN THE latitude of Richmond, sow outdoors tender vegetables, e. g. corn, lima beans, the tomato family and the cucumber family. If the season is cold and wet do not sow the latter until May.

Sow outdoors the second installment of hardy vegetables, e.g. lettuce, radishes, beets.

About the middle of April sow seeds of tender annual and perennial flowers, e.g. heliotrope, scarlet sage.

Set out the tender bulbs that are planted in the spring, viz. cannas, dahlias, etc.

Sow outdoors celery for the main crop.

Early April is the last chance for sowing June grass seed for lawns.

In the latitude of New Orleans sow outdoors the main crops of Lima beans, corn and okra.

Fill the vacant spaces in your garden, if any, by sowings of your favorite vegetables which you want without interruption throughout the season, e.g. beans, beets and early peas.

Transplant to permanent quarters, cabbage and other hardy plants obtained from the first outdoor sowing made in February.

A \$2.50 Window Box for \$1.25

WE PAID \$1.25 each for 800 window boxes in 1906. This may seem a preposterous price for a simple box 30 x 7½ x 4½ inches, such as any handy boy with tools may make at no expense if he has the wood, yet I spent a month or more in getting bids from the leading concerns in New York City in a vain attempt to reduce that expense. Moreover, it includes soil and delivery, and in New York delivery is worth twenty-five cents and two pails of earth fifty cents. Thus, the net cost of the empty box was seventy-five cents and this is the least sum for which you may buy a window box unfilled at the department stores. If you bought the same thing at a florist's in New York it would cost you \$2.50 for the box alone or \$5.00 if filled with plants.

This perhaps explains why the "block beautiful" idea has not spread in America's greatest cities. To the country-bred person, five dollars seems an enormous sum to spend on a bit of dirt two and one-half feet long and six inches wide. But gardening is everywhere more costly than people commonly think and everything costs more in big cities. Moreover, window-gardening is the only kind of gardening possible in the most crowded part of American cities and since this part is the very one that needs flowers most of all, we should be extremely grateful to anyone who can show us how to get this box for less money.

We (The National Plant, Flower and Fruit Guild) distributed these boxes in the tenement districts, getting what we could for them, sometimes a quarter, sometimes nothing. Into them we put three geraniums, two English ivies and a wandering Jew, which would cost you from seventy-five cents to \$1.25, depending upon where you bought them and their quality. The ordinary geraniums that are sold in the streets in spring

Many people lose an opportunity like this by putting off. Don't you lose this one. Write below with pen or pencil and mail at once.

I enclose \$1.00 for which please send me your Standard Lily Collection.

Name.....
Address.....



Purity

The LILY is the Symbol of Naught Purity—CLEANLINESS. If Nature were to undertake our Washing and Cleaning for us—PEARLINE and PEARLINE'S method would be the means used.

Pearline Possesses Peculiar Purifying Properties—besides in doing away with the rubbing it DOES AWAY with the worst of the Work and Wear and Tear.

MORE MILLIONS USE **Pearline** THAN EVER BEFORE



Rife Automatic Hydraulic Ram

(Water Pumped by Water Power)

No Attention No Expense
Runs Continuously

Country Homes Formal Gardens
Farms Town Plants Irrigation
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5000 in Operation 80% efficiency developed
Catalog and Estimate Free

RIFE ENGINE CO., 2109 Trinity Bdg., New York

GOLD FISH Aquariums, Globes, Castles, Water Plants, Etc. The most beautiful, least troublesome and longest lived Pets. A book full of good information for the asking.
THE PIONEER AQUARIUM MFG. CO., RACINE, WIS.



Amatite ROOFING

NOTHING FOR NECESSITIES—NOTHING FOR REPAIRS

When you buy Amatite everything is included in the FIRST COST.
There is no cost for EXTRAS, because we furnish nails and cement for laps free with every roll.
There is no MAINTENANCE cost, because its mineral surface makes painting and coating absolutely unnecessary.
There is no REPAIR COST, because Amatite is so constructed that it needs no attention after it is once laid on the roof.
There is no LABOR cost, because Amatite is so easy to lay that you can do the work yourself.
The first cost is the only cost—THE FINAL COST.
Amatite is the only Ready Roofing embodying every good point that a roof should possess.
Heat and cold, rain and snow, acids and chemicals do not affect it, and in addition to this its mineral surface makes it one of the best fire-retardents known. It is roofing at its best.

Free Sample A Booklet telling more about it and a Free Sample will be sent upon request. Send at once and see for yourself how much better Amatite is than the "paint me every two years or leak" roofings.

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New York Chicago Cleveland Allegheny Kansas City St. Louis
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QUALITY SEEDS, BULBS, PLANTS

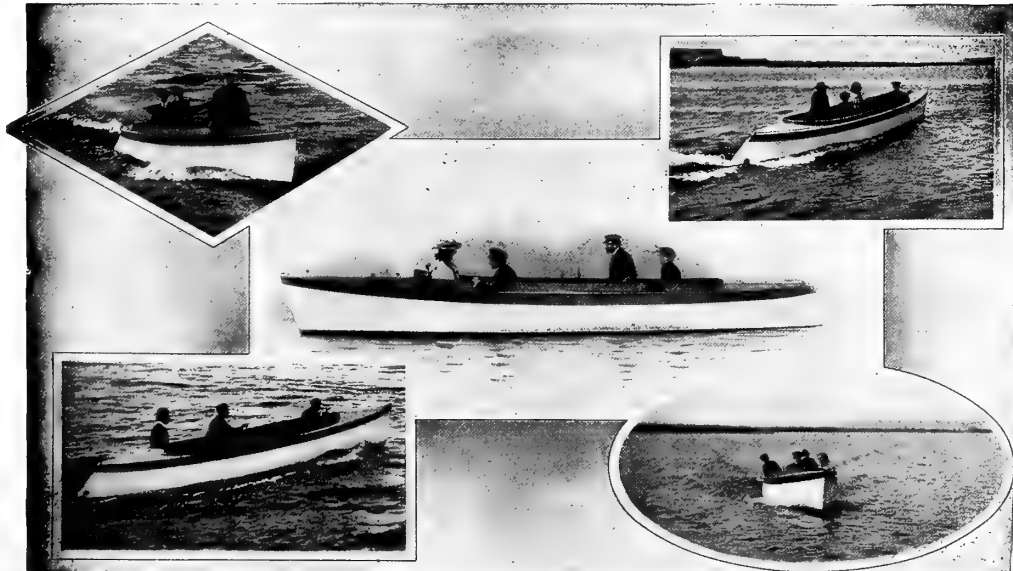
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ARTHUR T. BODDINGTON
342 West 14th St., New York.

The Hardest and Best RHODODENDRON known is
CATAWBIENSE

The True Carolina Mt. Species, grown only at HIGHLANDS NURSERY (3,800 feet elevation), Saginaw, N. C.

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The most unique and beautiful plant catalog published (exclusively Native Plants) to those interested.
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are built right, run right, priced right and are guaranteed to please. They are the craft of the people, by the people, and for the people—the pleasure mediums of the aquatic world.

We can reach you from 122 W. 34th St., New York, 182 Milk St., Boston, 38 Delaware Ave., Camden, N. J., 1610 Michigan Ave., Chicago, 182 Jefferson Ave., Detroit, 321 First Ave., South Seattle, Washington, or any of the other large cities.

Racine Boat Manufacturing Company
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When writing for our large illustrated catalogue, enclose five cents to prepay postage

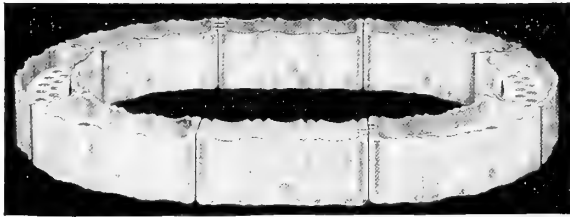
The Anglais Table Decoration for Arranging Cut Flowers

Naturally the ANGLAIS TABLE DECORATION will be at once appreciated by lovers of flowers. The ANGLAIS TABLE DECORATION is made up of two low colonial glass vases, one crescent and one rectangular in form, each containing a JAPANA CUT FLOWER HOLDER ready for use. (See Note.)

It takes 6 Cres. to make a circle. 6 Cres. and 2, 4, 6 or 8 RECT. to make an oblong according to the size desired.

The Effects Possible are Limited Only by the Possessor

NOTE—The JAPANA is a solid piece of glass full of holes allowing a perfect circulation for the water and holding the flowers in their natural position (the Japanese idea of beauty). Being of glass the JAPANA does not show when in water and flowers last much longer.



6 Cres. 2 Rect. with Japana \$6.00
AN OVAL ARRANGEMENT



Centre Piece in Use.

Low Vase with "Japana" complete - - - - \$1.00
"Anglais" units with Japana complete, each - - - - 75c.
Circular on application. Sent upon receipt of price.

M. V. GARNSEY, LaGrange, Ill.

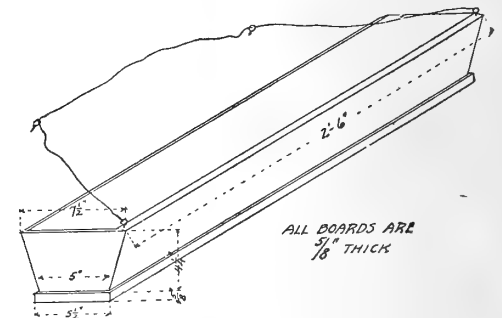
at ten cents each are no good, for this purpose, for we have proved that they will not bloom all summer.

We got good results from the window-boxes. The first prize was won by a cripple boy who raised his flowers in a window that never received any direct sunlight. He has had tuberculosis of the hip since babyhood and lives with three other children and his parents in a two-room rear tenement that faces north. The second prize was won by a woman of seventy.

Humanity quickly becomes degraded in tenement districts for want of ideals higher than those of the mere pleasures of the moment. The workers who pass through those hot, vile-smelling, noisy streets ought to have something pleasant to look at and think about. Flowers make for unselfishness. "I didn't think I'd have a window-box," said one woman, "but when you told me it would be as good for my neighbors as for me, I thought I ought to have one."

Next year we hope to have some one who loves flowers and has raised them under such conditions go about among the poor people and show them how to multiply their own plants and raise flowers in the winter. We hope to see a box of flowers in every window in New York City. As the movement spreads, more people will be able to pay the full price for the box. But all this costs money and we should be very glad to have contributions from anybody.

Send \$1.25 to-day to the treasurer of the society (Anita Lawrence, 70 Fifth Ave.) and you will have the pleasure of knowing that you have made life happier and better for a whole family.



An easily made window box. Will accommodate three geraniums, two ivies and a wandering Jew

If you want to make the box yourself, here are the measurements: Outside body 30 inches long; base 31 inches long; body 7 1/2 inches wide at top; base 5 1/2 inches wide; inside 29 inches long, 6 1/4 inches wide at top, 4 3/4 inches deep, 5 inches wide at base. Use 1-inch boards. Paint dark green outside and half-way down inside. To fasten it in place, get four screw eyes (two for the box and two for the window casing), and a yard of wire.

The ideal box should have several good-sized holes bored in the bottom for drainage, but we were afraid of drip on the buildings and consequent complaints by landlords, so we contented ourselves with merely putting in a few stones for drainage and the flowers have done well. By the kindness of a dealer in fertilizers we were able to give a package of pulverized sheep manure with each box.

New York. A. L. F.

GROWN IN GENEVA

THE natural vitality of a tree or shrub is like the "constitution" of a man—it means ability to withstand unusual conditions. Transplanting is a period of crucial tests in a tree's life. That's where Geneva Nursery Stock shows its value. It is grown in soil specially adapted to starting strong, healthy growth, and a climate that puts vigor into every root and branch.

ROSES, ORNAMENTAL TREES AND SHRUBS

Every tree and shrub worth planting in this country is grown at the Geneva Nursery. Our Trees are fine, strong specimens, and our Roses are field-grown plants, 18 to 30 inches high, with splendid roots.

Our General Catalogue contains, perhaps, more information about nursery stock, more planting instructions, better spraying-calendars and formulas than you have ever seen in a single book. It tells about every tree and plant you are likely to be interested in. Sent free.

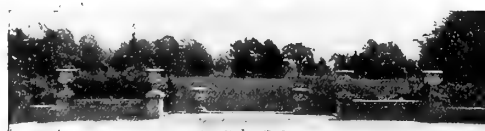
W. & T. SMITH CO.

THE GENEVA NURSERY

Geneva, N. Y.

Landscape Designing

SUCCESS in the treatment of your grounds means that each tree and shrub must be properly placed as well as perfectly grown. Our trees and shrubs are perfect when they leave the nursery. We like to help you place them through our Landscape Department.



We offer suggestions from your own sketch or take entire charge, from the topographical survey to the personal selection and placing of the stock from a wealth of native and imported shrubs and trees in our nurseries.

New Nursery Book—beautifully illustrated—brimming with things that will interest all lovers of Trees, Shrubs, and Herbaceous Plants—just out. A post card to the following address will bring one to you FREE.

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Landscape Department Offices, Rooms 9094-95 Metropolitan Building, Madison Ave. and 23d St., New York, N. Y.

A Free Book That Every Garden and Home Owner Should Have

THERE is not a single reader of THE GARDEN MAGAZINE who would not be benefited by knowing more about concrete. In a hundred ways it can serve a purpose upon any place, large or small. As the cost of lumber advances, its place is being taken in a multitude of ways by concrete, a material cheaper than real stone, more sanitary than wood, and indestructible. Because concrete construction is usually associated with heavier and bulkier work, we enumerate a few of the ways in which it can be utilized about the home, and its advantages in each instance.

CONCRETE GREENHOUSES

require no repairs, save fuel, retain heat, and keep out cold. They are cleaner and fresher, can be washed easier, and there is no wood to decay or iron to rust.

HOT BEDS AND COLD FRAMES

Concrete is not affected by moist soil which rots wooden frames in a year or two. It retains heat and gives plants a steadier, surer growth.

SIDEWALKS, CURBS AND GUTTERS

made according to the plans given in this book will be permanent and attractive.

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The proper storing of roots and bulbs through the winter requires a cellar that is impervious to water and easily cleaned. Concrete is the cheapest and best possible material for the purpose.

KENNELS AND CHICKEN HOUSES

The protection afforded by a concrete chicken house against rats, weasels, etc., and the ease with which they can be kept clean should be sufficient to give it preference over every other kind. A kennel of concrete can be washed with a hose and kept perfectly clean.

WATER TANKS AND CISTERNS

There is nothing to rot, nothing to rust and nothing to contaminate the water in a cistern or tank of concrete. It has no hoops to burst and no mortar to fall out.



Interior of Concrete Greenhouse



A Concrete Greenhouse During Construction



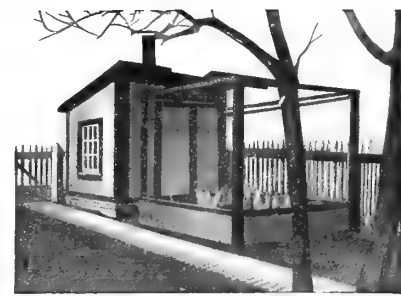
Concrete Dog House



A Reinforced Concrete Cottage



Concrete Walk, Horse Block and Hitching Post



Concrete Chicken House

“Concrete Construction about the HOME and on the FARM”

contains 127 pages of practical information about the ordinary uses of concrete, the uses that appeal to the average home owner. It tells in language free from technical terms how to make concrete and how to use it, with full tables and diagrams. The 145 illustrations are mostly photographs of actual work, much of it by amateurs. It tells

- How to Make Concrete
- How to Make Concrete Forms
- How to Make Reinforced Concrete
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- How to Build Barns and Out-buildings
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- How to Build Farm Buildings (by the leading specialists in the country)
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“CONCRETE CONSTRUCTION about the HOME and on the FARM” will be distributed free of cost. Write for a copy to

THE ATLAS PORTLAND CEMENT CO.

Inquiry Department, 30 Broad St., New York

Just a word about buying cement. Be sure you get **Atlas**. This label is for your convenience in buying. It is on the head of every barrel and the side of every bag and no substitute should be accepted. **THIS** cement is recognized by U. S. Government Engineers as the Standard American Brand and is Always Uniform.



Home-made Gas-Light for Country Houses

TAKES about one hour's work *per month* After that you merely turn a tap whenever you want light, touch a match to the burner, and, presto—*light*.

Yes, brilliant, beautiful, *white* light too, that spreads *around* a room like daylight.

A light that gives sparkle to every polished article it falls on—gleam and glisten to white table linen—and a genial, cheery glow to everything it illuminates.

Just like putting varnish over a faded picture—this *glorifying* Acetylene Light.

Now that is cold *fact* which I'll prove up to your satisfaction or no pay.



Wouldn't you like to get rid of the everlasting smell of Kerosene or Gasoline in your home?

Wouldn't you like to know that *never again* would you have filthy Kerosene Lamps to clean and fill, wicks to trim, chimneys to wipe, and the permanent dread of fire?

Wouldn't you like to know that in every room you had a pretty brass fixture firmly attached to ceiling, or wall, where it *couldn't* be tipped over by the children—where it was never in the way, and was always *ready* to touch a match to when you wanted *light*—little or much?

Wouldn't you glory in the absence of soot, smell or danger?

Wouldn't you like your visitors to find in your home that smart "city style" which Gas-lighting gives, that beautiful, soft radiance shining down from the ceilings where it does *not* get in your eyes like the glaring light of sooty, smelly Kerosene Table Lamps?



Well, Madam Householder, you *can* have all these at *less cost* than kerosene costs you now, when once installed.

In about two days' time an eight to ten room house can be completely fitted, from cellar to garret, with beau-

tiful brass chandeliers and globes, complete piping, and a reliable Generator which is absolutely *safer* than any Kerosene Lamp or Gasoline Light.

All this, with 35 lights, *including* the labor of installation, at \$200 complete, (cash or terms) and lower cost if fewer than 35 lights are needed.

Not a pipe will show on your ceiling or walls, (except in the basement), and not a thread of your carpets will be cut or soiled in the installation.

This Acetylene Gas Plant will be good for more than *twenty years'* constant use.

And from the day your *own* Acetylene Gas Plant is installed it will cost you *one-third* less for the most beautiful, softest and *whitest* Light than it ever did for the same candle-power with smoky, ill-smelling, dangerous Kerosene or Gasolene.

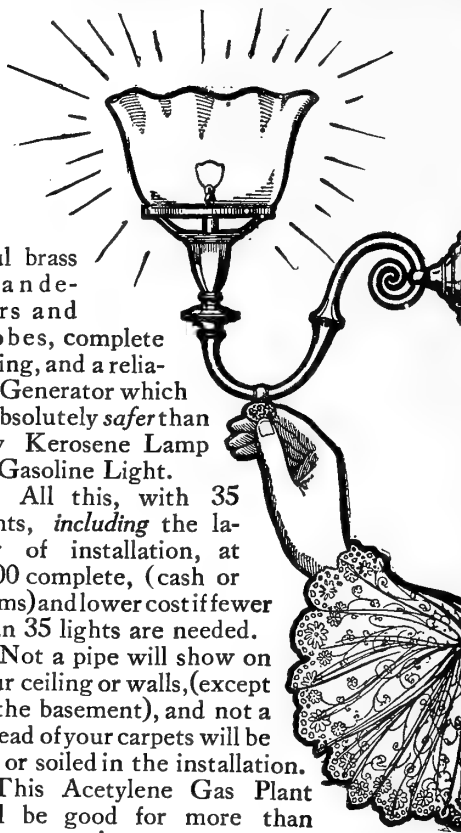
Just drop *me* a line to-day, stating how many rooms you've got, and I'll tell you just about how much it would cost to light them properly with this beautiful *white* light.

And, I'll send you "Sunlight-on-Tap," a book full of mighty interesting things about House, Store and Hotel Lighting.

Write me to-day, giving number of rooms and number of lights needed.

"Acetylene G. Jones,"

152 Michigan Avenue, Chicago, Ill.



The Californian's Reminder

ALL annuals, seeds of which were sown in March, will now be in good condition provided no failure has occurred. If they are not, it is not too late to make another sowing. Care must be taken not to allow the plants to become crowded. Give each plant room to develop, as one well grown plant will give more flowers than two spindly grown ones.

Stocks are always useful and so easily grown that no amateur need have any fear of failure. All that is wanted is a sunny, open place to plant them in. Throughout the summer and early autumn, the Ten Weeks stocks will flower in sixty days from the date of sowing, but in the late autumn and winter months they require eighty days to come into full flower. The Brompton stocks, if sown in the middle of April, will flower in November. These are much more robust in their growth than the Ten Weeks.

BUY NEW VARIETIES OF DAHLIA

Some new varieties of dahlias should be purchased every year. The Eastern growers root cuttings of the new varieties and the young plants are sent out about the end of April or early in May. As soon as the plants are received, place them in warm water for fifteen minutes and plant them in the evening. Stick a shingle into the ground in such a way that it will throw a shade over the young plant during the heat of the day. After four days the shade can be dispensed with. It is best to drive a stake to each plant as soon as planted, and tack on a label with the name of the plant upon it. The most useful stake I have found is made from redwood cut one inch wide and seven-eighths of an inch thick, and four feet six inches long.

The old plants of begonia are much benefited by a good dressing of fertilizer. They like coarse bone meal. Mix a quart into a wheel-barrow load of well-rotted manure, spread this amongst them and fork it well into the soil. In the southern part of the state, the shrubby varieties are much grown. Prune these into shape and cut out any poor growths before adding the fertilizer. If new plantings are made, select a corner with a southeastern exposure for them, and prepare the soil well before planting. They prefer a sandy, open soil with some old manure well mixed throughout the soil.

THE CARE OF ROSES

During April, roses will be in full flower. Should green fly attack them, spray with soap-suds—to make, dissolve two ounces of laundry soap in one gallon of water. If affected with mildew, dust the affected leaves with flowers of sulphur in the early morning, while the dew is on them. Cultivate the ground well, and towards the end of the month, mulch with half-rotted manure. This saves watering and keeps the ground cool. All waterings after the mulch is on must be given from overhead.

Sweet peas that were sown in the winter will now be in full flower. Pick off all flowers; do not allow the plants to seed, as this stops their flowering.

Santa Barbara, Cal. W. H. MORSE.

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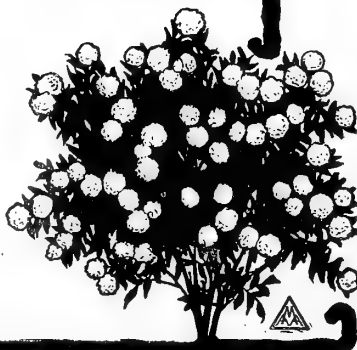
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Illinois "Our home attracts much attention. Many persons ask, 'How do you have such a lovely lawn?' 'Henderson's Lawn Seed,' we tell them." MRS. H. CHATTEN, Quincy, Ill.

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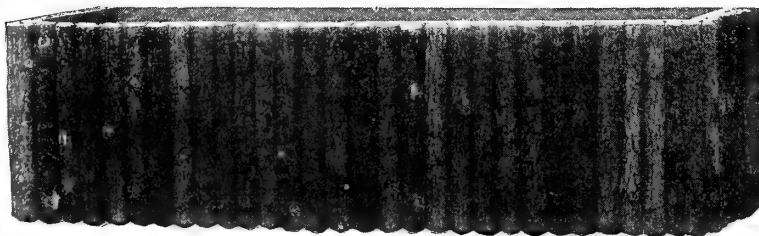
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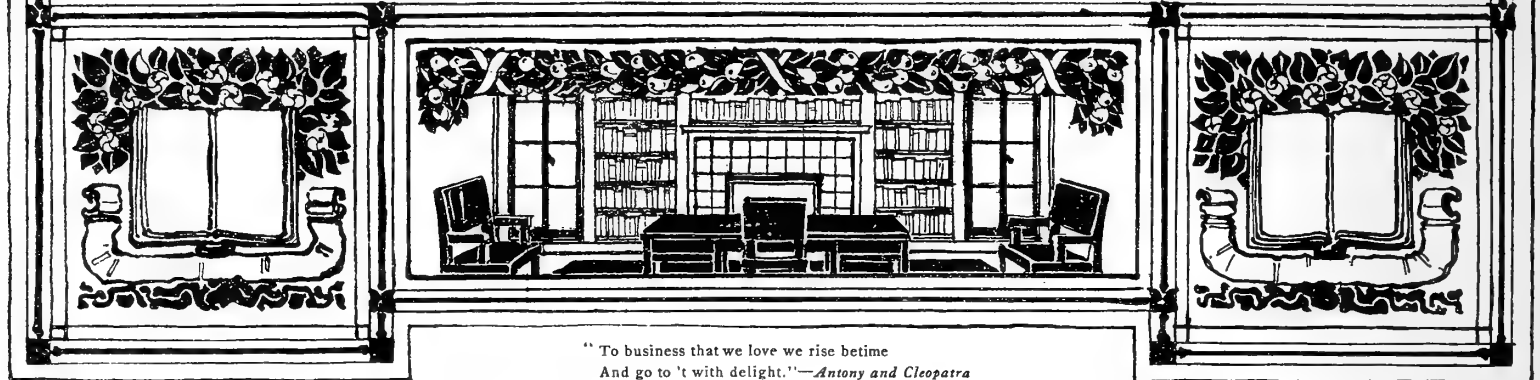
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And go to 't with delight."—*Antony and Cleopatra*

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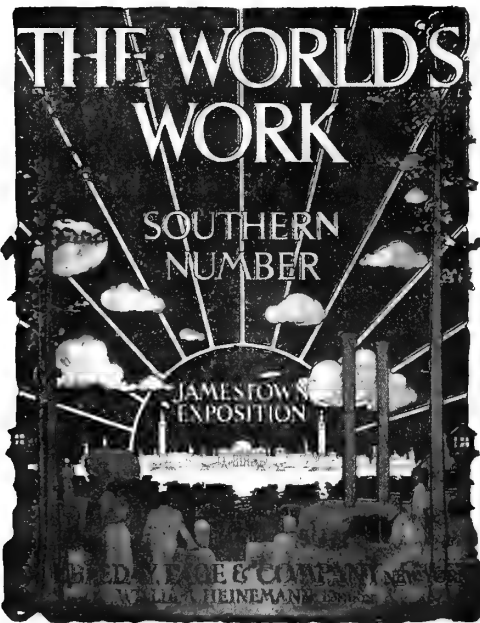
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The Annual Vacation Number

The next issue (June) of *COUNTRY LIFE IN AMERICA* will be the Vacation Manual. It will contain the prize winning vacation experiences for which awards were made last fall, and will be more stimulating and helpful than ever before. Here are some of the contents:

CAMPING FROM NEWFOUNDLAND TO CALIFORNIA. By *A. Radclyffe Dugmore.*

WHAT THE COUNTRY DID FOR ONE WOMAN. By *Agnes C. Laut.*

OPEN CANOE SAILING. By *E. T. Keyser.*

BIRD LIFE IN JUNE. By *Mary C. Dickerson.*

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MY HOUSEBOAT "HAME." By *B. A. Capron.*

CAMPING THOUGH CHAINED TO BUSINESS. By *C. D. L.*

EIGHT DAYS ON A NOVA SCOTIA LUMBER SCHOONER. By *Arthur Huntington Gleason.*

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If you're going anywhere this summer you can smooth the way by making use of our Readers' Service. We shall be happy to send you full information concerning fares, best and quickest routes, and hotel accommodations; and, *if desired, to book accommodations at hotels or on steamers.* The service is absolutely free to our readers.

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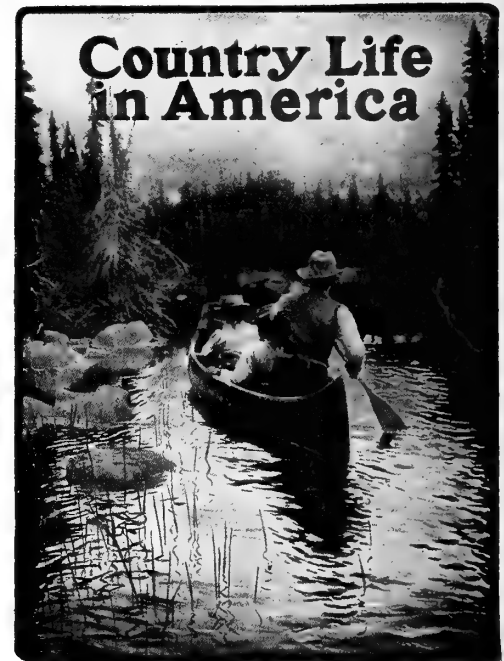
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ETC., ETC.

Not to mention an

EMPLOYMENT BUREAU where we are glad to record the names of all who desire help or positions. We have already on hand applications for positions from Auditor 1, Bookkeeper 1, Farm Laborers 2, Manager of Estate 3, and an

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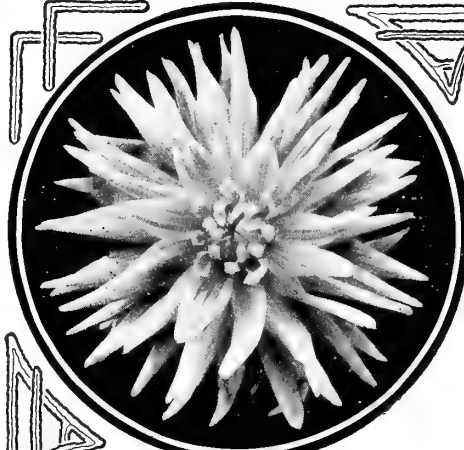
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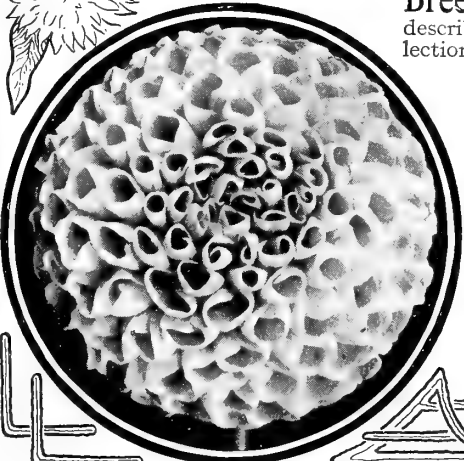
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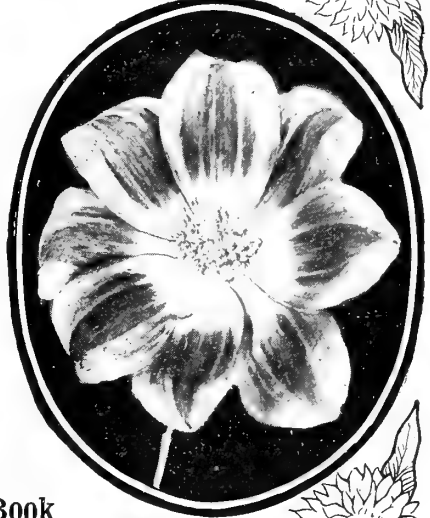
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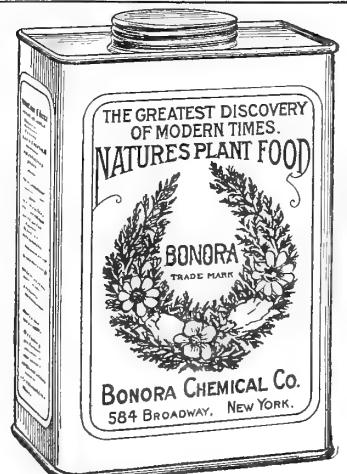
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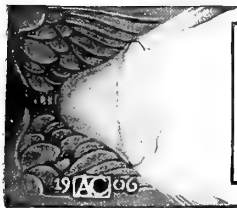
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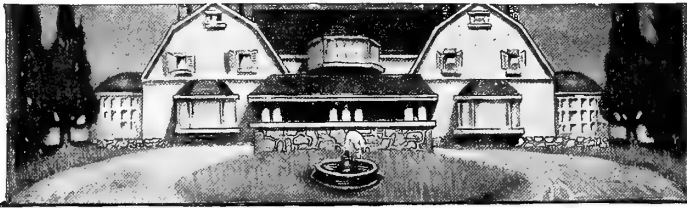
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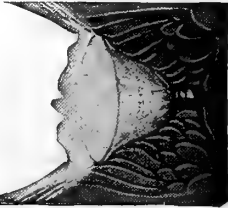
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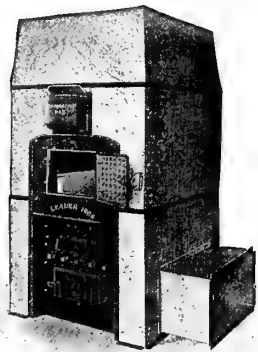
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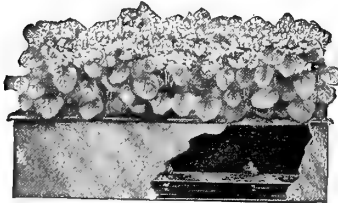
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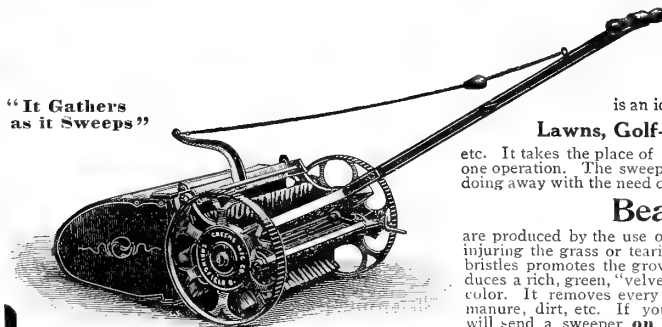
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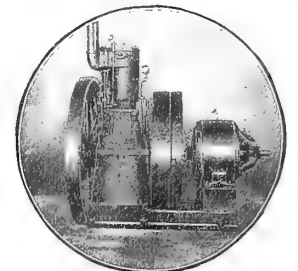
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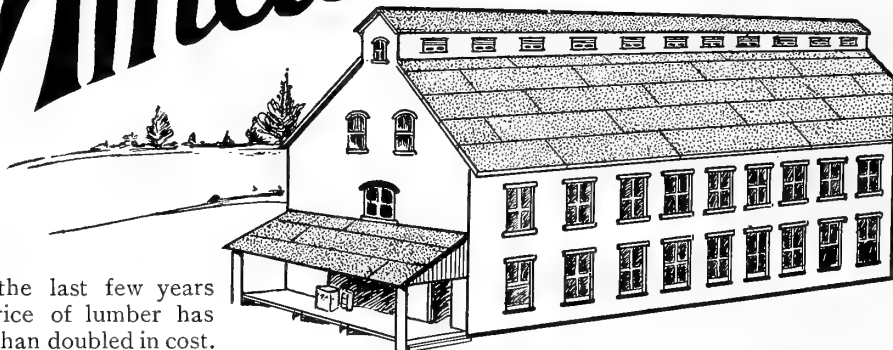
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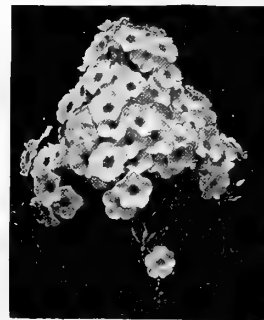
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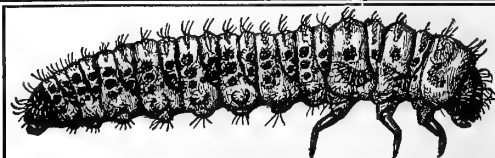
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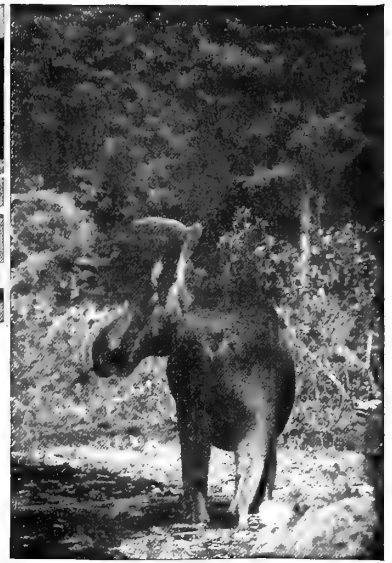
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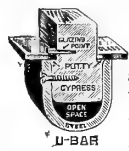


San Gabriel Mission, California



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Multiplying Tulip Bulbs

THE wasteful way of the parks is to throw away the bulbs of early or bedding tulips which bloom during April in the North, but the Public Grounds Department of Boston are saving hundreds of dollars by simply keeping the offsets and growing them in a nursery bed for two or three years.

According to Mr. Luke J. Doogue, the larger offsets shown in the accompanying picture will give first-class flowers next



The largest of these are blooming bulbs

spring. The others will do likewise after being cultivated for two or three years.

We do not recommend this method to the general public because our people are too impatient and the bulbs are too cheap, but it is perfectly practical for amateurs who like to propagate their own plants and who can follow such experiences for several years. Read the November, 1906, GARDEN MAGAZINE, page 190.

New Jersey.

T. MCA.

Chicken Wire for Peas

THE neatest and usually the cheapest way of training garden peas is to grow them on chicken wire, but it is a question if they do as well as on wood. Some people think that the wires become too hot on very sunny days for the good of the plants.

The costliest item in connection with gardening is the labor, and you will be appalled if you figure out how much it will cost you if you have a man to cut pea brush.



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are not more welcome, after Winter's cold and snows, than is Mennen's Borated Talcum Powder to the tender raw skin, roughened by the wind of early Spring, of the woman who values a good complexion, and to the man who shaves. In the nursery Mennen's comes first—the purest and safest of healing and soothing toilet powders.

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Our Spring Publications

are comprised in the following list, which is intended merely to set forth a few facts about each book so that our friends may know what we are offering in the way of interesting reading in nearly all branches of literature. All our books are sold on approval—as they have been since we began business—so you risk nothing in ordering.

April Books

Nearest the Pole, by Robert E. Peary. The first full account of Commander Peary's great achievement of planting the American flag nearest the Pole. Illustrations selected from a fine collection of 1200 photographs taken by the author, besides two maps and a frontispiece in color. Uniform with "The Opening of Tibet" in our *Geographical Library*. \$5.14 postpaid

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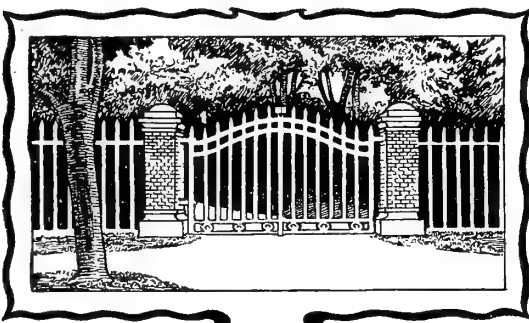
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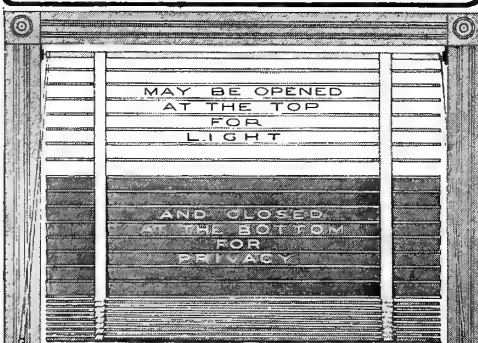
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Radish Culture

NOTHING will give as quick returns or as satisfactory results as well grown radishes in the small home garden. A small block of rich, loose soil one yard square will, if properly handled, give quite a large supply of crisp, fresh radishes. The greatest point is to grow them from seed to table size in the shortest possible space of time, as the more quickly the radish is grown the better the quality.

A soil resembling an ash heap in texture made very rich with well-rotted manure or even a good commercial fertilizer is desirable for this purpose. It should be freshly dug over and the radish seed planted thinly in rows six inches or more apart. When the young plants are well started, they should be thinned out to stand at least an inch apart in the row. If the seed is sown with care so that the plants will not come up too thickly in the row, this labor of thinning can be largely avoided. The extra early sports, such as the small round forcing varieties, can in ordinary weather be had ready for use in twenty to twenty-five days from planting the seed, and even quicker results may be had under favorable conditions where the small round radishes are pulled at the cherry stone size. As soon as the radishes have been pulled from the bed, it can be dug over and replanted for succession.

Larger varieties will require proportionately more space and a longer period of time in which to grow. The point I wish to make is that where the area of the home garden is limited, larger returns can be had by growing your own supply of fresh salads, such as radishes and lettuce, and the home production of these will effect the greatest saving in the market list, besides giving you radishes and lettuce in a fresh, crisp state just when they are needed for use.

The three points essential in having radishes and salad (lettuce) are first, rich, light or loose soil in which to grow them; second, keeping the soil constantly stirred, loose and fine during the stages of growth; and third, frequent plantings of seed to keep up a constant supply. The seed should be sown at intervals of a week or ten days.

Pennsylvania. E. D. DARLINGTON.

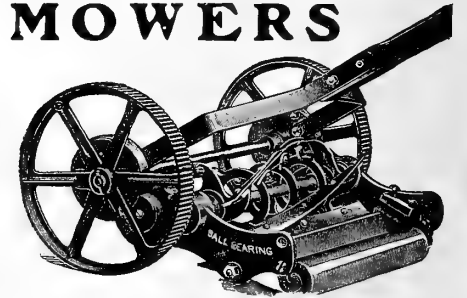
**Burning Indignation from the
South**

EVERYTHING that the "pessimistic" and "embittered" Southerner wrote in the April GARDEN MAGAZINE about the lack of Southern gardens was wrong. We have a bushel of letters to prove it, enough to fill this entire number, more than we can acknowledge.

Most of the letters merely burn; they do not give addresses of Southern amateur gardeners who can write about gardening. (They can all write forcefully about the South.) We hereby thank them all.

Our hopes are realized. We now know two Southern amateurs who can and will write. The man who stirred up a hornet's nest in April really was a pessimist. Our readers shall have the proof before long.

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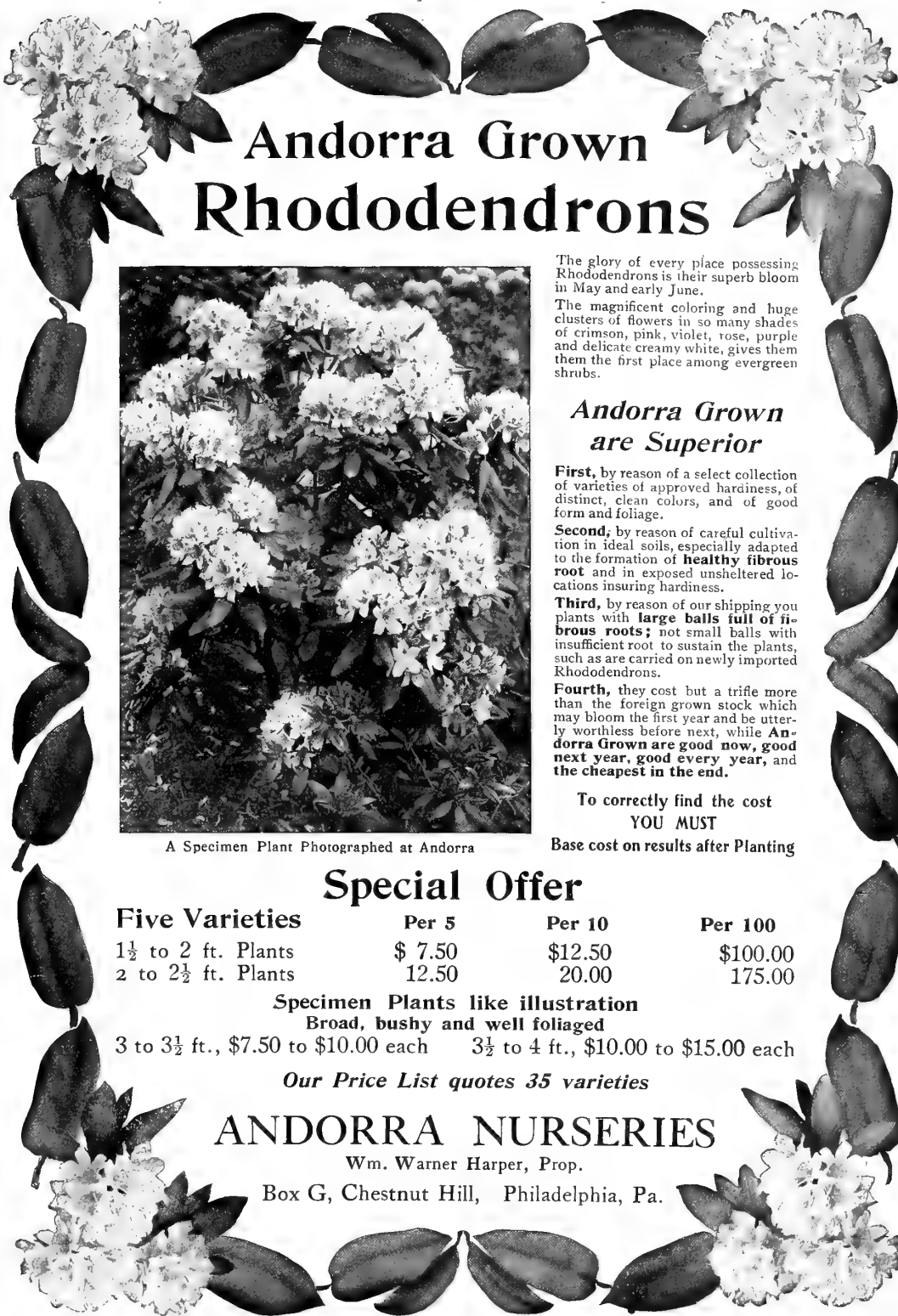


THE READERS' SERVICE


THIS department is proving very popular judging from the number of queries we are receiving by every mail. Questions are pouring in on every conceivable subject. During the month of March we have given advice on subjects varying from mill construction to the care of six-weeks-old puppies; from traction plowing to the purchasing of nasturtium seeds, etc., etc.

It is the season of the year when one begins to think of the summer vacation. On our staff we have men who have explored different sections of the country and are able to give from personal knowledge *bona fide* facts as to the advantages these different regions offer to the tourist. If you are in doubt where to spend the vacation period, write to the Readers' Service, stating what kind of a trip you wish to take. We can aid you. And remember it costs you nothing but the time to write the letter and a two-cent stamp. Address

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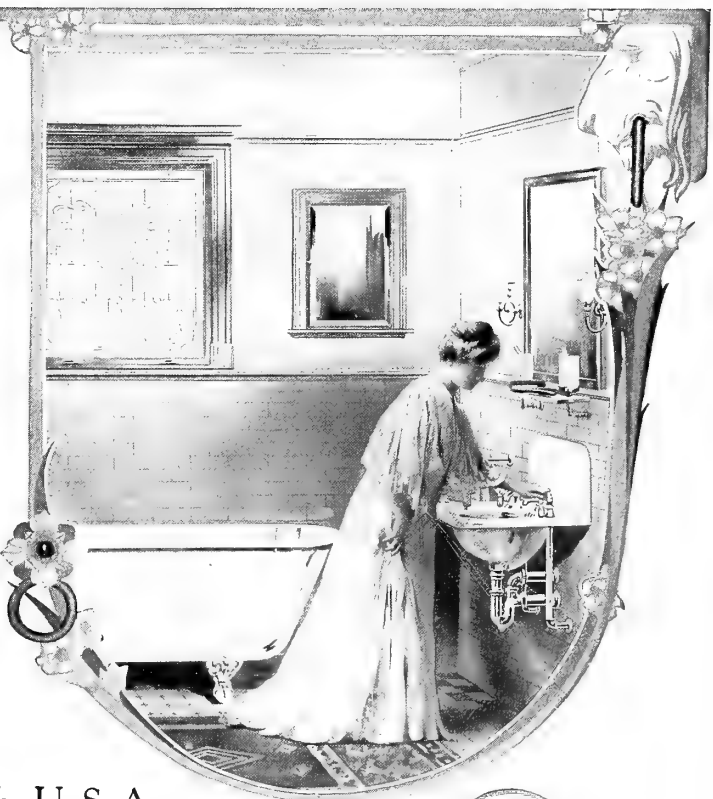
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The Garden Magazine

VOL. V.—No. 4
PUBLISHED MONTHLY

MAY, 1907

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[For the purpose of reckoning dates, New York is generally taken as a standard. Allow six days' difference for every hundred miles of latitude.]

Making a Good Start

DO NOT be deceived by an early burst of warm, balmy weather into setting out tender vegetables that have been started in heat, or into planting out flowering plants for summer effect. Late spring frosts usually occur about the middle of May and the over-eager amateur is often an easy victim to his enthusiasm. Nothing is gained by this very early starting, because during the later spell of cold weather—even if actual frosts do not occur—all growth is checked and a checked plant never fully recovers.

Consult your own records or the local weather reports, and do not set out the tender plants until the critical date is passed. If, however, frost does catch the early set plants, shade them from the sun, and if possible spray with cold water—ice water is best—till they are thawed. But prevention is better than cure, and if the weather indications suggest a frosty night, give protection by cloth screens, newspapers or some such thing.

FRUIT GARDEN AND ORCHARD

Spray fruit trees and bushes twice during May to prevent insects, scale and fungi from getting a start, and, of course, keep it up for another three months. (See the Spraying Calendar in the April GARDEN MAGAZINE.)

If you have any plum or cherry trees, the curculio is almost sure to pay you a visit. There is but one practical remedy—jar the trees and catch the insects, as they fall, in a cloth. Then dump them into a pail having a little kerosene in it. Use a mallet, wrapped around with a cloth, to strike sharply on the trunk of the tree. Do not strike too hard or an irreparable injury will be done the bark. It requires only a slight jar to dislodge the curculio.

Cut out any dead wood from apples and

pears; also remove any crossing or interlocking branches. If any trees were grafted last season, remove all suckers from around the trunk, and rub off any buds that appear on the branch below the graft.

Only under exceptional conditions is it wise to let strawberries bear a crop the same year that they are planted. Fall-set beds, if they have been given the very best of care, may be cropped, but spring set plants will do much better, and give much larger crops next year, if they are not allowed to bear any fruits at all this spring. Pick off all flower stalks, and induce vigorous growth by watering, cultivation, and a liberal dressing of manure. Mulch the old strawberry beds with salt hay to keep the berries clean.

A BUSY TIME IN THE FLOWER GARDEN

The earliest spring flowers, including the Dutch bulbs and most of the hardy shrubs, are now passing out of flower. When finished blooming all these plants begin to make their growth and build up for the next year's crop of flowers. Therefore, prune the flowering shrubs immediately after the flowers have fallen, by removing the flowering wood. This will force a free production of new, young growths, each of which will produce flowers next spring.

If the space now occupied by the spring bulbs is needed for other plants, the bulbs are to be saved. They may be left to partly mature their foliage for a few weeks, and then be lifted carefully and allowed to finish ripening in a sheltered out of the way part of the garden. Plant pansies and daisies for succession until the summer bedding plants are ready.

During the first half of the month, make sowings of all hardy and half-hardy annuals, such as morning glory, China asters, calliopsis, balsam, candy tuft, etc., and transplant hardy annuals that were started in the coldframe in March if they have been hardened off. If not already done, sow tender annuals in coldframes for transplanting later.

During the latter half of the month—after the late frosts—plant out from hotbeds or frames all tender annuals and roots; sow seeds of tender plants outdoors, and “bulbs” or roots of cannas, begonias (tuberous), and elephant's ear can be safely planted, but of course, these will be later in flowering than plants that were started in heat and set out at the same time.

All kinds of perennial plants may be safely shifted and the borders rearranged before the end of the month.

The German iris, blooming in May, will make an unusual veranda plant if the whole clump is lifted and put into a large pot or

jardinière when the leaves are about six inches high, or less. The plants will flower in almost any situation in the house or on the porch, and the roots may be planted in the border any time after flowering.

GROW SOME WATER LILIES

Do you realize that good water lilies may be grown easily in the half of an old kerosene barrel? And they add greatly to the interest of the garden. Make preparations this month to plant the roots in June. THE GARDEN MAGAZINE for March, 1906 (page 78) and for January, 1906 (page 279) tells how to grow the hardy water lilies and what are the best among them. For the tender lilies, see the numbers for July, 1906 (page 321) and September, 1906 (page 70). Any pond that has a continuous supply of fresh water can be used for water lilies.

SOW THESE TENDER VEGETABLES

Beans.—After the ground is warmed. Bush beans are a little hardier than the limas, which, however, may be started in frames, in pots or on inverted sods, for transplanting after all danger of frost is past.

Corn.—Read Mr. Darlington's article on page 230 of this number. It has a specific planting list for *your own locality*.

Cucumbers and melons.—Start the latter in coldframes on pieces of inverted sod, or in pots, to transplant in June. Put three melon seeds to a sod or pot, and thin to the strongest when the first true leaves are well developed. Sow cucumbers outdoors the last week of the month.

Spray potatoes with Bordeaux mixture and Paris green as soon as they appear above ground—and keep at it every ten days.

Do not transplant from heat any tender vegetable plants, such as tomatoes, peppers, egg-plant, etc., unless you are sure that the frost season is over.

IN THE GREENHOUSE

As the sun's heat increases at this season, plants under glass require considerable more water, and such decorative foliage plants as palms and ferns will need protection from the direct rays of the sun. Shade by cheesecloth screens or by whitewash on the glass.

Throw out old rose plants to make room for new ones.

Plant carnations outdoors now.

Ventilate the greenhouse very carefully; and on dull days, if possible, turn on a little heat to keep the air moving and drive out dampness. Keep on some air at all times when frost is not anticipated.

Buy chrysanthemums—rooted cuttings from the florist—for fall flowers. It is not yet too late to start growing for exhibition.



The flame azalea (*A. calendulacea*) the best hardy azalea for producing glorious mass effects on a large scale. Flowers yellow or orange



The Japanese hardy azalea (*A. Indica*, var. *Kaempferi*) of extraordinary interest because a deciduous variety of *Indica* and hardy at Boston

All the Azaleas Worth Growing—By Thomas McAdam, ^{New Jersey}

THE FIFTEENTH OF THOSE HERETICAL "LITTLE MONOGRAPHS" WHICH SCORN THE PEDANTIC AND USELESS WAY OF DESCRIBING SPECIES ALPHABETICALLY AND AIM TO SHOW WHICH ARE THE BEST SPECIES AND WHY

ANYONE who desires to comprehend the relative merits of all the species of azalea worth growing, may do so in five minutes by consulting the following "Purchaser's Guide," which is like any botanical key except that it aims to save money instead of describing the hairs on the leaves. For example, A and AA show the most important distinction, viz., that between evergreen and deciduous foliage. In the deciduous group B and BB show which are the long-tubed and which the short-tubed flowers. C and CC show which have protruding stamens and which do not. D and DD differentiate certain kinds according to color, etc. This is the clearest and briefest way of showing

how each species differs from every other and what it has in common with any other.

PURCHASER'S GUIDE TO AZALEAS

- A. Foliage evergreen (except in No. 3): lvs. and fls. from the same terminal bud.
- B. Plants tender. The favorite species for forcing.
- INDIAN AZALEA 1. *A. Indica*
- BB. Plants hardy.
- C. Foliage evergreen: fls. rosy, purple, magenta or white.
- D. Fls. 1 in. across, scentless.
- HARDY INDIAN AZALEA 2. *A. Indica* var. *amœna*
- DD. Fls. 2-3 in. across, fragrant.
- ROSEMARY-LEAVED AZALEA 3. *A. rosmarinifolia*
- CC. Foliage deciduous: fls. red or pink.
- JAPANESE HARDY AZALEA 4. *A. Indica*, var. *Kaempferi*.
- AA. Foliage deciduous: lvs. and fls. from different buds.
- B. Corolla with decided tube and usually acute segments, pubescent or hairy outside: stamens 5.
- C. Stamens shorter than the spreading part of the flower corolla funnel-to-bell shaped; tube short and broad, pubescent but not glandular outside.
- CHINESE AZALEA 5. *A. Sinensis*
- CC. Stamens as long as, or longer than, the limb: corolla trumpet-shaped; tube long and narrow, glandular outside.
- D. Color yellow to flame red.
- E. Height 2-6 ft.: fls. yellow, fragrant.
- BLACK SEA AZALEA 6. *A. Pontica*
- EE. Height 4-10 ft.: fls. orange or red, nearly odorless.
- FLAME AZALEA 7. *A. calendulacea*

- DD. Color white, pink or rose.
- E. Blooming early (April-May): fls. normally pink.
- PINKSTER FLOWER 8. *A. nudiflora*
- EE. Blooming midseason (May-June): fls. normally white or tinged rose: height 2-6 ft.
- CALIFORNIA AZALEA 9. *A. occidentalis*
- EEE. Blooming late (June-July): fls. normally white or tinged rose.
- F. Height 8-20 ft.
- TREE AZALEA 10. *A. arborescens*
- FF. Height 4-8 ft.
- WHITE AZALEA 11. *A. viscosa*
- BB. Corolla with very short tube, and obtuse segments, glabrous outside: stamens 7-10
- C. Flowers 2-lipped, not spotted the two lower segments divided nearly to the base: blooming before the leaves.
- D. Color rose-purple.
- RHODORA 12. *A. Canadensis*
- DD. Color bright rose.
- JAPANESE RHODORA 13. *A. rhombica*
- CC. Flowers wheel-to-bell shaped, or slightly two-lipped, divided usually to a point below the middle; middle lobes spotted.
- D. Color pink: stamens 7, rarely 5.
- PURE PINK AZALEA 14. *A. Vaseyi*
- DD. Color purple: stamens 10 15. *A. Albrechti*
- DDD. Color pale rose: stamens 10. 16. *A. Schlippenbachii*



The pinxster flower (*A. nudiflora*) pink, April—May
A cultivated specimen. Don't rob the woods!

The numbered paragraphs below describe the species in the same order in which they are distinguished in the "Purchaser's Guide" above.

1. The Indian azalea (*A. Indica*) is the most important species for forcing and for

outdoor culture in the South, its flowers being larger than those of the Chinese (often four inches across) and the most varied in color of the whole genus. Normally it belongs to the lavender-magenta-purple series, but it has wild varieties that connect it with the yellow-orange-red series, and the cultivated forms embrace every important color save yellow and blue. It is also more richly striped, bordered and fluted than any other azalea, and a peculiar feature is that the three upper petals are beautifully spotted. It has the broadest and flattest flower of all azaleas, there being scarcely any tube. You can tell it from other greenhouse azaleas by the fact that the leaves and flowers come from the same bud. So far as I know, it has never been crossed with any species other than the evergreen kinds about to be mentioned.

For its evergreen foliage the Indian azalea pays dearly, since in its typical form it cannot survive the winter outdoors north of the Carolinas. Even in the South its winter aspect is not particularly attractive, nor does the foliage provide a really effective background for the flowers, which are so gorgeous that they completely overshadow the small and scant leaves.

Naturally a hardy Indian azalea is much to be desired and the place to look for it is in the northern parts of China and Japan, for strangely enough, it is not a native of India at all, and was therefore incorrectly named by Linnaeus. (However, we may not call it the Chinese azalea, since that name should be reserved for *A. Sinensis*.) Happily there are two important forms of the Indian azalea that have achieved hardiness—at what cost will presently appear.

2. The hardest evergreen form of the Indian azalea is what everybody calls *Azalea amœna*, but its correct name is *Azalea Indica*, var. *amœna*. This survives the winters of New York without protection but in New England must be sheltered from the wind and midday sun. The flowers are only an inch across, and the common varieties of it are so vociferously magenta-purple (the catalogues call it claret) that they give more pain than pleasure if stationed where all the world must see. Preferable varieties are Miss Buist (white), and Prime Minister, "soft pink"; but according to Mr. Henry E. Burr, by far the most desirable form is the rare and costly Japanese variety Hinodigiri, which he declares is a bright cherry red, quite free from the objectionable magenta.

3. Closely allied to this is the beautiful white-flowered plant known to nurserymen by the erroneous name of *A. Indica*, var. *alba*, it being in reality a form of the rosemary-leaved azalea (*A. rosmarinifolia*). This species rarely if ever appears in the catalogues, but it has rendered service in putting hardiness into the hybrid Indian azaleas, one of which was pictured as long ago as 1833. The wild form of the rosemary-leaved azalea is a Chinese species with white or rosy purple flowers, two or three inches in diameter. The botanical distinctions between this species and *Indica* are too finely



The tree azalea (*A. arborescens*), tallest and latest species and has the best-appearing foliage all summer. Flowers fragrant, white, July. Native to the Southern Appalachians and therefore perfectly hardy North



The only pure pink azalea (*A. Vaseyi*). All the others are tinged with crimson or purple. Hardy, cheap and therefore adapted to making glorious masses in Northern estates and gardens. Millionaires are now painting whole hillsides with color by planting this and the flame azalea by the hundreds



The best azalea for forcing, because it has the largest flowers (*A. Indica*). See below

spun for mention here. The important fact for us is that it is hardy at Boston, in sheltered spots. Its pure white flowers are two inches in diameter, and borne in bunches of five, and set off by narrow evergreen leaves.

4. On the whole, however, evergreen foliage is no real advantage to an azalea, since it can never compare in beauty with that of rhododendrons. In fact, it is a handicap, because the climate of the northeastern United States is opposed to broad-leaved evergreens. These can thrive only on northern exposures, under trees, or wherever they can get shelter from winter winds and sunshine. Obviously such plants must always be high-priced and require a lot of care. What we want is an Indian azalea that will grow right out in the sunshine as far north as New England, without any winter protection; and, incredible as it may seem, there is a Japanese variety which has

abandoned the evergreen habit and become the hardiest form of that species. This is *Azalea Indica* var. *Kämpferi*, perhaps the most desirable flowering shrub of any kind that is still unknown to the American public. Its introduction to cultivation is one of the great triumphs of the Arnold Arboretum. The plants I saw all had bright red flowers, with none of the purple taint, and there are said to be pink and orange-red varieties. There is one English firm from which this glorious azalea can be procured, but the Arboretum is not ready yet to distribute it in America.

5. The largest-flowered deciduous azalea is what everybody calls *Azalea mollis*, but since the older name, *A. Sinensis*, must displace it, I have ventured to call it the "Chinese Azalea." The flowers are often two and one-half inches across, and have less of a tube than the other deciduous species, the corolla being between bell-shape and funnel-shape. It belongs to the yellow-orange-red series, and I doubt if there are any hardy pure-bred varieties of it in the other series of colors. There are pink varieties, but such as one would get from diluting red—not purple.

The "mollis hybrids," however, as the Dutchmen call them, have plenty of "mauve," under which seductive catalogue-epithet lurk some of the most ferocious of the magenta tribe. Where these hybrids get that series of colors I have not yet discovered. All of them are supposed to have the blood of the Black Sea azalea in them, but that is normally a yellow-flowered species.

6. This Black Sea azalea (*A. Pontica*) is probably the broadest-flowered of the long-tubed azaleas, the blossom being two and one-half inches across, and it has a further advantage over its American rival in being

fragrant. Its varieties are known as "hardy Ghent azaleas," from the Belgian city which first made a specialty of them. Normally yellow, it now has white, orange and red varieties. Why anyone should ever want to cross anything with *Azalea Pontica*, unless for its fragrance, is more than I know. The amount of Pontica blood in the mollis hybrids may be roughly determined by observing how much it has imparted of its fragrance, long tube and long-protruding stamens. How strong or sweet its odor is I cannot say.

7. The American rival of the Black Sea azalea is the flame azalea, which I shall call *A. calendulacea*, simply because it is best for gardeners to follow the only standard we have, viz., Bailey's "Cyclopedia of American Horticulture." An older name, however, is *A. lutea*. This gorgeous native of the Appalachians, from Pennsylvania to the Carolinas, is perfectly hardy in New England. The dominant color is orange, but occasionally one finds lemon, gold, orange-red and even deep crimson, according to Mr. Harlan P. Kelsey. These colors are not yet offered separately by the nurserymen, as the mollis varieties are, and the flowers are usually smaller—say two inches across—but you can get them fifty to eighty per cent. cheaper than mollis, e. g., ten hardy hybrids one to one and one-half feet high, may cost \$18, while the same number of flame azaleas, one of the same size, may cost only \$3. This species therefore offers us a chance to create great landscape pictures of unrivalled splendor. It is especially good for woods and hillsides and stands dense shade unusually well.

There are four other long-tubed azaleas worth growing, all American species, with fragrant, late-blooming, white or pinkish flowers. All of them have been hybridized by the Europeans with mollis, to extend the season of bloom and to introduce their delightful fragrance.

8. The earliest of these is the pink azalea of our Eastern woods (*A. nudiflora*) often called the "pinxter flower," which means that it blooms about Whitsunday or Pentecost, fifty days after Easter, i. e., May 12th to June 13th. (As a matter of fact it blooms May 15th to 30th near New York.)* *Azalea nudiflora* sometimes has white flowers, but these can be readily told from the true white azalea as the latter hardly blooms before June 15th. Also the flower of *A. nudiflora* has a densely hairy, instead of a slicky, tube, and only a slight odor. Its preferred habitat is dry sandy or rocky woods. The soft, wet "swamp apples" that grow on this species are caused by a fungus. Children sometimes eat them, apparently with no bad effects.

9. Unlike most shrubs from the Pacific coast, the Californian azalea (*A. occidentalis*) is hardy in New England, but there is prob-



About half natural size. An Indian azalea (*Azalea Indica*). The only species here mentioned that is adapted only to forcing. (It is native to China—not India.) Madame Verschaaffelt

* This name was given by the Dutch settlers of New York. (The pinxter flower of their native land is the English cuckoo flower (*Cardamine pratensis*), a perennial herb of the mustard family which grows a foot or two high, and has corymbs of white or rose-colored flowers, each half an inch long. It also grows wild in America.



The Black Sea azalea (*A. Pontica*), characterized by long tube, yellow flowers and protruding stamens. A parent, with the Chinese azalea, of most of the named varieties known as "mollis hybrids"

ably little inducement to cultivate it east of the Rockies. The flowers are white or tinged rose, and differ from the others in having the upper lobes marked with yellow. An English enthusiast says it is worth growing for the fragrance alone, and that Waterer has produced some good, fragrant, late-blooming hybrids by crossing this with mollis.

10. The tallest of all azaleas is the tree azalea (*A. arborescens*) which attains a height of eight to twenty feet in the wild, but in cultivation makes a spreading bush three to six feet wide. It is the latest to flower, blooming in June or July. Its foliage is the best of all azaleas, in Mr. Kelsey's opinion, as the leaves retain their lustre all summer and are bronzed beautifully in fall. The flowers are white or tinged rose, two inches long and much more fragrant than nudiflora or viscosa.

11. The white azalea or "swamp honeysuckle" (*A. viscosa*) blooms the same time as the tree azalea, but grows only four to eight feet high, and has sticky white flowers



Orange Hybrid, one of the many products of crossing the two species shown above

about two inches long and broad. This species and the one just preceding are the only azaleas that bloom long after their leaves have appeared. Their flowers are fewer but have a better background. In autumn the leaves often show striking shades of red. The variety rosea, with bright pink flowers, is so rare that small plants cost \$4 each.

12. We now come to the weird two-lipped azaleas, one of which is shown on this page. The flower at the bottom of the picture distinctly shows how the lower lip is split almost to the base into two thin strips. This is the rhodora of Emerson's immortal poem, which was originally called by Linnæus *Rhodora Canadensis*, and Dr. N. L. Britton now proposes that we return to that name. I shall stick however, to *Azalea Canadensis*, the name preferred by Bailey's "Cyclopedia of American Horticulture." The rhodora is a strange rosy-purple flower, about an inch and a half across, and with narrow petals. Although a native of bogs and wet hillsides, it has long been cultivated in England under the same conditions with other azaleas.

13. The Japanese rhodora (*Azalea rhombica*), is probably a more attractive plant, since the color is said to be bright rose and the flower half an inch broader.

14. The only pink azalea I have ever seen that is entirely free from any suggestion of magenta is *Azalea Vaseyi*. The lovely species grows wild only in North Carolina, and was not discovered until long after the Civil War. I wish it had been named Kelsey, to commemorate Mr. S. T. Kelsey, who found it in 1878, and his son Harlan P. Kelsey, who introduced it to cultivation. The first large quantity of it was found at Cashier's Valley, Jackson Co., at an altitude of 3,500 to 5,000 feet, and like many other glorious plants of the southern Appalachians, it is hardy in New England. It blooms more profusely than any other native species, the whole bush being covered with flowers, and it attains an extreme height of fifteen feet. This extraordinary shrub begins to bloom when only a foot high, and its leaves turn deep crimson in the autumn. The flowers I have seen were pure pink and not even spotted, but usually the three upper lobes have small spots of a deeper color, and the species is said to range from deep rose nearly to white. The flower is broadly bell-shaped, has a very short tube, and is so slightly two-lipped that for practical purposes it may be considered a symmetrical flower.

14. Similar in shape and spotting is *Azalea Albrechti*, a rare purple-flowered species, with ten stamens instead of seven.

15. To the same group belongs the pale rose *Azalea Schlippenbachii*, which comes from Fuji near the snow line, and is said to have flowers three times the size of *A. Vaseyi*. Mr. C. W. Ward says the blossoms are a bright rose pink, and $2\frac{1}{2}$ to 3 inches across.

HINTS ON AZALEA CULTURE

The hardy evergreen azaleas (*amoena* and *rosmarinifolia*) must have partial shade and shelter from winter winds, like any other broad-leaved evergreens.

Although the deciduous azaleas will stand



The Chinese azalea (*A. Sinensis*, but called by everybody *A. mollis*). Of all the hardy species this has the largest flowers and most colors. Scentless and scarcely any tube

more exposure to sun and wind than rhododendrons it is best to shelter them from high winds and midday sunshine, especially as the flowers are likely to be caught by late frosts. Since all but the June bloomers (*viscosa* and *arborescens*) appear before or with the leaves, it is important to give them an evergreen background, and the natural thing is rhododendrons, since they require the same cultural conditions, and prolong the blooming season of the same type of beauty. Azaleas are so inordinately showy in season and so commonplace when out of bloom that they are often treated as bedding plants, being replaced after blooming by a succession of other flowers. Further hints on azalea culture appear on page 238.



"Rhodora" of Emerson's immortal poem (*A. Canadensis*)

The Cheapest Gardens for the Smallest Lots, II—By F. C. Leible, New York

FIVE PLANS FOR 25 x 30 FT. BACK-YARDS—THE MOST DIFFICULT GARDENING PROBLEM IN THE WORLD AND ONE WHICH HUNDREDS OF THOUSANDS OF PEOPLE HAVE VAINLY TRIED TO SOLVE

HERE are five complete planting plans for 25 x 30 ft. backyard gardens, costing twenty-five, fifty, seventy-five, and one hundred dollars for the plants. I have purposely selected the very hardest possible conditions, namely those of New York City, where the unit lot is only 25 x 100 ft., the smallest city lot I know. These backyards are almost invariably surrounded by fences, seven feet high to keep out thieves and, con-

degree of exposure to the sunlight possible in a large city. It is possible to distinguish sixteen kinds but these may all be grouped in four classes, according as they receive one, three, five, or seven hours of sunlight on an average between the months of April and September.

The yard which receives only one or two hours of direct sunlight during the day cannot have flowers except at great expense,

Three hours a day is the largest amount of sunlight received by lots having a northern exposure and this is the minimum for flowering plants, and there is only a very short list of flowers that will do well for several years with as little light as this.

Five hours of sunlight is received by all the backyards that have a southern exposure, provided there is a similar lot on either side, but if there is a six-story tenement on either side it becomes reduced to the three-hour basis.

The only New York City backyards I know that receive seven hours of sunlight are those in some parts of Harlem, from 110th Street to 135th Street, and this is because the buildings are only three or four stories high. They get full sunlight a month or more earlier in the season and also later in autumn.

It is commonly believed that you cannot grow flowers in a big city like New York, because of illuminating gas leaking from the mains and from the poisonous gases in the air which come from factories, etc., but I believe that too much importance is attached to these things and that nobody ought to allow these considerations to prevent him from making a garden. The commonest source of failure, I believe, comes from the sourness of the soil, for we know that soil that is densely shaded for months at a time is almost certain to become sour, but reflected heat from buildings, and the poor circulation of air and the dust in the atmosphere have a deal to do with it also.

If the soil is heavy as well as sour, the only thing to do is to remove enough for the flower beds that you want and have it replaced by good soil, which is necessarily very expensive in New York, because earth has to be hauled seven or eight miles. The florist charges about seven dollars a load for an ordinary wagon-load of soil, which contains about one cubic yard. Possibly you can get a contractor to bring you one of his wagon-loads, which is twice as large, for about the same money and he ought not to charge more than two dollars for carting away the soil you do not want.

A cheaper way is to throw out the soil to a depth of three feet and put stones, a foot deep, at the bottom, in order to secure good drainage. Then replace the soil and, better still, mixing with it some lime—about half a bushel for one yard. Even in this case it is usually best to buy some sandy loam and mix it with what you have.

Wealthy people who own their own houses can afford to buy plants from a florist for temporary decoration, and throw them away when they have passed out of flower. Anybody can afford to have a bulb show in April or May, chiefly by the use of crocuses, daffodils, hyacinths, and tulips.

Even if conditions are so bad that the bulbs

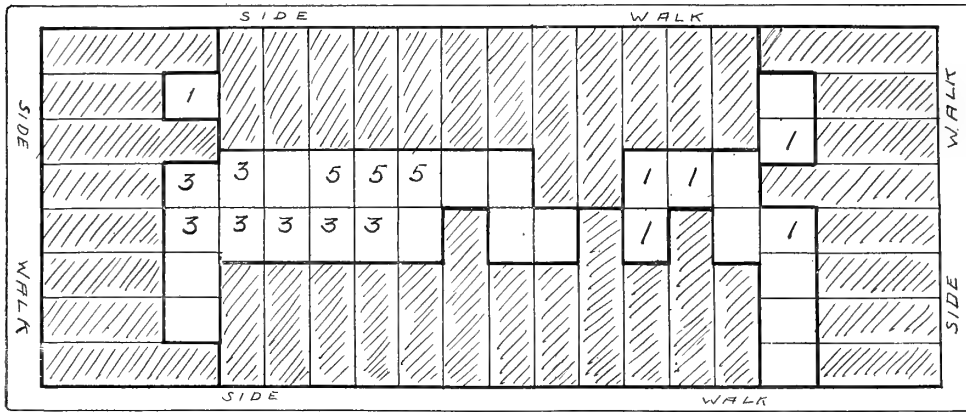
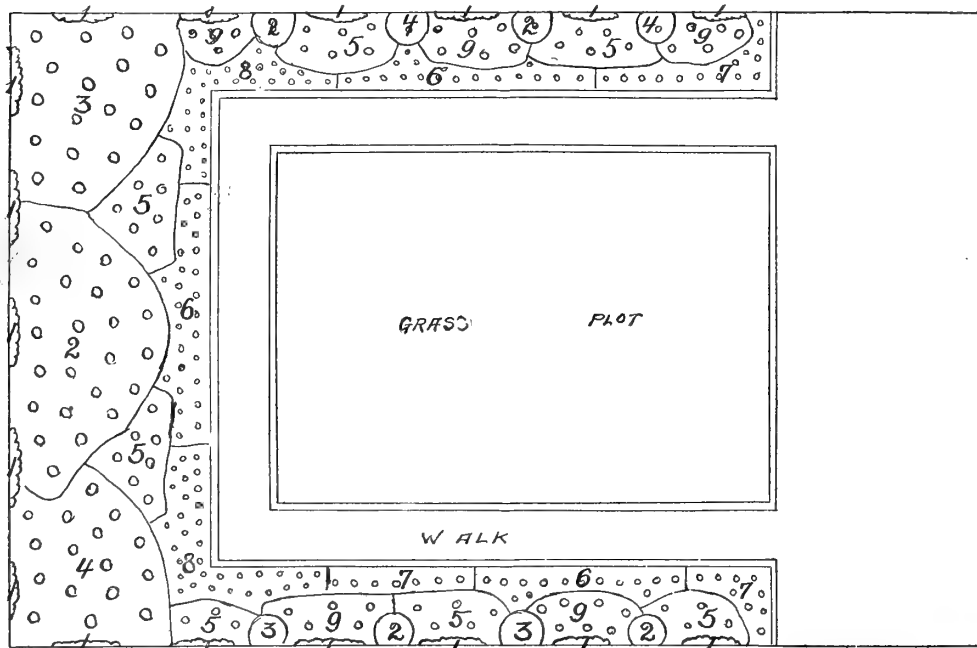


Diagram of a block in New York City. The unshaded portions are the yards and the figures indicate the number of hours of sunlight each yard has. Top of diagram is north

sequently, receive much less sunlight than lots of the same size in smaller cities.

As a result of much experience in planting these back-yards, I have drawn diagram number one, which shows every kind and

for nothing will live more than one season and bloom freely under such conditions. Nothing but ferns or other foliage plants may be employed in a garden so densely shaded as this.



1. English ivy (17)*
2. Royal fern (30)
3. Goldie's fern (20)
4. Cinnamon fern (18)
5. Lady fern (5)

- Hedera Helix*
Osmunda regalis
Dryopteris Goldieana
Osmunda cinnamomea
Asplenium Filix-femina

6. Maidenhair fern (50)
7. Chain fern (30)
8. Christmas fern (60)
9. Clayton's fern (26)

- Adiantum pedatum*
Woodwardia angustifolia
Polystichum acrostichoides
Osmunda Claytoniana

Price of plants, \$50.00

*The figures in parenthesis indicate the number of plants which the plan calls for

Plan 1. A shaded garden which has only one hour of sunlight each day. The top of each plan, with the exception of No. 4, which is east, is the west side

do not bloom more than once there is no reason why every city yard should not be gay with flowers in April and early May, the time when the contrast between city and country life is the greatest. Thousands of people who do not count themselves wealthy will spend \$1.75 to \$4.00 on a single meal but never think that the same amount would buy a hundred choice named tulips.

In the tenement regions below 14th Street most of the yards are cemented over, but the National Plant, Flower and Fruit Guild is trying to save borders around these back-yards for planting with shrubs and plants. Anyone who desires to help this work should ask the Secretary, at 70 Fifth Avenue for information.

It costs about twenty dollars to plant a tree on the sidewalk on Manhattan Island, and trees are necessarily short-lived under such conditions. This sum includes the permit, soil, and the cost of making a hole in the stone sidewalk.

Probably the very best plant for big cities is the Japan ivy (*Ampelopsis tricuspidata*), which will cover the wall completely to a height of three or four stories even when it has only a hole in a stone sidewalk a foot in diameter to grow through.

Its only rival in New York City is the wistaria, which climbs straight up iron rods to the top of a six-story building, but it rarely flowers on the front side of a house. I am confident that you can make these old vines flower by a simple method of treatment which I am willing to give free to a limited number of readers of THE GARDEN MAGAZINE who apply before August 1, 1907, on condition that I may take photographs for THE GARDEN MAGAZINE to prove my success.

THE FERN GARDEN (PLAN 1)

As this garden receives only one hour of sunlight, flowers are out of the question. The only things that will grow are foliage plants, of which ferns are the least expensive.

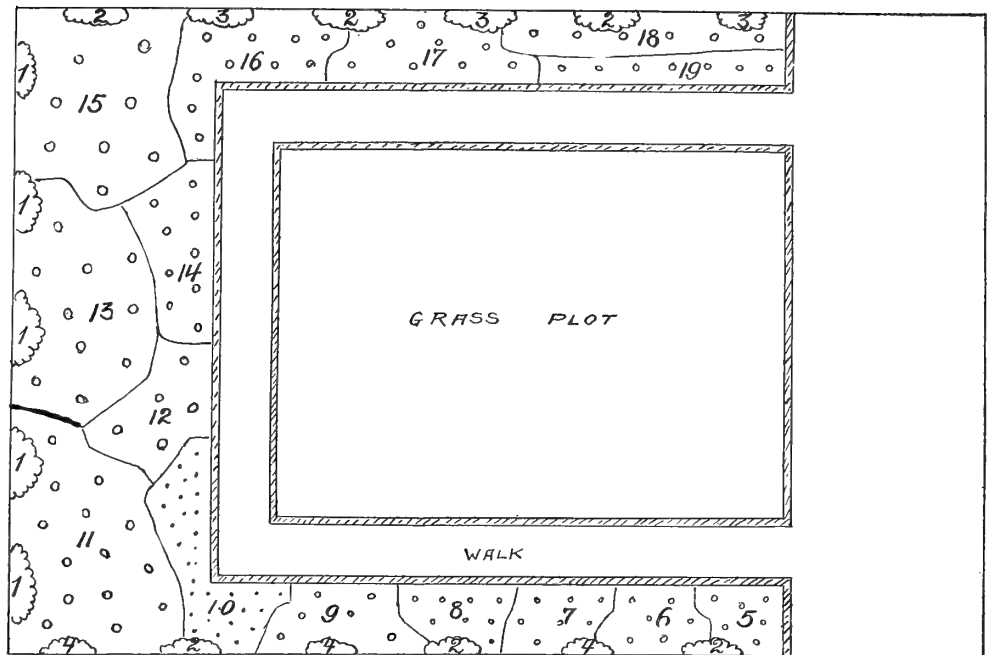
Do not buy the ferns that are hawked about the street in spring by peddlars, because they have robbed the woods to get them. Besides, they will not live, because the roots have been exposed too much to sun and air. You can buy these ferns from any good nurserymen, and they can probably be delivered by express at your own door from Vermont or Massachusetts cheaper than you can go out into the country and collect them.

Few people realize the possibilities of the hardy ferns. Many of them are especially adapted to planting in cold dark corners, near buildings or under trees.

Although many of them grow naturally in very damp or wet places the drainage is always perfect. They will not endure a stagnant soil therefore always use the greatest care in preparing the bed for them.

THE THREE-HOUR GARDEN (PLAN 2)

Three hours' sunlight is not sufficient for flowering shrubs. They may bloom once but will not last very long under such conditions. We must content ourselves with vines and a few perennials. The vines here

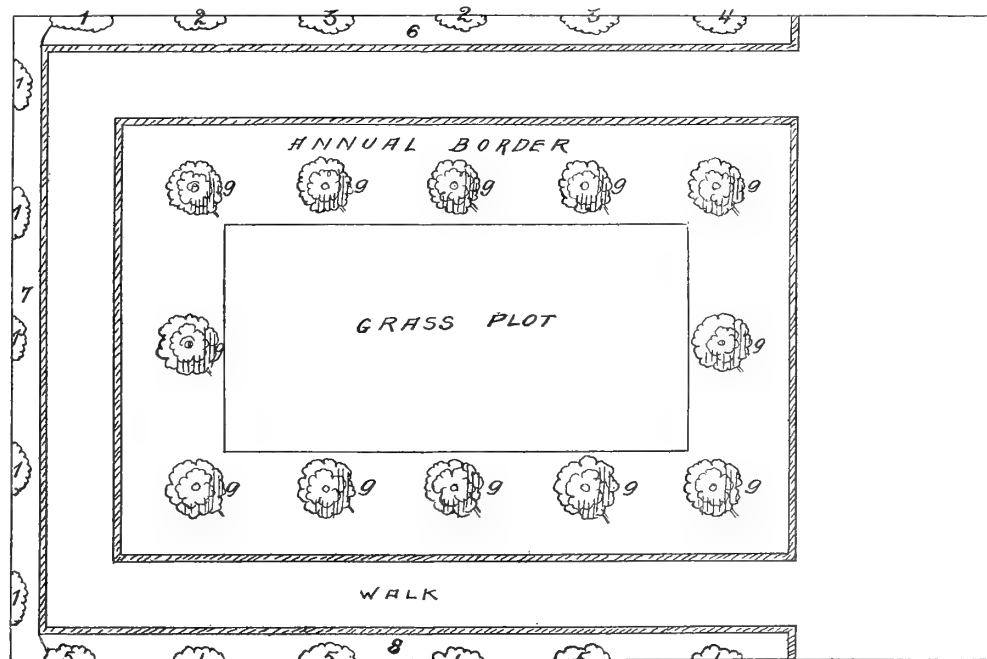


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|---------------------------------|--|--------------------------------------|--|
| 1. Climbing euonymus (5) | <i>Euonymus radicans</i> | 11. Japanese anemone (14) | <i>Anemone Japonica</i> |
| 2. Hall's honeysuckle (6) | <i>Lonicera Japonica</i> , var. <i>Halliana</i> | 12. Large-flowered plantain lily (5) | <i>Funkia subcordata</i> , var. <i>grandiflora</i> |
| 3. Autumn clematis (3) | <i>Clematis paniculata</i> | 13. Spiraea Ulmaria (10) | <i>Ulmaria pentapetala</i> |
| 4. Virginia creeper (3) | <i>Ampelopsis quinquefolia</i> | 14. Orange day lily (9) | <i>Hemerocallis julva</i> |
| 5. Variegated plantain lily (6) | <i>Funkia lancifolia</i> , var. <i>albamarginata</i> | 15. Monkshood (8) | <i>Aconitum Napellus</i> |
| 6. Japanese spirea (6) | <i>Spiraea Japonica</i> | 16. Columbine (10) | <i>Aquilegia vulgaris</i> |
| 7. Spiderwort (7) | <i>Tradescantia Virginica</i> | 17. David's clematis (8) | <i>Clematis heracleaefolia</i> , var. <i>Davidiana</i> |
| 8. Crested dwarf iris (8) | <i>Iris cristata</i> | 18. Pompon chrysanthemum (6) | <i>Chrysanthemum Indicum</i> |
| 9. Bee balm (6) | <i>Monarda didyma</i> | 19. Bleeding heart (7) | <i>Dicentra spectabilis</i> |
| 10. Lily-of-the-valley (36) | <i>Convallaria majalis</i> | | Price of plants, \$50.00 |

Plan 2. A garden of perennials which succeed in partially shaded situations. Three hours of sunlight each day

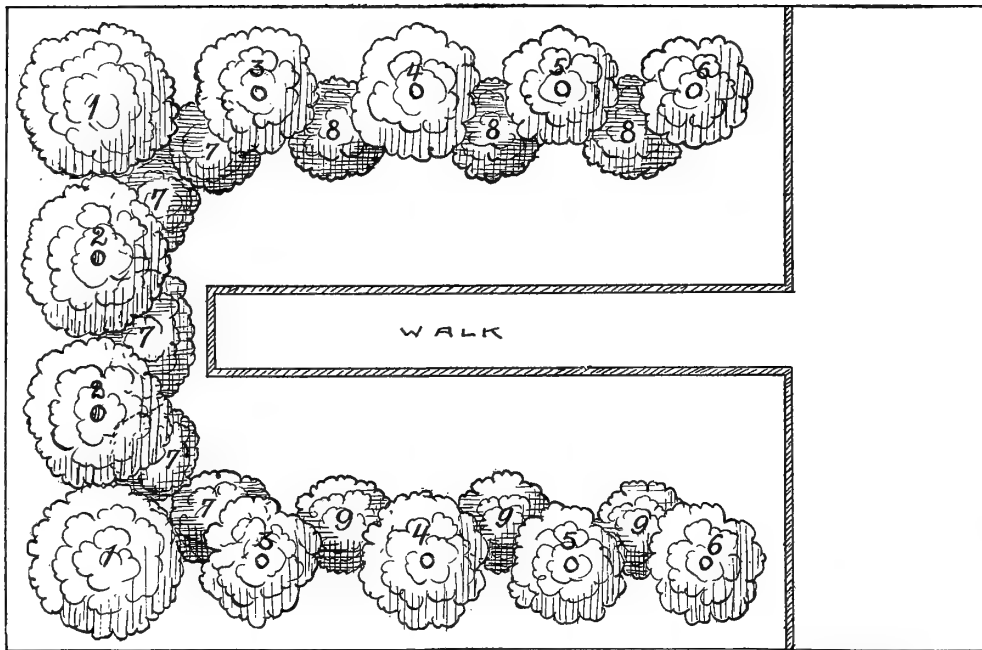
mentioned will be permanent. We may expect a tolerable showing of flowers from the autumn clematis and enough from Hall's honeysuckle to make the air fragrant for a fortnight. The climbing euonymus is included because of its rich evergreen foliage which should be cheery in winter unless there

is too much soft coal smoke near by. Virginia creeper is included for its foliage effect and in the hope that it may color somewhat in the autumn. The perennials for this purpose must be large clumps worth twenty-five to fifty cents each, as small fifteen-cent plants take a very much longer time to



- | | | | |
|------------------------------|--|---------------------------------|----------------------------------|
| 1. Hall's honeysuckle (9) | <i>Lonicera Japonica</i> , var. <i>Halliana</i> | 6. Crocus (100) | <i>Crocus vernus</i> —mixed |
| 2. Crimson Rambler roses (2) | <i>Rosa multiflora</i> , var. <i>Clematis paniculata</i> | 7. Grape hyacinth (100) | <i>Muscari botryoides</i> —mixed |
| 3. Autumn clematis (2) | <i>Rosa multiflora</i> , var. <i>Ampelopsis quinquefolia</i> | 8. Snowdrops (200) | <i>Galanthus nivalis</i> |
| 4. Dorothy Perkins rose (1) | | 9. Corydalis (100) | <i>Corydalis lutea</i> |
| 5. Virginia creeper (3) | | 10. Hybrid perpetual roses (12) | <i>Rosa hybrida</i> |
| | | | Price of plants, \$50.00 |

Plan 3. For a yard with five hours sunlight a day. Roses and vines will succeed here



- | | | | |
|------------------------------|---|--------------------------|---|
| 1. Mock orange (2) | <i>Philadelphus coronarius</i> | 6. Chinese wistarias (2) | <i>Wistaria Chinensis</i> |
| 2. Lilac (2) | <i>Syringa vulgaris</i> | 7. Common barberry (5) | <i>Berberis vulgaris</i> |
| 3. Fortune's golden bell (2) | <i>Forsythia Fortunei</i> | 8. Japanese barberry (3) | <i>Berberis Thunbergii</i> |
| 4. Rose of Sharon (2) | <i>Hibiscus Syriacus</i> | 9. Variegated dogwood | <i>Cornus stolonifera</i> , var. <i>variegata</i> |
| 5. Hardy hydrangea (2) | <i>Hydrangea paniculata</i> , var. <i>grandiflora</i> | | |
- Price of plants, \$200.00

Plan 4. Even some of the flowering shrubs will succeed in a city backyard having five hours sunlight

will rue it, for the nurseryman will give you smaller plants which will never be satisfactory under these conditions. Get the very best, and you will enjoy success the first year.

Among the vines for this garden are five well-known climbing roses which must be cut back severely after flowering. City people who have had no experience in gardening will be afraid to do this and consequently the roses will be fewer every year and covered with insect enemies. A Crimson Rambler flowers on the new wood and if you leave the old canes the plant will waste strength in ripening the old wood when it ought to be making new wood. Cut down these climbing roses after flowering and by October you will have new canes as thick as your finger. The same applies to *Clematis paniculata*.

SHRUB GARDEN (PLAN 4)

This plan is better than a rose garden for a family that has to stay in town all summer, because it provides a longer season of bloom, beginning with the forsythia in April and ending with the hydrangea, the huge tresses of which will remain attractive even in October, though the size will decrease and the colors become duller. I make no pretense, however, that it will be an absolutely complete succession of flowers.

I have included barberries for winter effect, because the red berries last until April. You cannot expect barberries or any other red-berried shrubs to fruit very freely in such conditions, but even if they produce few berries, the delicate tracery of the Japanese barberry's slender branches is a welcome sight in winter.

You cannot expect that red-barked shrubs like *Cornus stolonifera* to produce their lightest color without more sunlight than this. Still they are worth trying and if the bushes are strong you need have no fear about cutting them right down to the ground in March every second or third winter. Do this and you will be rewarded with much brighter color, for in all dogwoods and willows that are valued for winter effect the brightest colors are invariably produced on the new growth.

This garden is necessarily the costliest of all, for you must get large specimen shrubs. Five hours of sunlight is the minimum for a shrub garden. Conifers will not thrive in a big city, much less broad-leaved evergreens. Both are very sensitive to soft coal smoke.

The price includes thirty plants of English ivy to be used as a ground cover under the shrubs for its winter beauty. These are not shown in the plan.

THE GARDEN OF PERENNIALS (PLAN 5)

This is for the Harlem yards that have seven hours' sunlight. Here one may have a fairly permanent garden of perennials without extravagant cost. Any perennial is worth trying under such conditions, but remembering the seven-foot fence, I have specified only kinds which I am sure of.

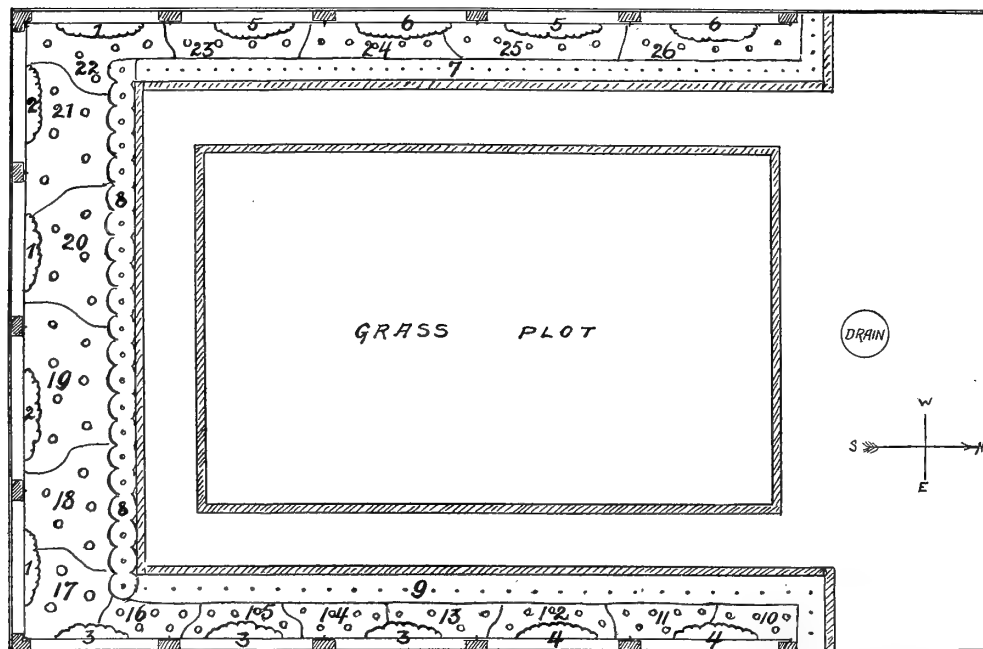
This is the only part of town I know in which one may hope to do almost as well with flowers as in suburbs or country.

become established and even then may die out after a year or two.

THE ROSE GARDEN (PLAN 3)

If you spend the month of June in town

and have five hours of sunlight you may have a rose garden. Fifty dollars may be seen a lot of money for a little rose garden combined with a small bulb show in New York, but just as sure as you beat down the price you



- | | | | |
|--------------------------------------|--|----------------------------------|--|
| 1. Crimson Rambler rose (3) | <i>Rosa multiflora</i> , var. | 15. Japanese spiraea (5) | <i>Spiraea Japonica</i> |
| 2. Dorothy Perkins rose (2) | <i>Rosa multiflora</i> , var. | 16. Japanese anemone (5) | <i>Anemone Japonica</i> |
| 3. Autumn clematis (3) | <i>Clematis paniculata</i> | 17. Monkshood (3) | <i>Aconitum Napellus</i> |
| 4. Virginia creeper (2) | <i>Ampelopsis quinquefolia</i> | 18. Marie Stuart phlox (4) | <i>Phlox paniculata</i> , var. |
| 5. Chinese wistaria (2) | <i>Wistaria Chinensis</i> | 19. Perennial larkspur (7) | <i>Delphinium formosum</i> |
| 6. Trumpet vine (2) | <i>Tecoma radicans</i> | 20. Ever-blooming torch lily (5) | <i>Kniphofia Pflzerii</i> |
| 7. Sea pink (24) | <i>Armeria maritima</i> | 21. White loosestrife (5) | <i>Lysimachia clethroides</i> |
| 8. Thomas Hogg funkia (20) | <i>Funkia marginata</i> , var. | 22. Mme. Langier phlox (5) | <i>Phlox paniculata</i> , var. |
| 9. Lily-of-the-valley (30) | <i>Convallaria majalis</i> | 23. Perennial tickseed (4) | <i>Coreopsis lanceolata</i> |
| 10. Double orange lily (4) | <i>Hemerocallis fulva</i> , var. <i>Kwanso</i> | 24. Shasta daisy (5) | <i>Chrysanthemum Leucanthemum</i> |
| 11. Spiderwort (6) | <i>Tradescantia Virginia</i> | 25. Japanese speedwell (5) | <i>Veronica longifolia</i> , var. <i>subsessilis</i> |
| 12. Meadow Sweet (5) | <i>Ulmaria palmata</i> | 26. Pearl achillea (5) | <i>Achillea Ptarmica</i> , var. <i>The Pearl</i> |
| 13. Large-flowered plantain lily (4) | <i>Funkia subcordata</i> , var. <i>grandiflora</i> | | |
| 14. Cardinal flower (6) | <i>Lobelia cardinalis</i> | | |
- Price of plants, \$75.00

Plan 5. Seven hours sunlight. With increased sunlight, a larger variety of perennials can be grown

Temporary Vines for Quickest Results—By William C. McCollom, Long Island

EASILY GROWN DOUBLE PURPOSE PLANTS THAT WILL FURNISH SCREENS ABOUT A NEW HOME AND ALSO GIVE PLENTY OF FLOWERS FOR CUTTING FROM JUNE UNTIL FROST

ANNUAL vines are sought by many people because they are very little trouble to grow, requiring neither pruning nor mulching; give quick results; and can be utilized to produce good effects while the permanent vines are developing. They are in great favor for frame buildings, where frequent painting is necessary, and where a woody vine would have to be removed and put back later. Again, if a large display of flowers is sought, the annual vines surpass, because most annual-flowering vines start blooming during June or July and continue to flower until cut down by frost, whereas woody vines have a short flowering season which cannot be prolonged to any great extent. On the other hand, the annual vines cannot be expected to grow to the great height which hardy, perennial vines, like the ivy or wistaria will attain.

By annual vines in this connection I mean vines that endure outdoors but one year and so must be started from seed each season. Some tender perennial vines (which may be hardy in the South, but which will not stand our Northern winters) are included, because they give the best results in this latitude when treated as annuals.

The most popular of all annual vines is the common morning glory (*Ipomœa purpurea*) because it requires little or no attention other than the sowing of the seed. It will grow surprisingly under uncongenial conditions, but for the best results it should have a sunny location, a deep, heavy soil, and abundance of water.

If seed is sown outdoors about the middle of April, the vines will start to flower toward the end of July, but if sown in the greenhouse or frame about the middle of March, the plants kept potted on as they grow and planted out about May 1st, the flowers may be had about one month earlier.

Before sowing the seed, break the hard skin by making a small notch with a file, or soak the seeds in warm water for twenty-four hours. Either course will greatly hasten germination. I prefer notching to soaking in water.

There are numerous varieties of the morning glories and the colors range through the various shades of blue, purple, pink, white, crimson, scarlet, and variegated. The flowers are funnel-shaped and are about three inches across. The plant is a twiner and clings well to almost any kind of a support, provided it is not too big in circumference, for, as with all twining vines, it must be able to entirely encircle a support before it can ascend. A circumference of five inches should not be exceeded for any annual vine that twines. According to the conditions governing their growth, they will attain a height of from six to ten feet.

The Japanese, by their consistent efforts, have improved one type of the morning glory

variously referred to as Japanese, Emperor, and Imperial to such an extent that it is now considered to be the best of this large family, when the beauty of the individual flower is looked at. The Japanese morning glories (*Ipomœa hederacea*) differ from the common morning glory in that the foliage is deeply lobed instead of heart-shaped, the flowers are larger and the colors more diversified and brighter; the growth is little more dwarf and the plant branches more freely. There is one good reason why this plant is not as popular as the common morning glory—poor seeds. It is hard to get a good strain of the Japanese morning glory, but once you get a good strain of this selection, you will be immensely pleased with it, and the best way to keep it is to save

your own seed each season. The vine requires the same treatment as the common morning glory.

A similar plant is seen in *I. rubro-cœrulea* which was brought into prominence in California by the introduction of the variety Heavenly Blue. It grows to twice the height of this common morning glory (or twenty feet). The flower is red before expanding, but becomes finally a clear blue, sometimes splashed with red. The plant is much branched and is among the most serviceable of the annual vines for screens, as it grows very rapidly. If grown for its flowers, it should be treated as a greenhouse plant.

For the busy suburbanite who is away from his home during the day, and whose only moments of gardening are in the very early morning or the evening, I recommend the moonflower (*Ipomœa Bona-Nox*). The great, saucer-like, white blossoms are produced in clusters, the flowers are six inches across, and they open in the evening and stay open all night or until the direct sunlight strikes them. They are quite fragrant, and there is something about the plant that appeals strongly to most people who see it. I feel sure that if it was better known it would be more popular. This also demands the same general treatment as the morning glory.

The east or west sides of a building are the best exposures for the moonflower, because if the plant is on the east side the flowers will open early in the afternoon; if on the west side, the flowers will stay open till noon. Have one vine on each side and you can have the moonflowers all day; but don't plant on the north side as it is shaded too much.

The seed of the moonflower must be cut or filed as without this help fully fifty per cent. will fail to sprout. For best results, start the plants in a greenhouse during March. Some florists raise them in large numbers and the plants may often be bought quite cheaply. Under favorable conditions, the moonflower vine will grow to a height of twenty feet, and as it grows rapidly making a dense mass of its lobed foliage it is an excellent screen vine.

All the ipomœas are twiners, are at home on fences of all kinds and they will also ascend strings; any ordinary trellis will answer the purpose as a support.

As an annual vine for cut flowers, the sweet pea (*Lathyrus odoratus*) stands out preëminently.

There are many varieties of sweet peas, and although at a cursory glance some may seem to be duplicated of others, you will find slight differences on close inspection. There is no necessity to grow all the varieties the seedsmen offer, but make a selection of all named varieties, growing as many as you can the first season, and always use labels to mark the name of the variety, then select



The direction of the "twist" is constant for each genus and the plant cannot climb in the opposite way. Morning glory to the left; the hop to the right



The nasturtium is one of the best of annual vines to plant in the chinks of a wall

for future use those that you like best. I advise against the use of a mixture of sweet peas, for by sowing each variety separately, the different colors can easily be picked as you desire to use them, and it is an easy matter to mix them after they are cut.

If proper care be taken, sweet peas may be made to flower well into August, but then the foliage turns yellow and the row gets to look unsightly. On account of the great freedom with which they produce their flowers during early summer, they are usually given a prominent position in the garden, and it is a hard matter to find something to replace them or to fill the big gap made by their death. Mr. Darlington in the *MARCH GARDEN MAGAZINE* advocates sowing tall nasturtiums (*Tropaeolum majus*), along with sweet peas, so that after the sweet peas are through flowering, the nasturtiums will continue right on till frost. In that same number



The Heavenly Blue morning glory. Its beautiful blue flowers are good for cutting

the cultivation of the sweet pea is discussed in full.

GORGEOUS RED FLOWERS

The most gorgeous of all red or scarlet flowering vines is the scarlet runner or fire bean (*Phaseolus multiflorus*). The blooms are produced in racemes bearing from ten to thirty flowers each, and are a bright scarlet. One great point in favor of this vine is its adaptability to almost any situation. Just put the seed in the ground, give the plants something on which to climb, and you will have a blaze of color the entire summer. They will accomplish wonders in redeeming a dingy back fence.

The scarlet runner likes the sunshine, but it will do well almost anywhere, so long as it does not suffer for want of water during dry weather. Although drought will not stop the flowering, it will cause the foliage to turn yellow. The seeds may be sown out of doors about May 1st, and the vine will start to flower about the middle of July and continue till frost. Sow when the ground is dry, and in case of excessive rainfall, cover the ground over the seeds with a small piece of glass or wood. The seeds will rot if they get too wet before germination.

The scarlet runner is a twiner but requires a little tying to its support until established; after that, the vines will take care of themselves. Under good cultivation, the plant attains a height of ten to twelve feet.

There is a white form of the scarlet runner, which is called the Dutch caseknife bean, identical with the type in every respect except in the color of the flowers, which are pure white, and by many people is preferable as a garden plant for that very reason.

A newer ornamental bean is the butterfly runner bean (*Phaseolus multiflorus*, var. *papilio*), just as floriferous as the other two varieties, with larger individual flowers and the wings, which are pure white, expand



The climbing nasturtium flowers are large (3 inches across) and in shades of yellow, orange, and red

better. The standards in this variety are a salmony brown.

The most effective red-flowered annual vine is the Cypress vine (*Ipomœa Quamoclit*). This plant with its delicate fern-like, feathery foliage and its little, tubular, scarlet flowers (about an inch long) which are abundantly produced and which stand out prominently against the dark green foliage, is most fascinating, especially in the early morning before the flowers close up, or in the evening just after sun-down when the blooms expand once more. The flowers are not expanded to the full sun.

This vine is a good strong grower and will attain a height of fifteen feet, or even twenty feet, under favorable conditions, which are about the same as the morning glories require. But the cypress vine will do well in a partial shade. There is also a white flowered variety, but it is not so popular as the scarlet form. An effective use can be made of the two grown together on a post or pillar.

A very good vine of easy cultivation is the popular hyacinth bean (*Dolichos Lablab*). The flowers are a delicate shade of blue and are produced on a raceme. The flowers, borne well away from the foliage on a rigid stem six to eight inches long, are a trifle stiff in appearance. The seeds can be sown out of doors, but as is the case with most annual vines, a gain of about four weeks results from sowing in the greenhouse during March. It is a dwarf twiner growing six to eight feet. There is also a white-flowered form in which the seed pod is also creamy white, instead of violet-green.

Another vine treated as an annual and grown chiefly for the culinary value of its fruit, is the lima bean (*Phaseolus lunatus*, var. *macrocarpus*). This vine is too well known to need describing here, but it is referred to as a possible vine for ornament on trellises, where the sole object is a screen of green foliage.

For the lover of something very frail and delicate (but still not at the expense of beauty), I recommend the Allegheny vine (*Adlumia cirrhosa*). It is a great favorite of mine, especially for planting beside a dead



The best support for sweet peas is a brush hedge. Set it before the plants are four inches high

shrub over which it will quickly clamber, covering the eyesore with its delicate foliage, which is similar to that of the florists' maiden-hair fern. Its pretty pale pink flowers are produced freely, giving a tone and effect hard to reproduce. Though the Allegheny vine is a twiner, it is a weakling and requires a little attention at all times to keep it properly trained on any object.

Give a good, sunny location and light, yet well-enriched soil, and this vine will grow to a height of fifteen feet, forming perfectly fairy-like festoons of flowers and foliage.

Another vine, valuable alike for both leaf and flower, is the cup and saucer vine (*Cobæa scandens*). The foliage is green but the stems and the veins of the leaf are tinted with purple running into a peculiar bronze hue, so pronounced that from a short distance the entire plant gives a decidedly bronzy effect. The growth is loose and very irregular and uncertain in its direction, thereby adding still more beauty to the plant. It is an excellent boundary fence vine.

The flowers of the cobæa greatly resemble those of the cup and saucer (*Campanula Medium*, var. *calycanthema*) are of about the same size; hence, the common name. The cobæa's flower is deep blue, and although not produced in overwhelming quantities, there are sufficient to justify its use as a flowering plant. It is, therefore, well adapted to porches and city gardens.

The cobæa is a good grower, reaching a height of twenty feet, and clings very close to its support by means of tendrils with which it is abundantly supplied. I have found that the cobæa is most comfortable in a sunny location, if kept freely watered during the summer, but it will also do well in not very densely shaded places, such as the east or west sides of buildings. There is, however, one essential point in its cultivation; never plant the cobæa close to other large plants that will interfere with its root action. The cobæa is a rank feeder; it must not be restricted in any way, and must have an abundance of good soil.

To have good results seeds must be sown in the greenhouse or frame, not later than

March 1st. If sown about February 15th, the plants will be in flower by July 15th. They will germinate much better if sown edgewise. It is not advisable to sow the seed of the cobæa in the open ground.

There is a white-flowered variety of the cobæa; the foliage is whitish and the stems and leaf veins are a yellowish white. There is also a variegated form but, on account of its slow weak growth, is not much esteemed. Neither are not nearly as attractive as the blue-flowered form.

THE BEST DECORATIVE FOLIAGE VINE

Without any doubt, the grandest and best of all annuals for foliage is the Japanese hop (*Humulus Japonicus*). The large leaf measures from six to seven inches across, and by its rapid growth, the plant will soon shut an object from view.

Do not plant the hop close to any slow growing vine, like the nasturtium or morning-glory (six feet is a safe distance), as the rank growth of the first named will overpower its neighbor, killing it.

Seeds can be sown out of doors about the middle of April, but much better plants are raised by sowing in the greenhouse or frame about the middle of March. By earlier sowing you get a much larger plant for after the flowering period (August) all growth ceases. The hop climbs by means of tendrils and is a good close clinger, growing to a height of ten and twelve feet. It has a free branching habit. The branches stretching out horizontally to such a degree that an almost square space will be well covered. It needs a sunny location and should be watered freely during dry weather.

There is a variegated form of the Japanese hop (*Humulus Japonicus*, var. *variegatus*) which is much more ornamental than the plain-leaved. In this, the leaves are white and green, beautifully mottled and striped,



The climbing nasturtium is an excellent covering for fences, trellises, or unsightly objects

and unlike most vines where the variegated form is weaker in growth than the type, the variegated hop is just as strong a grower and is usually preferred in planting near a house.

THE EASIEST VINE TO GROW

Very popular because it requires so little attention is the tall nasturtium (*Tropæolum majus*). This vine is grown for its great profusion of flowers, and although not as valuable as the sweet pea for cutting, it has many good qualities.

Nasturtiums can be had in flower early in June if the seed be started in the greenhouse about the middle of March; they will flower about the middle of July if sown out of doors. A common blunder in planting nasturtiums is to mix the different colors; a mass of one color is always more effective than a lot of



The Japanese hop grows ten to twenty feet high from seed sown out doors in May

colors mixed. Therefore buy named varieties and sow them separately. After the plants are above the ground a few inches, thin them out to not less than four inches apart; crowding is the one great cause of yellow foliage in all annual plants.

Of all the nasturtiums sown it would be safe to say that 75 per cent. are on the yellow or orange shades, but there are great possibilities for garden effects in the use of scarlets, crimsons or browns.

The nasturtium will stand a lot of abuse, but it must have water during dry weather as otherwise the leaves will turn yellow. Another cause of yellow foliage is planting in too much shade; it prefers the full sunshine. The nastur-

tiums are twiners and are rather dwarf in habit, six feet being about the maximum height.

VINES WITH YELLOW FLOWERS

The best yellow-flowered, annual vine is the canary-bird vine (*Tropæolum peregrinum*) not so well known as it deserves to be. The flowers are a good clear yellow—a color that is seen in but few vines. Sow the seed in the greenhouse or frame about the middle of March. The plant will then flower by July 1st and continue blooming until frost. If sown in the open ground, the results will not be so satisfactory, and will not be produced before September 1st. Then the cool nights will check the growth. Since the plant

likes the heat and does better in a hot, sunny location, it will do reasonably well in a dry location, and is valuable on that account alone. Under favorable conditions and given a long season of growth, it will cover a trellis to a height of twenty feet.

This is another vine that, like the morning-glory, varies greatly in quality and floriferousness, and often fails to give satisfaction because of the use of seeds from a poor strain. The remedy is obvious when you do get a good strain, save your own seed. The plant is a twiner but makes a tender, succulent stem and should be afforded a trellis that holds it well in position. It is also well adapted for use as a trailer for boxes, baskets, etc.

Inside Facts About Table Corn—By E. D. Darlington, Pennsylvania

A GUIDE TO THE BEST VARIETIES FOR SUCCESSION IN ALL PARTS OF THE COUNTRY—SOME FIELD CORNS THAT ARE REALLY BETTER THAN THE TRUE SUGAR CORNS FOR EARLY PLANTING

IN making selection of the varieties of corn to be planted for table use, it is important to consider the local conditions of season and climate to secure satisfactory results. In some sections, as in the warm Southern States, the extra early sweet, or sugar, corns do not do well, as these varieties are practically valueless because of the smut and from the ravages of the green worms in the young ears. For the earliest supply under such circumstances, a very early white field corn is used, the grains of which are quite tender and juicy when gathered at the proper stage, although of course the flavor cannot be compared with that of the true sweet, or sugar corns.

In the cooler Northern sections, a hard-grained, early variety is usually selected for the earliest plantings, as the hard, flinty grains can be planted earlier in the spring than the shrivelled grains of the sugar corns. The plants of these hard-grained types are hardier and more robust than those of the more tender sugar corn, and the ears are protected by a thick, rather coarse husk, coming well over the tip of the ear, affording good protection against the worms. Different types of these hardy corns are used in different sections, those planted in the North being of comparatively dwarf, stocky growth, with pearly white, or smoky-colored, grains, while in the South the varieties used grow to a height of seven to eight feet and produce a large many-rowed ear.

The smaller Northern type is generally eight-rowed and has a smoothly rounded flinty grain, while the Southern type has a deeper, slender grain of paper whiteness and resembles a dent field corn when fully mature.

In the true sugar corns, the earliest varieties are of dwarf habit, the height of full-grown stalks being from two and one-half to four feet, and the ears are set near the ground, or at the base of the stalk. As the season of maturity of the different varieties becomes later and the period required for the development of growth and ear longer, the height of

stalk and size of ear increases in proportion. The ears are borne higher up on the stalk, contain a larger number of rows of grains and the stalks are more abundantly furnished with leaves, or blades.

The grains of the dwarf, extra early sorts, are not fertilized as readily as those of the larger, later sorts, consequently, it is a great advantage to have the rows close together and the stalks closer in the row than would be advisable for the taller-growing later varieties. In the thicker planting there is greater economy of pollen and much more likelihood that all silk, even to the tip of the ear, will be fertilized. In addition to better-filled ears the gardener also gets a much larger return on a given space from the close planting.

In small gardens, where the cultivation is done with hand or wheel hoe, the dwarf extra early corns may be planted in rows two feet apart; the taller second earlies, three feet apart; and the tall late sorts, four feet apart. The stalks in each case to stand singly and one foot apart in the row.

For horse cultivation in one direction, the small extra earlies, growing three to four and a half feet high, may be planted in rows three feet apart; and the taller later sorts four feet apart. Use a liberal quantity of seed to insure a good stand, and when well started, thin to one foot apart.

Two big factors make for the best flavor in table corn: first, picking the ears at the critical stage of ripeness; second, cooking in boiling water for exactly the right length of time. The proper stage of development is when the grains are fully developed, but while they still remain tender and juicy, and before the skin of the grain starts to glaze or become hard. Gather the ears just before they are to be cooked if possible or at least early in the morning of the same day that they are to be eaten. Keep them in the husk in a cool place until a short time before they are to go into the pot. For the better varieties, ten minutes' boiling is amply sufficient, and overcooking causes a rapid

deterioration in flavor. If they cannot be served immediately when cooked, take the ears from the boiling water, drain carefully and cover with a cloth to retain the heat.

Ears that are too old for boiling on the cob need not be wasted; they are just what is needed for the best griddle cakes, or corn oysters. The ears are husked and freed from silk, then the interior portion of the grain is scraped out with a fork, or the small scraper which is made especially for this purpose. Treated in this way, only the soft, milky, interior portion of the grain is taken and the tough skin is left on the cob.

VARIETIES OF HARDY EARLY CORN

The Extra Early Adams is the leading variety, aside from the true sugar corns, for early planting in the middle and cooler Northern States. The seed of this variety is white in color, quite hard, and may be planted very early in the spring in well-drained ground, or about the time the sugar maples are coming into leaf. The stalks grow from five to six feet high and generally produce in rich soil two good ears. The ears are seven to eight inches long, with twelve to fourteen rows of medium-sized grains. The husks are rather coarse and thick, affording good protection for the ears.

Burlington Hybrid is similar in growth and season to the Extra Early Adams, and is very largely planted for early market. It produces a rather slender, eight-rowed ear, seven inches in length. When fully ripe, the grain is very hard, or flinty, in character, and of a smoky, brownish tint. Another variety, not especially distinguished by name but having a flinty, white grain, is grown in some of the cooler Northern States, and differs from the Burlington chiefly in the coloring of the fully matured seed.

Early Adams is the Southern type of hardy early corn, with stalks growing from seven to eight feet in height, about ten days later in season than the preceding varieties and with much larger ears. The ears are set rather high on the stalk and measure from

eight to twelve inches in length, with fourteen or more rows of milk-white grains, which are tender, juicy and sweet if gathered at the proper stage. This variety is not suited for Northern localities, as it requires too long a season to develop in a cool climate, and it should not be confused with the Extra Early Adams which is much dwarfer in growth and earlier in season.

VARIETIES OF SUGAR CORNS

(arranged as to season of maturity)

The true sugar corns can readily be distinguished by the more or less shrivelled character of the dry seed. The more shrivelled the seed, the greater percentage of sugar is contained in the grain, and the better and sweeter the flavor in the fresh, or green, state. At the same time, the more the seed is shrivelled, the more tender it is and the more liable to rot instead of germinating, if it should be planted before the soil has become thoroughly warmed. Consequently, it is better to wait until the trees are fully out in leaf and all danger of frost is past before making plantings of the better late varieties, especially as these kinds will make a better growth and come on more quickly if they do not experience any check in growth, such as would be experienced from a late frost or a succession of cool nights after the young plants have started to grow.

Early Malakopf, or Peep o'Day, is the very earliest and one of the sweetest corns that I have ever grown. The stalks are only two and a half feet high and set two ears very near the ground. The ears are four to five inches long with eight rows of medium-sized grains. The ears are too small for a market variety, but it is excellent for the small home garden, as it takes but little space and will give good ears much earlier than any of the larger varieties. This variety was originally introduced by the United States Department of Agriculture and is one of the very best novelties ever disseminated by the Department.

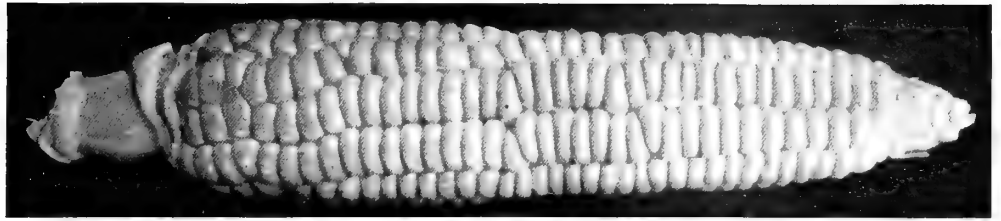
Planted at the same time, the Peep o'Day is from three to five days earlier than the Early Fordhook. The small ears become ready for use very quickly and evenly, so that the entire lot of ears from a single planting may be gathered in two pickings in about five days' time.

First of All is, aside from the preceding, the very earliest variety of the sweet type, growing about four feet high, and has eight-rowed ears. It is very early but has an inferior flavor.

Early Fordhook, really the earliest of the large-eared sugar corns, grows five feet high, sets two eight-rowed ears to a stalk, is about three days later than the First of All and greatly superior in flavor.

Early Cory is the standard, popular extra early, is similar to the preceding but a day or two later and inferior to it in flavor.

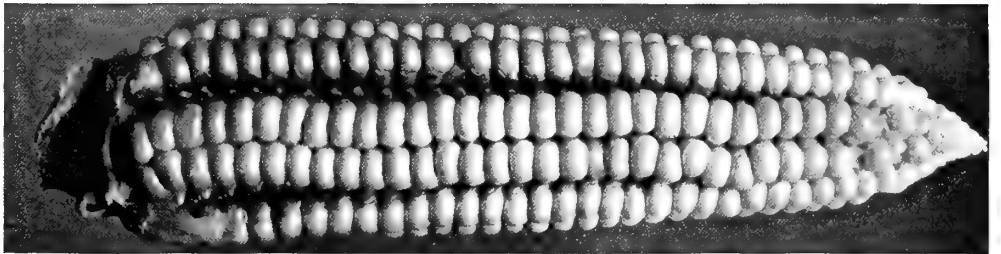
White Cob Cory. The three preceding varieties have red cobs and reddish grains when matured, but in the fresh, or green, ears the grains are of a creamy tint. In this



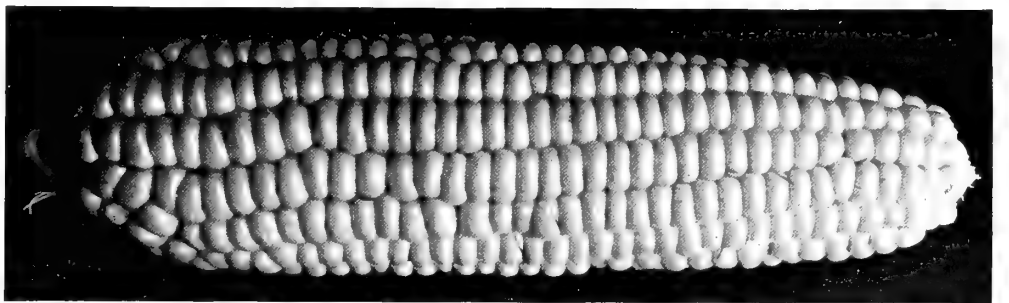
Golden Bantam in the best condition for table use. Has eight rows of creamy yellow grains



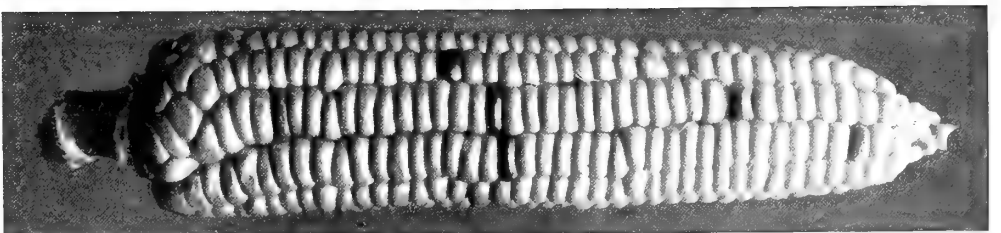
Adam's Early too old. The "dents" do not show when kernels are in prime condition



Early Cosmopolitan, a corn of only fair flavor. The tip of this ear is not well filled



The late corns have larger ears. An ear in prime condition; tender, full of rich, sweet, milky juice



Early Champion. The black kernels show that it has been grown near some Black Mexican



Peep o' Day, the earliest white, and one of the sweetest corns grown. Plant is two and one half feet high and bears two ears four or five inches long

variety, we have a white cob and grain, slightly larger ear and a little later season.

Golden Bantam is a very distinct variety, is highly esteemed for earliness and excellent quality. In the cool North, it is an extra early but in the vicinity of Philadelphia it is a second early in season. The plants are quite hardy in growth, with stalks about four feet in height, furnished with two ears to a stalk. The ears are from five to six inches long, slender in form, with eight rows of broad, creamy-yellow grains, very rich in flavor. It is tender and juicy if gathered at the proper stage. Many of the New England gardeners esteem this variety so highly that they use it for their entire summer supply by making repeated plantings for succession at intervals of one week, or not over ten days apart.

SECOND EARLIES AND MID-SEASON VARIETIES

Early Cosmopolitan, Early Champion and Early Metropolitan come in immediately after the Early Cory or about five days later. These are of stronger growth with stout stalks five to six feet in height, and large broad leaves. They produce two rather large ears to a stalk, with ten to twelve rows of fairly large grains. The seed is hard and firm, being only slightly shrivelled when dry and admits of early planting, but the quality is only fair and not distinctly sweet, even when gathered while the grains are still tender and juicy. It is quite probable that these varieties owe their vigorous growth, size of ear, and hardness to a cross between the Adams type and some one of the true sugar corns.

Crosby's Early Twelve-Rowed. This is



Gather the ears just before cooking or early in the morning and keep in a cool place

an old-time favorite which I have been planting for nearly thirty years and still consider it one of the best early sugar corns. It comes a week later than the Cory, and when ready for the table, ends the usefulness of the extra earlies, as it is greatly superior in flavor. The stalks are slender, about five feet in height, and set two medium-sized ears. The ears are six to seven inches long, not very thick, and have twelve rows of medium-sized grains, tender, juicy and sweet in flavor. It is a true "sugar" corn, of just the right size to serve on the cob and of very attractive appearance.

Black Mexican is a very distinct variety of about the same season, or a little later, than the Crosby and is very highly esteemed for sweetness in some sections. The stalks grow five feet in height, with ears seven to eight inches in length. The ears have a slender cob and eight rows of broad grains, of a creamy color when at the proper stage for the table, but the tips of the grains are more or less shaded with reddish violet, changing to dark purplish-black when the seed is fully ripened. While this variety has a good reputation for sweetness, I find that in our hot summer season the grains quickly become dry and floury in taste unless gathered at a very early stage of development, indicating a field-corn parentage.

Perry's Hybrid is a very excellent sweet-flavored corn with larger ears and a little later season than the Crosby. The ears are set rather low on the stalk and both ears and grains are of good size. Mainly planted in the cooler Northern sections.

Potter's Excelsior, a medium-sized ear and mid-season in development. The flavor of this variety is excellent and it has the peculiarity of producing a percentage of reddish-colored stalks. A number of excellent sorts have been developed and introduced by making selections from these red-stalked plants, such as Honey Dew, etc., all of which were especially good in flavor when sent out, but all of which deteriorate and run out when grown on a large, commercial scale. The best of these red-stalked corns was the Ruby, in which the stalks, leaves, husks, and tassels were a rich purplish red, and while the young grains were pearly white at the edible stage, the water in which the ears were boiled became bright red dye from the coloring extracted from the cobs while boiling. This was one of the sweetest corns I have ever eaten, but it was so difficult to maintain a pure strain that its cultivation was abandoned.

Early Mammoth is a large, thick-eared, mid-season sort of good growth. The quality is good but the ear too large and heavy for serving on the cob, and only attractive to those who wish to get the most for their money when buying by the dozen ears on the market.

Early Evergreen is an earlier, smaller-eared selection of Stowell's Evergreen, with a good-sized, but not overly hick, ear of good quality. It fills in the season between Crosby and the regular Stowell very satisfactorily, where a number of varieties are

planted at one time for succession, in preference to more numerous plantings of a single variety.

Shoe Peg, or Ne Plus Ultra, a very distinct, small-eared variety of exceptionally sweet, rich flavor. The stalks produce four ears to a stalk which are ready in pairs—that is, two of the ears become ready for use several days before the second pair. Usually the lower ears are the earliest, but sometimes the two middle ears are ready first. These ears are only five to six inches long, are quite slender and the small, slender, deep grains are crowded very closely together on the ear and not arranged in regular, even-numbered rows as with other corns.

Each ear has, when young, a very large tuft of reddish silk which turns dark brown when ready for use, so that the proper stage for gathering the ears can readily be told with a little experience without opening the husk. The only objections to this very excellent corn lie in the very small size of the ear (a point of favor with many who like to eat corn from the cob) and in the fact that when the grains are a little old, the skin of the deep, slender grains becomes tough and finds lodgment between the teeth, and as the grains are so small and not in regular rows, they cannot readily be slit, or scored, with a knife before eating, which would obviate this difficulty.

LATE, OR MAIN CROP, VARIETIES

White Evergreen, a special strain of the well-known Stowell's Evergreen established by a number of years' selection, with a view of securing a grain of the purest whiteness for canning purposes, as the original Stowell has a yellowish tinge to the grains when cooked in the cans in the large commercial canneries. In the process of selection, this corn has become slightly dwarfer in growth



Golden Bantam, yellow. This variety vies with Peep o' Day for the record for earliness

and about five days earlier in the season than Stowell's Evergreen and in eliminating the yellowish or creamy tint from the grain, a lighter-colored stalk with white tassels and light-colored silk has become a distinctive feature. The ears are large, eight to ten inches in length and from two to two and one-half inches in diameter, with large and quite deep grains, very tender, juicy and decidedly sweet. It is one of the very best in quality and remains in good condition for a long time after it first becomes ready for use.

Stowell's Evergreen is the standard late or main, variety for general planting, and has held the first place for the home garden, market, and canning purposes for a period of thirty years, very convincing testimony of its merit. The stalks are of strong, vigorous growth, seven to eight feet high, and produce two quite large ears, eight to ten inches long, well filled with large, deep grains of excellent quality. The only objection to this variety lies in the very large size of the ears, which are somewhat too large for serving on the cob on the home table of our critical gardeners.

Mammoth Late and Egyptian are very strong growing and extra-large sorts, even larger size and later season than the Stowell's Evergreen. While both are of excellent quality, they are not generally planted excepting for market purposes, it being more satisfactory to keep up the supply of young ears by making a number of plantings of an earlier, smaller-eared sort to come on in succession.

Country Gentleman. In point of quality, this is considered to be the very best sweet corn in the entire list by a large number of gardeners. Originating in a cross between the small-eared Shoe Peg and the larger, later Evergreen it retains the small, slender, deep grain of the Shoe Peg with the same irregular arrangement of the grains on the cob, with a larger ear and later season. Indeed, the Evergreen parentage is only shown in the increased size of the ear and later season, together with a slightly larger, plumper grain than the Shoe Peg. In season, it is about the same, or a little later, than Stowell's Evergreen, producing four ears to a stalk under good conditions, and affording good ears for an extended period, as the numerous ears on the stalks are not all ready for use at the same time.

In a well-selected strain of this variety, the ears measure seven to eight inches in length and about two inches in diameter, but a very large proportion of the seed sold as Country Gentleman produces smaller ears of only five to six inches in length.

A comparison of the offerings of sweet or table corns in the seedsmen's catalogues will show a very much larger list of varieties, any of which vary only in a slight degree from the standard varieties described above, or which are specially selected stocks of local reputation of these well-known kinds. As a combination of three or four of the best varieties of different seasons of maturity is amply sufficient for the practical gardener,

it would only be confusing to the reader to extend this list to a greater length.

VARIETIES FOR THE COOL NORTHERN STATES

Extra early.—Plant when cherries are in bloom: Peep o'Day.

Early.—Plant when cherries are in bloom: Golden Bantam, Early Fordhook, and Extra Early Adams.

Second earlys.—Plant when apples are in bloom: Crosby's Twelve-rowed, and Early Evergreen.

For late summer.—Plant when apples are in bloom: Stowell's Evergreen, and Country Gentleman.

For early fall.—Plant July 1st and 10th: Golden Bantam, and Early Fordhook.

VARIETIES FOR THE CENTRAL STATES

Extra early.—Plant when cherries are in bloom: Peep o'Day.

Early.—Plant when cherries are in bloom: Golden Bantam, Early Fordhook, and Extra Early Adams.

Mid-season.—Plant when apples are in bloom: Crosby's Twelve-rowed, and Early Evergreen.

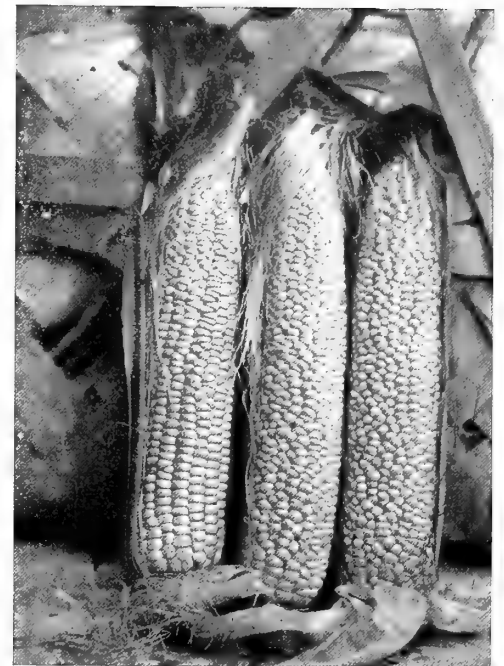
Main crop.—Plant when apples are in bloom and every ten days until July 15th: Stowell's Evergreen, and Country Gentleman.

For fall use.—Plant July 15th to August 15th: Early Fordhook, and Golden Bantam.

VARIETIES FOR THE SOUTHERN STATES

Extra Early.—Plant when cherries are in bloom: Extra Early Adams, and Adams Early.

Second early.—Plant when apples are in



Moore's Concord (left) a mid season variety popular in the cool north. Country Gentleman (right). The best sweet corn for the home table

bloom: Crosby's Twelve-rowed, Early Evergreen.

Main crop.—Plant when apples are in bloom and every ten days until the last of July: Stowell's Evergreen, and Country Gentleman.

For fall.—Plant last of July to August 15th: Extra Early Adams.



Seeds may be started in the greenhouse for later transplanting to the open when all danger of frost is past

Bulbs for May Planting—By W. E. Pendleton, ^{Pennsylvania}

A "ROUND-UP" OF ALL THE TENDER BULBS FOR SUMMER BLOOM THAT ARE PLANTED IN THE GARDEN AFTER DANGER OF FROST IS PAST

THE dahlia has more shapes, colors, and varieties than any other plant here mentioned. Heretofore, dahlias have usually been planted about May 15th near New York and May 20th near Boston, but in the June 1905 GARDEN MAGAZINE, page 236, Mr. L. Hudson advises postponing planting until June 1st or even as late as July 1st. The reason is that our summers are usually hot and dry, and early-planted dahlias are likely to be caught by July drought and checked so badly (especially in heavy soil) that they will give few blooms in August and none in September. It is better to give up the idea of early August bloom and concentrate on September effect, when the dahlia shows are held.

However, in a cool, wet season, early-planted dahlias do better than late-planted ones and therefore it is wise to plant a few dahlias in May for insurance and for the early bloom.

The expense and care, as well as the unsightliness of stakes, can be avoided by pinching off the early shoots so as to get a low-branching, bushy growth. The dahlia ought to be sheltered from high winds, for its succulent stems are easily broken.

The glory of the tigridia is the spotting of its flowers—a charm that defies description or illustrations. The names tigridia and tiger-flower refer to this characteristic. So does the name of the dominant species (*Tigridia Pavonia*), which indicates that its markings suggest those of a peacock. The blossom is said to open like a shell, whence the commonest name of all—shellflower.

The tigridia has gladiolus-like foliage. The lower halves of the three large segments of the flower make a sort of cup, while the upper halves spread horizontally. The spreading part of the flower was originally orange-red, purple, or yellow, while the spots blended together all the colors of the rainbow, but we now have lilac—and rose-petaled varieties, light blue, crimson, and even a pure white flower without any spots. The tigridia has even larger flowers than the gladiolus (often four inches, sometimes five or six) but it belongs to that large section of the Iris family, whose individual flowers last only a single day. But there is a good succession of them. The principal blooming period is July and August, and the best colors are developed during dry weather.

Plant the corms four to six inches apart and two or three inches deep. The plants grow one and one-half to two and one-half feet high. The corms cost five to eight cents each, or forty to sixty cents a dozen.

I believe more money is spent on the canna than on the dahlia. It probably ranks second only to the geranium as a bedding plant. The canna has some advantages over the dahlia. The foliage is more refined, not coarse; there is no four-lined plant bug to destroy the buds;

it blooms abundantly and incessantly from early in July until frost. It is probably the easiest of all bulbs to keep over winter.

Because the canna gives more for the money than any other spring-planted bulb, it is enormously overdone. A canna bed in the middle of a lawn makes the grounds seem smaller than they are, and introduces a tropical note which will never harmonize with a northern landscape. The canna belongs close to the house because its lines



The devil's tongue (*Amorphophallus Rivieri*) flowered in an ordinary saucer and later planted in soil to make its growth. It has a strong disagreeable odor.

are stiff and architectural. It is also proper to put cannas in a secluded spot, where one makes a specialty of formal flower beds for private home enjoyment.

The most beautiful cannas, because of their fluted petals, are the orchid-flowering kinds. They also have the largest flowers and must be shaded from the midday sun.

A canna bed seven feet across costs about two dollars, or if you begin with a fifteen-cent bulb and divide the plants carefully, you will have material enough for such a bed at the beginning of the third season. After April 1st, the seedsmen send out growing plants instead of dormant roots, which cost about twenty-five cents each instead of fifteen.

A good-natured rivalry often springs up among neighbors to see who can raise the biggest caladium leaves and it is one of the few plants that is not spoiled by mere bigness. The bigger the better, for rapid growth brings a more attractive texture and color.

Get bulbs a foot or more in circumference worth thirty-five cents each instead of the little seven-centers. Then give the bed a six-inch mulch of well-decayed manure. Finally, provide an abundance of water for it is a moisture-loving species.

Follow these hints and you will get plants six to ten feet high, with leaves four feet long and three feet wide. If you beat this record, send us a photograph, with measurements and details of culture, to THE GARDEN MAGAZINE for the "Record-Breaking Achievements," which are an annual feature of the Christmas number, and you will get a check for five dollars.

The correct name of the caladium is *Colocasia antiquorum*, var. *esculentum*. Its prototype is a native of India, but the variety we cultivate for ornament is a native of Hawaii and Fiji, where its bulb furnishes "taro," a starchy food from which "poi" is made.

The latest novelty in this line is New Century, the following description of which is toned down from the catalogues: "A new species from Central America, with leaves three to five feet long and two to two and one-half feet broad, of leathery texture and metallic lustre. Flowers twelve to fifteen inches long, creamy, fragrant, produced all summer."

The genus *Oxalis*, which includes the wood sorrel, is noted for the beauty and variety of its leaves. Two summer-blooming kinds that are said to be very dainty for edging walks and flower beds are the four-leaved oxalis (*O. tetraphylla*, but known to seedsmen as *O. Deppei*), and the woolly-stamened oxalis (*O. lasiandra*). The former has four leaflets, sometimes three; the latter five to ten. The flowers of the first are lilac to deep rose, the latter rosy crimson. They grow a foot high. Bulbs cost only fifteen

cents a dozen. Plant them three inches apart.

The tuberose has the most powerful fragrance of any flower in cultivation. Refined taste no longer tolerates it indoors, but every home garden ought to have four tuberoses in it, one in each corner. The old-fashioned tall variety opens better in October than the others, but the double Dwarf Pearl has almost crowded it out of cultivation. It grows two feet high and is filled for two-thirds its length with flowers that are one and one-half to two inches across, which is nearly twice the size of the old kind. The Mexican tuberose is early blooming, July or August, and a good bulb produces two to five stems.

The tubers are large and cost only five to ten cents each. Sound ones always show signs of life at the tips.

The Madeira vine (*Boussingaultia baseloides*) is an excellent twiner for porches and arbors. It attains ten to twenty feet and blooms in late summer or fall, having long, gracefully drooping stems of small, fragrant white flowers. The leaves, though not as large and showy as those of the cinnamon vine, are pretty, being thick, glossy and of distinctive form.

Like the cinnamon vine, it bears little tubers in the axils of the leaves. After these are grown for a year they produce the tubers which we buy. They cost five or ten cents and are as easy to store over winter as potatoes. It is not necessary to take them up until after the first frost.

The grandest flowers of the amaryllis family are found in the genera *Hippeastrum*, *Crinum*, *Hymenocallis*, and *Pancratium*. Roughly speaking, these are all high-priced, long-lived bulbs that are best grown in pots and many of them may be used either for winter bloom in greenhouse or for porch and terrace decoration in summer, according to whether the bulbs are rested in summer or

winter. The exceptions in favor of general garden cultivation are the following.

The Jacobæan lily (*Sprekelia formosissima* but catalogued as an *Amaryllis*) bears one large, dark scarlet flower of marked character. Planted in May, it blooms in June before the leafing, the hollow scape rising about two feet. The bulbs will ripen by fall and must be taken up with the tops on and stored in a dry room which is free from frost. It may also be grown in water for winter bloom, like hyacinths, in glasses.

There are two crinums that can be left outdoors permanently in the North if well protected. The hardiest is the Cape lily (*Crinum longifolium*, known in the trade as *C. Capense*), which bears six to twelve good-sized flowers which are more or less tinged with red outside and sometimes inside. It produces great quantities of large, odd-



There is more variety in the dahlia than in any other summer flowering, bulbous plant



The canna is one of the most brilliant and best of garden plants but often injudiciously used



The elephant's ear (*Colocasia*) planted in the centre of a bed and surrounded by Vernon begonias

shaped seeds as big as a chestnut. The only other hardy crinum is *C. Powellii*. This is a hybrid between *C. longifolium* and *C. Moorei*, having the hardiness of the former and the peachy color of the latter. It resembles a pink lily five inches across and one plant will bear about eight flowers.

These crinums must be grown in a well-drained soil and protected during the winter from hard freezing and excessive moisture. They are long-necked bulbs and the top of the bulb proper should be planted two to two and a half feet below the surface. Before the first frost, put a mound of ashes over them to shed rain, or cover them a foot deep with leaves and then put a water-tight box over all.

Sea daffodils and spider lily are names often given to *Hymenocallis* and *Pancratium*, two genera that have a fringed cup, which

varies as much in shape as the "crown" among daffodils.

The best of this group for general cultivation is known to gardeners as *Ismene*. It has fragrant, white flowers unlike anything else in the garden. This plant costs only twenty-five cents. It is best planted in June and taken up in October. "After a few weeks' rest," says a reliable dealer, "it may be potted and flowered in the house in winter, or stored in a dry, warm place for planting out next June."

Hymenocallis undulata costs only fifteen cents and has ten flowers in a cluster, whereas the preceding has only two to five. It has linear petals and a cup about one inch long which is tinged with red.

The name sea daffodil properly belongs to *Pancratium maritimum* because its inch-long cup projects beyond the petals like a hoop-petticoat daffodil. It costs fifteen cents.

Pancratium Illyricum, said to be the hardiest, commonest, and best of the genus, is a small-cupped species with long, narrow twice-cut teeth. It costs fifty cents.

Rigidella is a rare, red-flowered, Mexican relative of *Tigridia*, which is distinguished by its smaller inner segments.

Nemastylis is one of the few blue flowers of the iris family beside the blue-eyed grass or *Sisyrinchium*. *N. caelestina* and *acuta* are natives in the South.

The great family of the Araceæ is full of strange dragon-like plants. The devil's tongue (*Amorphophallus Rivieri*) has gigantic, dark-red flowers often three feet long which appear before the leaves. It is occasionally grown in subtropical beds for foliage effect, but like the so-called Arums, it is properly only a greenhouse curiosity. The bulb is best stored under greenhouse benches in a temperature of 50° and an atmosphere moist enough to keep it from shriveling.

[NOTE.—THE GARDEN MAGAZINE will pay from \$10 to \$25 for an illustrated account of personal experience with the rarer plants above mentioned.]

Good News About the Broad Bean—By W. E. Pendleton, ^{New Jersey}

VARIETIES THAT ARE ADAPTED TO HUMAN FOOD FOR PEOPLE WHO CAN RISE SUPERIOR TO THE TRADITIONAL PREJUDICE AGAINST THEM AS "HORSE FOOD"

I DARE say there is no vegetable in the world against which there is so much prejudice as the English broad bean, which is usually stigmatized as "horse food," yet there are varieties which are commonly used for food in Europe, not merely by the working classes either. There are many Englishmen of wealth and refinement who are enthusiastic about the broad bean, and the United States Department of Agriculture will give seeds of the best varieties free to those who are willing to report the results.

There is no denying that the broad bean has a strong and peculiar flavor, but many people like this flavor even though it is strong, and the one important point which those who sneer at broad beans neglect to tell you is that parboiling solves the whole difficulty. Moreover, the strength and peculiarity of its flavor are much diminished in the varieties adapted to human food, especially if the beans are eaten at a very young and immature stage, just as Lima beans are eaten.

While the full-grown beans are tough and strong, the young beans are tender and delicate, especially if they are parboiled or cooked in this way: Put the freshly gathered beans into boiling water which has been salted at the rate of one heaping tablespoonful to one-half gallon of water. Boil rapidly for fifteen or twenty minutes and serve with a sauce of parsley and butter. Boiled bacon is often served with these beans. The more mature beans are also very desirable for addition to soups, being used like barley or split peas.

I cannot claim that there is anything absolutely new about the broad bean. There is nothing new under the sun, and the broad bean has been cultivated since prehistoric times. Moreover, four excellent varieties have been offered in one of the best American seed catalogues for perhaps thirty years, but to the American public the English bean unquestionably represents a new idea, and it is certainly a very singular plant.

The broad bean is not a climbing plant but a strong, erect, annual bush, two to four feet high, which looks more like a pea than a bean. It has from two to six leaflets, of which the terminal one may be pointed, or

represented by a rudimentary tendril. The flowers are lilac-colored or creamy and have a large, blue-black spot upon them. The pods vary extraordinarily, some varieties having pods only two or three inches long, while some occasionally attain eighteen inches. The botanical name is *Vicia Faba*, while that of the common string bean is *Phaseolus vulgaris*.

One reason why the broad bean has never become popular in this country is that our summers are, in general, too hot and dry for it. It is not at all a heat-loving plant and therefore it will probably never amount to

among Englishmen in the Atlantic seaboard cities from Baltimore north.

The cultural directions are very simple. Sow them in drills two feet apart as early in spring as the ground can be worked. Plant them three inches apart and cover them not more than two inches deep. They like a strong soil best. When pods begin to form, you should break off the top of the plant in order to check the growth and encourage the production of pods.

If you are willing to give the broad bean a fair trial and report the results, write to David G. Fairchild, Office of Seed and Plant Introduction and Distribution, U. S. Department of Agriculture, and ask for a few seeds of the best varieties, mentioning THE GARDEN MAGAZINE. If you are not willing to report or wish seeds in quantity ask the Readers' Service Department of THE GARDEN MAGAZINE for addresses of seedsmen who have the varieties best adapted to human food.

In America "Broad Windsor" is often used as a generic rather than a varietal name, and many seedsmen will send simple "horse beans" in response for an order for Broad Windsor.

Mrs. Fullerton, author of "How to Make a Vegetable Garden," has tried the entire collection offered by the Department and speaks well of the broad bean. She says that it approaches the Lima bean very closely in consistency and appeal to the palate, and finds that a number of Americans who tried the beans were enthusiastic about them at once, while others disliked them. Mrs. Fullerton found that the beans furnished a continuous crop, blooming and setting pods until a hard frost killed them. This was probably due to the cool nights and moist atmosphere of Long Island.

The only enemy of the bean was a little black fly which the Fullertons had frequently seen on other vegetables. Coal ashes were procured from the kitchen range and vigorously applied on the tops and sides of the plants and on the ground. The pest either died or emigrated.

Some seedsmen sell broad beans to street fakirs, who scent or dye them and sell as vanilla or other rare kinds of bean.



Five stages in the development of the pod of the broad bean (*Vicia Faba*)

anything in our Southern States unless as a winter crop. On the other hand, it will probably grow where garden peas thrive, for it is as hardy as the pea and can be sown as early. Both are cool season plants which must be sown before the danger of frost is past, in order to mature the crop before hot weather comes on. The broad bean has established itself in the Maritime Provinces of Canada and ought to find a ready sale



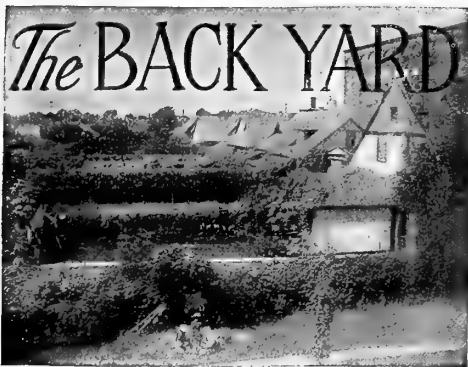
The broad bean plant
234



Set like a jewel in a velvet case



Eat them when small, tender, and immature



\$30 Worth of Vegetables from a City Lot

MY SMALL, city backyard garden (28 x 28 ft.) was a decided success last year.

The produce grown on this very limited area was nearly all that was needed for a family of three, and part of the time six, from May 15th to November; while squash and celery were to be had in December. Besides, there were twenty quarts of strawberries, and from the two-years-old currant bushes four quarts of fruit were picked. At prices charged for the various things by our groceryman, the entire produce would have cost me more than thirty dollars.

The accompanying plan shows that the portion under cultivation (excluding the strip on the south marked "Lima Beans," but now set to hardy flowers) is 28 x 38 ft. Of this a space of only 28 x 28 ft. is given, each year, to the vegetable garden. Upon the north and east sides there is a high board fence, while upon the south there is a low picket fence, which gives full exposure to the sun, and at the same time protection from north winds.

Lettuce and radishes were sown in different parts of the garden early, where later, partly grown plants were to be set so that the first crop did not interfere in the least with the second. Successive sowings were made wherever a little space could be found. The result was that all the ground produced two crops and most of it three during the season.

Cucumbers planted between the strawberries and the onions did not demand room until after both crops had been gathered. Four hills of these were trained up on brush, and two were allowed to run over the strawberry bed.

In addition to the one row of onions, as marked on the plan, sets were put in wherever room could be found, and these were pulled as soon as large enough for use.

The early pea vines were pulled up about July 1st and this space was set to Golden Self-blanching celery in a double row, which yielded about sixty good bunches for late fall and winter use.

Meanwhile a row of late tomatoes had been growing on the east side of the early peas and another of early ones by the side of the dwarf peas. These were trimmed to one stalk, and fastened to stakes six feet high. All foliage was removed for about two feet above the ground.

A row of string beans took the place of the dwarf peas, and yielded a fair crop in spite of being less than a foot from the tomato plants.

In the corn rows a few pole beans of the wax variety were planted which made good use of the old stalks for poles. Also two or three hills of winter squash were planted which in the late summer completely covered where the corn had been.

There had been applied plenty of fertilizer from a neighboring barnyard in the early spring while during the growing season nitrate of soda had been used as frequently as the plants could assimilate it. The entire growth was luxuriant, though the crowded condition prevented the best development of everything, yet there was not a single failure.

The results are for the second summer. The beginning was made on the sand and gravel left by the builders; and considering this fact, the experiment seems worthy of being told. Anyway, the yard has been completely changed from the usual

unattractive city "clothes yard" to a place of beauty and genuine utility.

NAME	VARIETY	QUANTITY	VALUE
Beans	Stringless Wax	25 quarts.	\$1.25
	Stringless Green Pod Pole Wax	25 quarts.	\$1.25
Beans	Dwarf Lima	7 pints	1.05
Beets	Early Blood-turnip		
	Midsummer	30 bunches	.75
Celery	Golden Self-blanching	125 stalks	5.00
Corn	Ideal		
	Champion	10 dozen	2.00
	Stowell's Evergreen		
Cucumbers	Extra Early	60 large	1.50
	Fordhook		1.57
	Improved White Spine	3 quarts	.30
Currants		4 quarts	.40
Lettuce	Grand Rapids Forcing		
	Giant Crystal Head	200 heads	5.00
Onions	White sets	30 bunches	1.50
Parsley	Champion Moss Curled	10 bunches	.30
Peas	Extra Early Prolific		
	American Wonder	40 quarts	2.00
	Champion of England		
Radish	Twenty-Day Forcing	20 bunches	.50
	Red and White Delicious		
Salsify	Long White	15 bunches	.90
Squash	Early Crookneck	40	1.00
	Large Winter (name unknown)	6	.90
	Sweet Potato Squash	50	1.25
Strawberries		20 quarts	2.50
Tomatoes	Early Freedom	4 bushels	2.60
	Ponderosa		
Total,			\$30.80

Illinois.

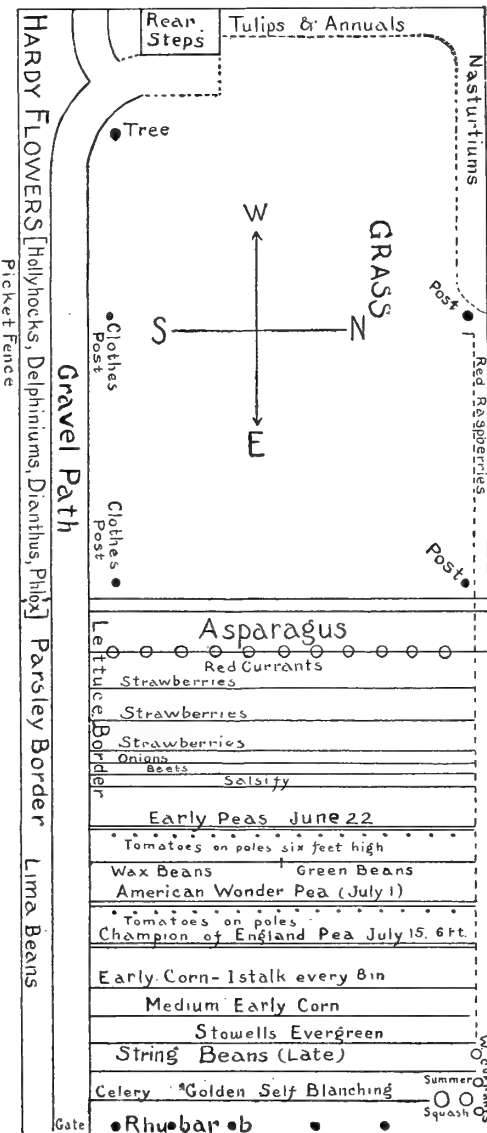
A. F. WEBSTER.

A 25-foot Square Garden

ONE of the most important gardening problems I know is how to make the most of a space twenty-five feet square, for there are hundreds of thousands of people who live on 25 x 100 ft. lots and a 25-foot square is about all the space available in such backyards for a vegetable garden. Moreover, the poorer a family is, the more important the vegetable supply becomes. The 25-foot square is the smallest space commonly put to serious use in gardening.

Fortunately, I do not have to live on a 25 x 100 ft. lot, but I wanted to do what I could towards making the best possible garden twenty-five feet square, so I measured off that space on the grounds of the Rhode Island Agricultural College, and made a garden which yielded vegetables worth \$32.18 at market prices. This is at the rate of five cents per square foot, which, I believe, is the highest rate yet reported in THE GARDEN MAGAZINE. Estimating my labor as worth fifteen cents an hour, the net profit was \$16.39, which is a little better than two and one-half cents net profit per square foot.

I do not claim to have solved the problem for city dwellers by any means, for my garden had sunlight on all sides, whereas the 25 x 100 ft. lot is usually heavily shaded by high fences. I believe my garden shows a gain of about 40 per cent. over the ordinary hit-or-miss garden, because there was a definite plan for fertilizers and succession crops. Three cents a square foot



The plan of a city backyard vegetable garden 28 x 38 ft. This garden produced enough vegetables to supply a family of three from the middle of May until November

is considered a good gross yield for a garden, but mine was five cents.

DAIRY OF PLANTING

April 29th. Rows 1 and 2 planted with Green Stringless beans, one and one-half inches apart in the row. Row 3, lettuce plants set six inches apart. Row 7, lettuce plants set twelve inches

apart. Row 10, lettuce plants set twelve inches apart.

May 1st. Rows 4, 5, 6, sown with radish. Rows 9, 11, sown with beets.

May 2nd. Rows 13, 14, 15, sown with carrots.

May 3rd. Row 17, cabbage plants set two feet apart, with two lettuce plants between each cabbage plant, and rows 16, 18,

each side of cabbage, set with lettuce plants, eight inches apart.

May 4th. Between lettuce in rows 7 and 10, placed onion sets three inches apart and made rows 8 and 12 of onion sets three inches apart.

May 5th. Rows 19, 20, planted with peas.

May 17th. Row 21, planted with cucumbers.

THE SUCCESSION CROPS

June 10th. Rows 15, 17, 19, planted with lettuce eight inches apart.

Row 4, set to tomatoes two feet apart.

June 27th. Row 16, set pepper plants nine inches apart.

July 7th. Rows 1, 2, 3, planted with corn.

July 15th. After peas had gone, put in rows 12, 14, celery eight inches apart.

Rows 11, 13, planted to stringless beans.

THE COST

Fertilizer (20 lbs., home-mixed, in these proportions: 2 potash, 1 nitrate of soda, 2 phosphate, 1 dried blood)	\$.30
Fertilizer for early beans (5 lbs.)	.07
Hen manure for lettuce (1/2 bushel)	.25
Stable manure (5 bushels)	.75
Lettuce plants, Black-seed Tennis Ball (320 plants)	1.07
Beans, Giant Stringless Green Pod (1 quart)	.20
Radish, Crimson Giant Forcing (3 packages)	.15
Beet, Edmund Blood (3 packages)	.15
Carrot, Danvers (3 packages)	.15
Onions sets (1 quart)	.25
Pea, Nott's Excelsior (1 quart)	.25
Cabbage, All Seasons (12 plants)	.25
Cucumber, White Spine (1 package)	.05
Tomatoes, Nott's Early (13 plants)	.25
Celery, Giant Pascal (74 plants)	.74
Sweet corn, Crosby's Early (1 gill)	.10
Peppers, Bell (31 plants)	.31

Cost, exclusive of labor \$ 5.29

THE RESULTS

Radishes, June 5th to 15th; 31 bunches, 8 in each, @ \$.05	\$ 1.55
Lettuce, June 10th to July 17th; 283 heads @ \$.05	14.15
Onions, June 22d to 30th; 12 bunches, 8 in each, @ \$.10	1.20
Peas, July 6th to 14th; 2 1/2 pecks @ \$.30	.75
Beet greens, July 13th; 1/2 bushel.	.25
Beans, July 23d to 30th; 1/2 bushel, @ \$.03 a quart	.48
Cucumbers, July 28th to September 4th, 211, @ 2 for \$.05	5.18
Tomatoes, August 3d to September 14th; 393, weight 128 pounds, 3 ounces, @ 01 1/2	1.95
Beets, August 2d to September 31st; 14 bunches, 5 in each, @ \$.05	.70
17 bushels @ \$.40	.50
Cabbage, August 1st to October 30th; 12 heads, 79 pounds, 10 ounces @ \$.01	.80
Carrots, September 1st to November 10th; 10 bunches, 5 in each, @ \$.05	.50
3 bushels	1.00
Corn, October 1st to 14th; 43 ears @ \$.20 a dozen	.72
Peppers, October 25th to November 3d; 23 peppers	.15
Celery, November 10th to 29th; 71 heads, 3 in a bunch, @ \$.10	2.30

Gross Receipts, \$32.18
Actual cash outlay, 5.29

Net profit (excluding labor) \$26.89

If the labor put on this garden—seventy hours at fifteen cents an hour—is deducted it will leave a net profit of \$16.39.

Rhode Island. A. E. WILKINSON.

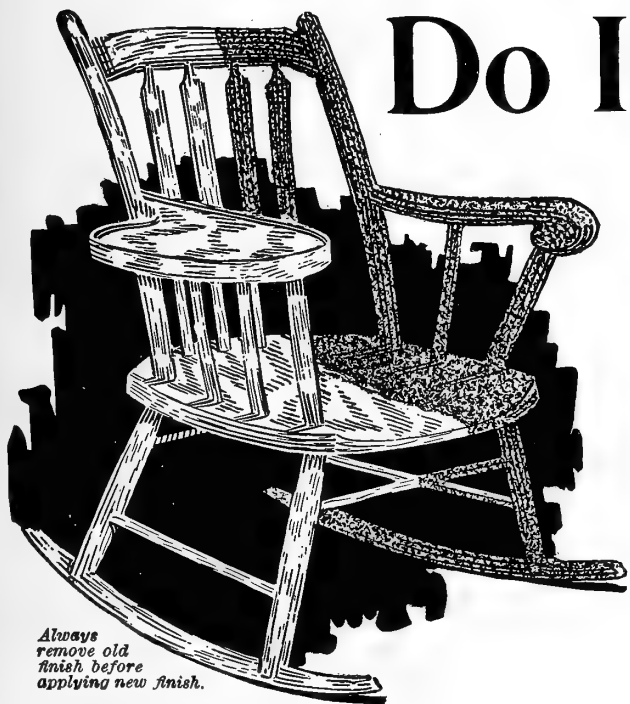


The 25-foot square garden which showed a profit of 300 per cent.

EARLY CROPS		SUCCESSION CROPS	
INCHES APART	WHAT PLANTED	ROW NOS.	INCHES APART
18	BEANS	1	CORN 6
24	BEANS	2	CORN 24
23	LETTUCE	3	CORN 24
5	RADISHES	4	TOMATOES 21
5	RADISHES	5	
5	RADISHES	6	
5	LETTUCE & ONIONS	7	
5	ONIONS	8	
7 1/2	BEETS	9	BEETS 22 1/2
7 1/2	LETTUCE	10	BEETS 15
7 1/2	BEETS	11	BEETS 15
7 1/2	ONION SETS	12	CARROTS 7 1/2
7 1/2	CARROTS	13	CARROTS 7 1/2
7 1/2	CARROTS	14	CARROTS 22 1/2
7 1/2	CARROTS	15	
15	LETTUCE	16	CABBAGE 15
7 1/2	CABBAGE & LETTUCE	17	
7 1/2	LETTUCE	18	
22 1/2	PEAS	19	BEANS 15
30	PEAS	20	CELERY 15
45	CUCUMBERS	21	LETTUCE 10
			PEPPERS 5
			LETTUCE 5
			CUCUMBERS 17 1/2
			LETTUCE 25
			LETTUCE 5

The plan. Two crops of vegetables were gathered from this garden

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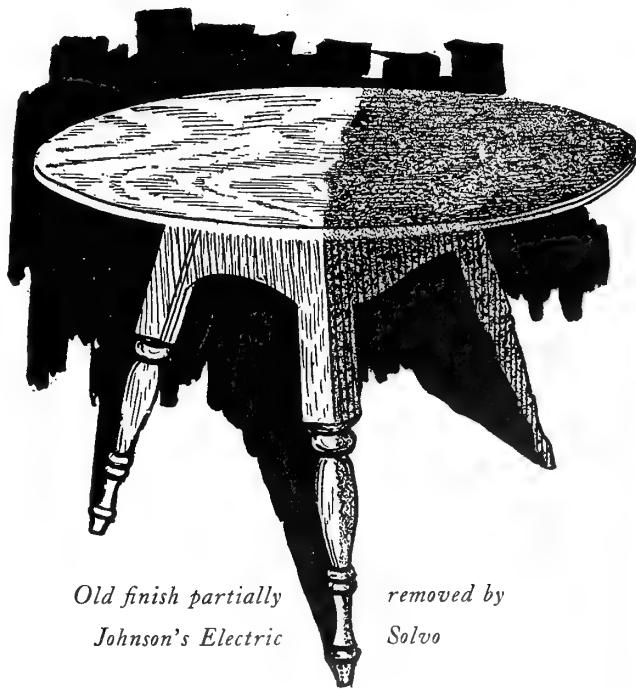
Johnson's Wood Dyes—For the artistic coloring of wood. Half-pint cans 30 cents, pint cans 50 cents.

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While Pennsylvania Rubber Tiling is suggested as the most effective flooring for the vestibule, this is not by any means its most important use in your residence. It is practically a necessity in your bathrooms, being absolutely waterproof and sanitary, warm under foot, and most easily kept clean; in your kitchen and pantries, because it is restful to walk and stand upon; in your billiard room, for its non-slipperiness and silence—ALL these qualities are vastly desirable in ALL these uses. Pennsylvania Rubber Tiling is non-inflammable, odorless, and outwears even marble. Any workman of ordinary skill can lay it successfully right over your existing floors.

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Making an Azalea Bed

AZALEAS may be transplanted while they are still in flower, which gives you a chance to stop the free fight that generally ensues from the average gardener's color schemes. The important thing is to keep the lavender-magenta-purple series separate from the yellow-orange-red series, and have a good neutral zone of white flowers or green foliage.

The making of an azalea bed should be undertaken in the same spirit as ship-building. Spare no expense and make it to last. The heath family are peat-lovers and lime-haters, but Mr. Dunbar has proved that he can grow azaleas, rhododendrons, etc., without peat, and can even water them with rather hard water provided the limy soil be thrown out to the depth of two and half feet and replaced by good soil over a thick layer of brickbats, stones, or other drainage material. This soil, should be composed of muck, sand, and leaf mold—the last being a compost of hardwood leaves. The object is a combination of never-failing moisture without dampness, and this involves perfect drainage. Once made an azalea bed should never be cultivated, because the shallow feeding roots will be destroyed, but every year you should give it a light coating of perfectly rotted cow manure. Never remove this mulch or dig it in.

Luckily, the most gorgeous lilies—the ones that are popularly considered the best like these same conditions and bloom after the rhododendrons.

The best azaleas for forcing are the varieties of Indica. The mollis hybrids are the next best. Red is the favorite color for Christmas and white for Easter. Plants for Christmas bloom, or earlier, are best kept in pots the year round. Those for later bloom may be planted outdoors for the summer in prepared beds under trees, and syringed daily in hot weather. These plants are then potted in the fall and brought indoors. Beginners who do not have a greenhouse will not usually succeed in keeping house azaleas from year to year. Better have a florist take care of them for you. Azaleas bloom in about six weeks in a temperature of 50° to 58°. This can be cut down to four weeks if you etherize them. Ether seems to act like frost, and ripens the wood in twenty-four hours.

New Jersey.

THOMAS McADAM.

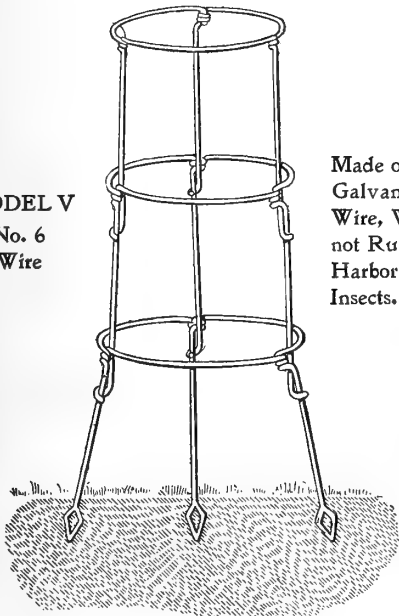
The New Interest in Dahlias

THE New England Dahlia Society, lately organized, promises to have a national scope and success. A remarkable new feature of this society's work is the publication of a monthly bulletin about dahlias, called *Dahlia News*. This feature alone ought to be worth the price of joining, and we hope that it will insure the success of the society. The secretary is Maurice Fuld, 5 Union Street, Boston, Mass.

Great interest is expressed by the European periodicals in the new peony-flowered race of dahlias introduced by the Dutch firm, Copyn & Son. The new varieties are said to possess the irregular, loosely arranged petals and a large golden centre like a peony.

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Roses for Veranda Boxes

ROSES for porch decoration during the summer may be grown in boxes and stored during the winter in a barn or cellar. Do not expect as good results as from plants that are planted in a deep, cool soil, as roses like a cool, fairly moist root environment.

The veranda must have a southern exposure as it is absolutely essential that roses have lots of sunlight. The varieties Kaiserin Augusta Victoria, Killarney, and Liberty are good, but do not omit Gruss an Teplitz (the crimson Hermosa); pink and white Maman Cochet; G. Nabonnand; the Baby Rambler (Madame Norbert Levavasseur) the standard and bush forms; and the dwarf Polyantha rose. Snowball is very good also, and Hermosa, Belle Siebrecht, Mildred Grant, Madame Jules Grolez, and others can be used.

WHAT TO GROW THEM IN

I use boxes that are about three feet long, eight to ten inches deep and about fifteen inches wide, and plant three or four bushes in each box. Smaller boxes that would accommodate say only one or two plants would dry out too quickly, and during the very warm weather the soil would be too hot. Have holes bored in the bottom of each box for drainage and throw some rubble in the bottom for drainage and aeration. Do not stand the boxes directly on the floor, but place some pieces of wood about one inch thick under each corner, thus leaving one inch of air space between the bottom of the boxes and the floor. Nothing can live or grow that is deprived of oxygen, and more plants in pots and boxes are killed for lack of air than from any other cause.

WHEN TO PLANT

If you have the roses in stock or planted out in the garden, lift and plant them in the boxes before growth commences—not later, by any means, than May 1st, and a month before that if possible. If you don't have them in stock, lose no time in ordering them. Get two-year-old stock. Hybrid teas will cost on an average three dollars and fifty cents per dozen. Buy good stock and insure success.

Plant the roses as deep as the boxes will allow. These roses are all budded on manetti, or briar, stock, and you can easily see where the union has been made. Plant the roses so that the point of union will be at least three inches below the surface.

HOW MUCH TO PRUNE

After planting, prune the plants back to within six inches of the ground. The harder they are pruned back the first year, the better. In succeeding years teas and hybrid teas do not require to be pruned back as hard as hybrid perpetual varieties, but having been lifted from the ground the roots are more or less mutilated and it balances the plant to prune the top accordingly. Stronger and more vigorous growth will be the result.

If you have to buy the plants this spring, you will not get the best results this year. It takes them a season to get fully established, but do not despair, you will get roses by the

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fall and they will do much better next year, and for a good many years to come.

PLANT ONE COLOR IN A BOX

Do not plant two or more varieties in one box, one kind in a box is better taste. I advise planting two boxes with the Baby Rambler, which bloom all summer. In such boxes I use two plants of standard and three dwarfs. The standards are about four feet high, and the dwarf forms cover the box as a ground work, giving a very pretty effect.

In the other boxes, I would also advise using a ground cover. In the Gruss an Teplitz box, for instance, use sweet alyssum. The crimson and the white make a beautiful contrast, but if you prefer it all crimson, use dwarf crimson nasturtium instead of sweet alyssum.

Blue ageratum goes nicely with pink or white colors, such as the Maman Cochet, Killarney, or Kaiserin Augusta Victoria. Portulaca, musk plant (Mimulus), verbena, and the pansy may all be used for this purpose. They will not harm the roses, and the effect will be very much more effective.

METHODS OF STORING

Use a fairly rich, preferably heavy, soil in the boxes, and when the plants are well rooted, give them extra feeding in the form of diluted manure water—at first once a week and later twice a week. Keep them growing as late as you can in the fall. They are storing up energy for another season.

The roses may be stored in a barn or cellar all winter, or they may be placed in the open, putting the boxes close together. Bank manure and leaves around them and cover the tops with hemlock, pine branches or salt hay. If they are kept in a cellar, do not deprive them of frost. The frost does no harm so long as the early spring sun is kept off them. They must be well frozen to thoroughly ripen the wood. It is the frosts of late February, March, and April that harm vegetation. The warm sunshine excites growth prematurely, the sap flows in the wood and then a hard frost converts this sap into ice, distends and disrupts the cells and thus the harm is done. But if they are kept dormant, till hard frosts are over, there is no danger.

WHEN TO RENEW THE SOIL

The soil does not require to be entirely replaced for several years. After pruning the roses (just before growth commences), take off two or three inches of the top soil (being careful to harm the roots but as little as possible), and replace this with fresh soil, well enriched with animal and bone manure. With this treatment, the plants will do better after the first year than they did even the first August. Other cultural directions are to keep a sharp lookout for bugs and diseases at all times; spray and syringe on warm days to keep down aphid and red spider; dust with flowers of sulphur on the first appearance of mildew. Rose bugs won't trouble you much on a veranda, but if they do, shake them off and destroy them as soon as they appear.

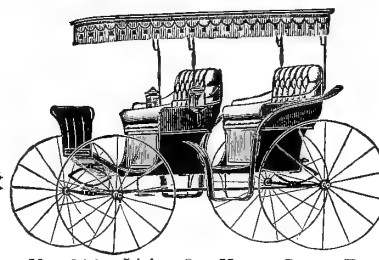
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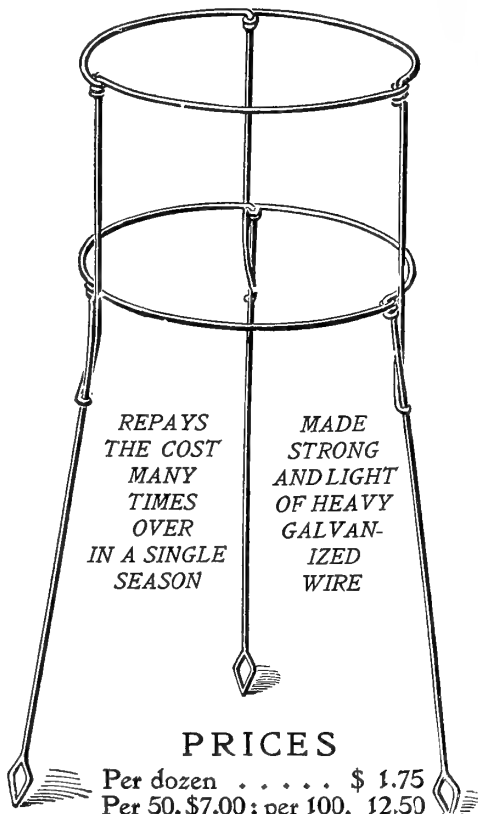
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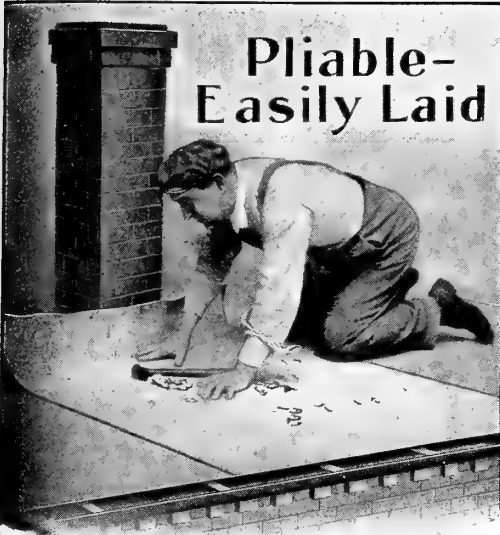
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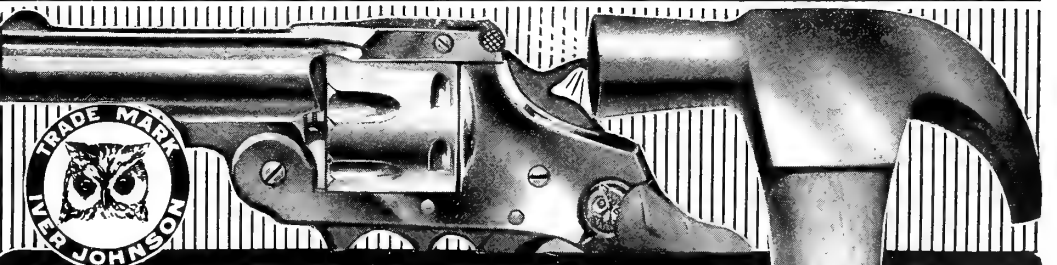
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Kansas the next year we do not know how well they succeeded.

Two years later we obtained from this planting what plants we wanted for our garden here. We set them two or three feet apart in the row and the rows six feet apart. They were irrigated and made a good growth. At the beginning of real winter weather a mulching of wheat straw was scattered over the patch and the plants only having had one season's growth the vines were near the ground, so remained under the straw.

It was our intention in the spring to place the mulching under the vines and prune them. But it seemed an impossible task, so they were left in disgust with their winter covering over them, to live or die as they might. But in due time the flower stalks made their appearance—pushing their way up through the straw—and we soon realized that our seeming lack of care was really the best of care. An abundance of fruit was set and developed amongst the luxuriance of the foliage. Had the dewberry vines



A dewberry plant. Irrigation and a winter mulch are necessary for its success

been protected in north-eastern Kansas, as they were here, they would surely have yielded well there, too.

Raspberries, even when irrigated, are not as satisfactory here in our unprotected prairie gardens as are the dewberries; for the raspberry loves shade and protection from winds, as well as moisture. But dewberries are not such upright growers, and under their canopy of leaves great clusters of large luscious berries are to be found. But it takes searching to find them, and sharp thorns as well as leaves protect the fruit. So a pair of good gloves is a necessary part of the equipment of one who would gather from the vines all of the ripe berries.

Kansas. **VIOLA McCOLM.**

The Easiest Grown Iris

THE German iris like that shown on this month's cover is one of the easiest and best perennials to grow in the hardy border. The gorgeously colored flowers, which vary from pure white through all the shades of mauve and blue to dark purple, bloom in May or June, and they are borne on long stalks above the foliage.


Although the flowers seldom produce seeds, it is very easily increased by means of division of the rhizome. This is best done in April. Give the iris a light mulch during the winter.

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by Frances Duncan. A practical treatise on making a flower garden, told in the form of a story in a way to interest young people and help them to lay out and tend a garden. Illustrated, \$1.25. Postpaid by the Century Co., Union Square, New York.

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By ANTHONY FIALA

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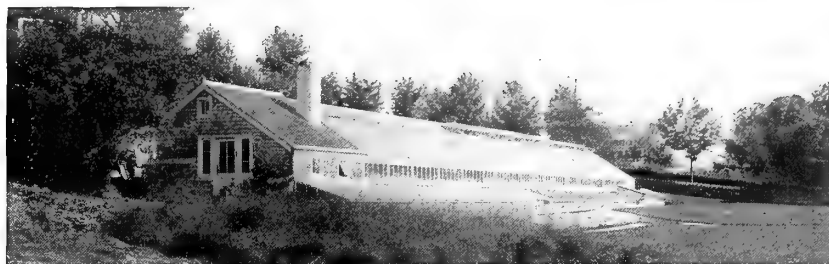
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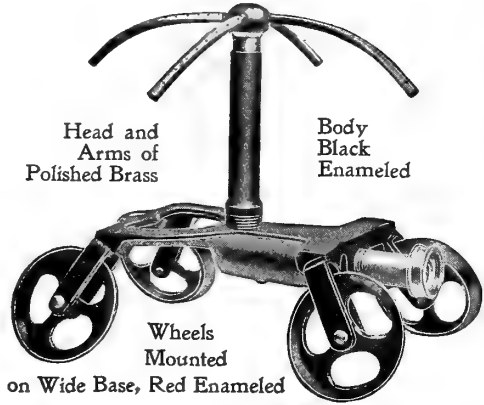
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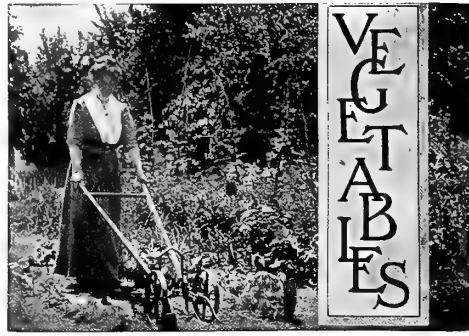
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Squashes for May Planting

THE squash is a very delicious vegetable and very easy to grow provided it is given a warm, quick soil.

BUSH OR SUMMER SQUASHES

For early use the squashes may be started in coldframes on inverted sods, or in 3-inch pots, about April 20th. Sow about eight to ten seeds to a sod and keep the atmosphere rather close and moist until they germinate, then gradually increase the amount of air as the plants grow to inure them for the outdoor condition, for they may be planted out about May 15th. When transplanting, set these bush varieties 4 x 4 ft.

The seeds can be planted outdoors, in hills eighteen inches across, about May 15th in a moderately rich soil. No manure is required in the hills; it induces too strong a growth of vines and not enough fruit. From eight to ten seeds should be planted to a hill; and when all danger of insects is past, thin to four plants in a hill.

The vegetable marrow is one of the very best, but little known, of the summer squashes. It differs from the other summer squashes in that it does not assume a bushy habit but spreads like a cucumber.

The fruit of all the summer squashes must be gathered when young and tender, and should never be allowed to ripen on the vine as it immediately stops the plant from bearing. The ground should be frequently stirred by means of the hoe or wheel hoe till vines meet, and the ground covered.

SQUASH ENEMIES

Squashes have many insect enemies; the worst three are the grub or cutworm, the striped beetle and the squash bug.

The cutworm severs the stem about two inches below the surface of the soil. It must be continually sought for and destroyed. The striped beetle feeds on the young leaves and in the warm weather there are myriads of them. As soon as they are disturbed, they fly from one plant to another. This pest riddles the leaves. The only means of keeping them in check is a light dusting of slug shot applied when the dew is on them.

The best plan by which to successfully combat the striped beetle is to make a box, using four boards eighteen inches long by ten inches wide, and on the top tack some mosquito netting or gauze. Place one of these over each hill, as soon as the seeds have been planted. They will answer for two different purposes, namely: as a windbreak and a protection for chilly nights, and

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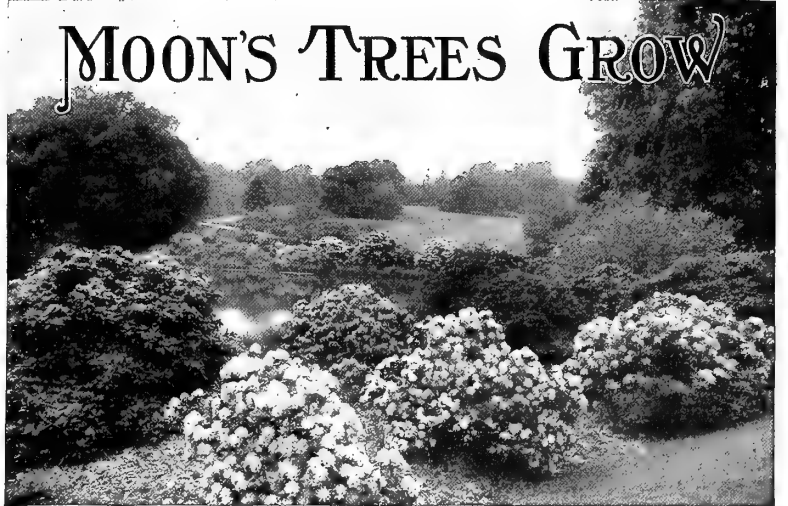
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While one of the most delicate and beautiful of all flowers, the Japanese Anemone is not critical, for it will grow in any location either in sun or shade, demanding only a fairly good garden soil.

Its blossoms are either a pure white or an exquisite shade of pink and massed against a dark background make a strikingly beautiful effect for the autumn garden. The Anemone is excellent for cutting, and will furnish flowers for the house in great abundance.

Of all our stock of hardy perennials none surpasses our collection of Japanese Anemones. They are strong one-year-old plants that will bloom profusely this fall. The Queen Charlotte, with its large pink flowers, is especially beautiful.

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DOUBLE—A. Japonica Rubra. Carmine with yellow centre.
DOUBLE—A. Japonica Queen Charlotte. Flowers a beautiful and pleasing shade of pink, semi-double. *very large*, fine for cutting.

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secondly, keeping all insects from the plants till they are able to take care of themselves. The frames can remain on the hills till the vines begin to push their way out. Squashes will make a very rapid growth under this treatment.

The squash bug lives by sucking the sap from the plant, and should be sought for eagerly, at least once a day, and destroyed. It is of a light-brown color similar to a mosquito but much larger, and wherever it attacks the vines, they wilt and gradually die, and your whole labor will be lost.

The best varieties of summer squashes are Bush Summer Crookneck, Custard, Vegetable Marrow, and Pineapple.

THE WINTER SQUASHES

These require similar treatment to the summer squashes but need to be planted eight feet apart each way, and do not need to be planted until June 1st. The vines will often spread from twelve to sixteen feet and as they will root at the joints, should be lifted occasionally, to prevent rooting, when hoeing; be careful not to break the vines.

STORING SQUASH

Squashes may be kept successfully till May in a room or cellar the temperature of which is kept from 55° to 60°. As soon as there is danger of a sharp frost all mature squashes should be gathered very carefully. Do not bruise them in any way. A sharp knife is best for this purpose, cutting about two inches of the stalk with the fruit. They should then be placed for a few days under a light, airy shed before taking them into the room or cellar. Handle them carefully when putting them in, and if the weather remains cool and dry, keep them well ventilated; but if damp weather sets in, it is best to start a fire to keep them dry. It often happens in early autumn that we have one or two light frosts, after which the weather will remain good for three or four weeks, so by a little fore-thought as to covering, the whole crop can be harvested. The unripe ones can be protected with burlap, or any light covering material.

When the entire crop has been gathered and put in the cellar, they should be placed from two to three deep, turned over and sorted at least once a week, removing any that show signs of decay, as one bad one will soon destroy a dozen good ones.

There are several good varieties of winter squashes. The Mammoth Warty Hubbard and the Golden Hubbard keep the best and longest, and do not shrink as much as the other varieties. But for a small family, Delicata and Fordhook are two very good varieties of excellent flavor but of small size. They are remarkably good keepers. It is a good practice to plant a few hills in the garden to entice the insects, thus making it much more easier to destroy them than where space is limited.

Squashes may be grown among the corn hills, and a good crop can be raised in this manner without using any extra space in the garden. Plant in each alternate row of corn.

Connecticut.

GEORGE STANDEN.



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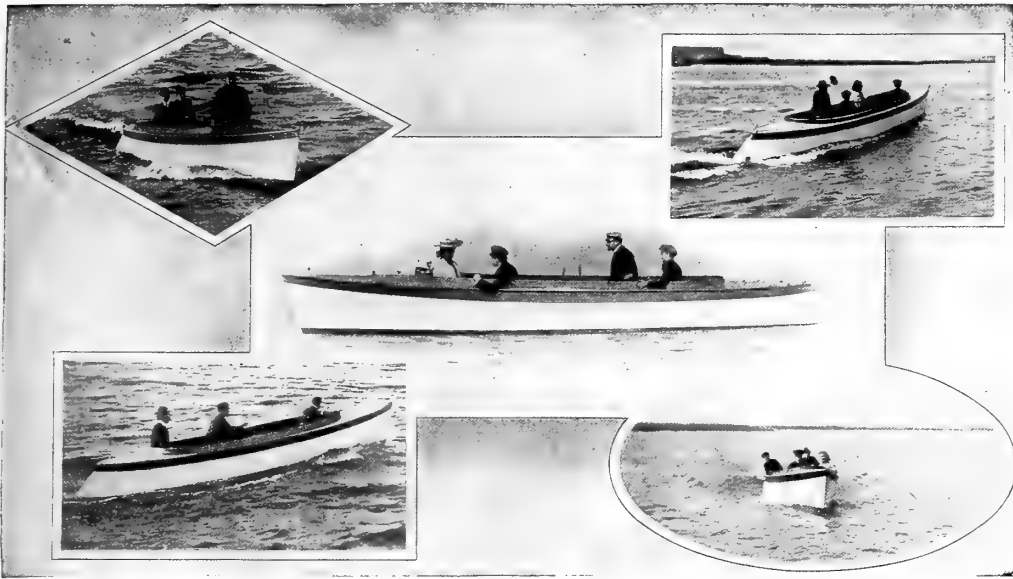
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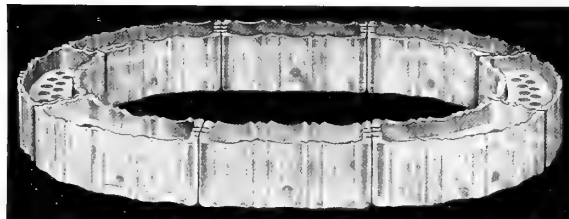
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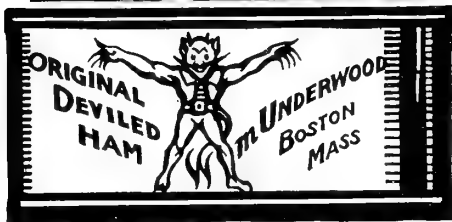
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The Californian's Reminder

FROM now on, irrigating will be necessary, and it is an economy of water not to allow the soil to become too dry before commencing to apply the water.

Fasten all climbing plants to their supports in such a way as to hide the material they are tied to. The best way is to tie the main branches to a stake or trellis and let the lateral branches hang as they will; this gives the plant a natural appearance.

CLEAN UP THE VIOLET BEDS

The violet plants are now a mass of leaves. The best method of treatment for them is to cut off the foliage with the shears, clean up the plants, and wheel away all the foliage and any other rubbish that is about and burn it; then dig in between the rows a good dressing of rotten manure, and rake the surface smooth. The plants will soon make new leaves, and will need little or no attention, except watering, until September.

If new plantings of violets are wanted, choose a sunny, open position for them. Cover the ground three inches deep with old manure and dig it in deeply. In planting the young plants, make the hole deep enough to take the roots straight; do not prune the roots in any way. The young plants must not be allowed to become dry at any time. After the beds are three years old, they cease to be productive; during the second year and the beginning of the third is the most productive period for them.

THE SUMMER CARE OF BULBS

Clean away all foliage that has turned yellow. The narcissus and daffodil bulbs will now be ripe. If the bulbs are in a position where they can stay in the ground without any inconvenience, it is much better to leave them there. It is a mistaken idea to lift bulbs under the pretence of ripening them. There are very few bulbous plants that are benefited by being removed from the soil during the time they are dormant.

The ranunculus is an exception for the tuberous roots are so small that they do deteriorate if left in the soil, unless the ground is almost all sand; therefore, it is best to take the bulbs up and put them in dry sand.

PLANT THE AMARYLLIS NOW

The amaryllis bulbs will also need attention at this season. Some fertilizer will help them greatly and I use the same as was recommended for begonias in the April GARDEN MAGAZINE, page 198.

If new plantings are to be made, choose a sheltered position, one that faces south or east. Thoroughly prepare the ground by

The Original Shingle Stains

First made, first in quality, and first in the favor of shingle-stain users

Cabot's Shingle Stains

have often been imitated during the last twenty years, but none of the imitations have the same depth and richness of color, the lasting qualities or the wood preserving value of Creosote, "the best wood-preservative known."

Proof on Application—being testimonials, samples on wood, and full information.

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Agents at all Central Points



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HITCHINGS AND COMPANY

GREENHOUSE DESIGNERS AND BUILDERS
 1170 BROADWAY NEW YORK



Necessary as a Lawn Mower

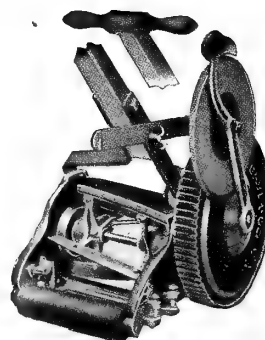
You wouldn't think of cutting even a small plot of grass without a lawn mower. Why then waste time, labor and money trimming and edging lawns and gardens on your hands and knees with clippers or sickle when

The Capitol Lawn Trimmer and Edger

will do the work quickly, smoothly and easily? An absolute necessity for lawns, gardens, parks, golf courses and cemeteries.

Ask your hardware dealer, or write for Catalog "C."

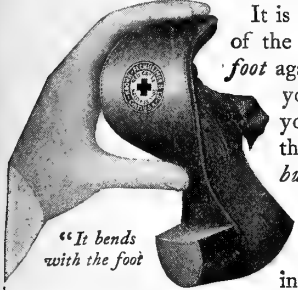
The Granite State Mowing Machine Co., Hinsdale, N. H.



'I never knew such Comfort'

writes one woman

What the Red Cross Shoe has done for thousands of women it will do for you.



It is the constant rubbing of the *sensitive sole* of your *foot* against the *stiff sole* of your *shoe* that makes your feet *hurt*—makes the flesh *draw* and *burn*.

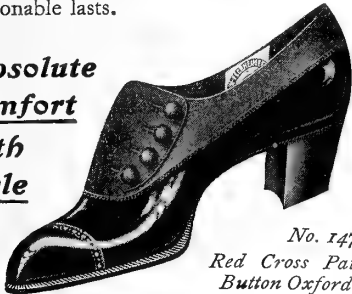
Imagine a shoe that, while supporting and protecting your foot, follows every movement of it as a glove moves with your hand. Such is the

Red Cross Shoe

The sole of the Red Cross, though of regulation thickness, is *flexible*. It bends when the foot bends. The leather is tanned with genuine *oak bark* by a process which takes six months—all its life and "spring" are preserved. Your feet never "burn," "draw" nor "ache" in the Red Cross Shoe. It is *absolutely comfortable*, enabling you to stand or walk for hours without tiring.

The Red Cross is made in glazed kid, calf-skin, tan and patent leathers in all the latest, fashionable lasts.

Absolute comfort with style



No. 147
Red Cross Patent Coll Button Oxford—\$3.50

More head-aches, back-aches and "nerves" come from aching feet than you have any idea. Our free booklet "Women To-day" shows the importance of foot comfort to health. Write for it.

Leading dealers keep the Red Cross. If yours doesn't we will gladly send you the name of one who does. Or we will supply you direct, *fit guaranteed*. If this trade-mark, with the name *Krohn, Fechheimer & Co.* is not stamped on the sole of the shoe shown you, *don't buy*. Imitations have neither the comfort nor wearing qualities of the Red Cross. Oxfords, \$3.50; High Shoes, \$4.00.



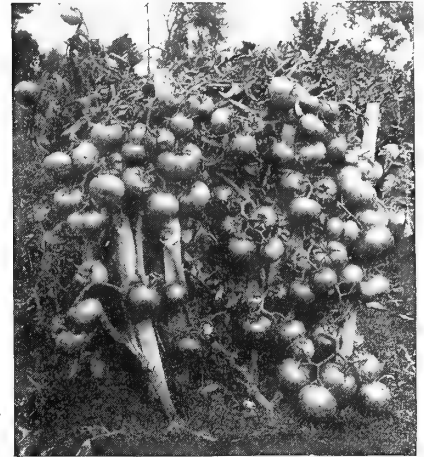
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535-555 Dandridge Street, Cincinnati.

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READ BELOW. CHOICEST AND EARLIEST VARIETY GROWN.

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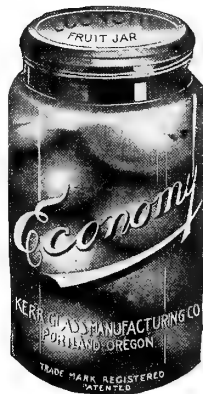
is the name of the best booklet ever issued on the subject of tomato culture. It contains 30 pages and illustrations fully describing the Potter method of raising tomatoes. By this method you can have bigger and better fruit and weeks earlier than otherwise. It teaches the secret and science of tomato culture; forcing the fruit by systematic cultivation and pruning. This book is invaluable to every gardener, whether he grows one dozen or one thousand vines. The subjects covered are: History of the Tomato; Its Nature and Habit; Tomato Culture in General; The Potter Method; Plants and Planting; Home Grown Plants; Preparing the Ground; Setting the Plants; Cultivation; Pruning and Staking the Vines; Picking the Fruit; Ripe Tomatoes at Christmas; 40 Tomato Recipes; Best Tomato Seeds. The information is condensed and to the point—just what every grower wants.



The cut herewith shows one of a large number of vines in my garden last season. Notice that each stalk is loaded with large, perfect fruit from top to bottom. This is the result of my method. It is easy to raise this kind of fruit when you know how. Just send for my book—price 50 cents, money order or coin. Your money back if not satisfactory.

FREE PLANTS. To everyone ordering my booklet before June 10, I will send free one dozen plants, the kind I raise, that will grow and produce fine fruit, and it will be better than any you have ever raised before if you will follow my directions; but please remember, no free plants after June 10; booklet only after that date at the above price.

T. F. POTTER, Tomato Grower Dept. C., Downers Grove, Ill.



THE ECONOMY JAR ONLY JAR THAT SEALS BY SUCTION

All other jars only fasten, clamp, snap or screw, and are held closed only by a mechanical device, which loosens as the rubber ring decays or gets old. The Economy is sealed airtight by suction from within, and stays sealed forever. Other jars are imitating the Economy's outside appearance and claiming to possess its sealing qualities, but none of them are sealed fast by suction as is the Economy. The Economy is the only jar that has

NO RUBBER RING. All others use a rubber ring, which in time leaks air and taints and spoils the contents. The Economy is the only jar that will keep forever vegetables, meats, game, fish and unsweetened fruits. Put up your fruits and vegetables with their fresh, natural flavor. Sugar is not needed. Write and learn about this wonderful glass jar, which saves sugar and drudg-

WIDE MOUTH

Has no rubber ring
Stays sealed forever
No mould
Is held airtight by suction
Seals itself with airtight composition
Easy, Quick and Simple
A child can seal and open it

ery and makes easy the home canning of meats, vegetables and all other foodstuffs. No other jar can do this. **FREE RECIPE BOOKLET** telling all about the jar, how to can all kinds of food products, and giving dozens of new, tried recipes for home canning every day in the year, will be sent to you on request. Economy Jars are sold by all dealers in the United States and Canada. If your grocer hasn't them, send his name to us and we will tell you how to get one dozen Economy Jars free.

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IN ALL STYLES

The IDEAL IN REALITY

A Sanitary Fruit Preserving Package
The Only Approved Practical Paper Berry Box in Existence.
Folded up sample sent on receipt of 10 cents.



(Patented Nov. 17, 1903)

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Patentee will sell his rights or organize a special company. Demands are too large for present arrangements, Interested parties will please address above company.

Combination Nozzle and Lawn Sprinkler

For Gardens, Lawns and Greenhouses



Screwed on the end of any hose same as an ordinary nozzle.

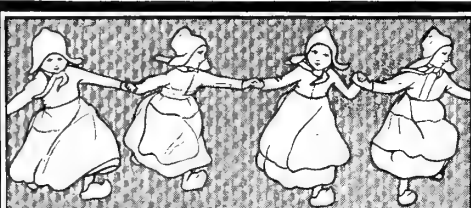
As a spray will cover from 600 to 800 sq. ft. of surface, according to pressure. Fan shape spray permitting handling without wetting operator.

By simply pushing sleeve forward the fine spray can be changed into a steady, solid stream, and vice versa. Does not hold back water, offering no pressure resistance.

Substantially constructed of brass. Has attachment for holding on lawn when used as a sprinkler.

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Wall Coverings, to be effective, must harmonize with surrounding influences—furnishings, woodwork, and color effects of nearby rooms. The simplest effects are the most artistic and therefore most restful and pleasing to the eye.

The most charming of decorative schemes are effected by the use of

FAB-RI-KO-NA

(TRADE MARK)

WOVEN WALL COVERINGS

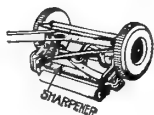
These fabrics are woven in a wide variety of permanent shades and are the most artistic Wall Coverings now made. Used by all leading Decorative Artists where refined mural effects are desired. FAB-RI-KO-NA is strong, durable, fast color, and easily hung. Prevents walls from cracking and is not easily scratched or torn.

We offer a special service to anyone who asks for it. Our experts will devise a color scheme suited to your needs, so that you can see actual samples of FAB-RI-KO-NA in actual colors, contrasted with woodwork in natural shades—thus giving a reproduction of your wall in miniature.

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34 Arch St., Bloomfield,
N. J.

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A new device to attach to the cutting blade of any mower. Sharpens all blades to a keen, even, accurate edge in a few minutes. Anyone can attach it to cutting blade. (See illustration.) No filing, no work. Simply push the mower on sidewalk with Eureka Sharpener attached and blades sharpen automatically. Sold by all dealers, 25c., or sent prepaid on receipt of 30c., stamps or coin. Specify width of mower blade.

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giving it a 3-inch thick dressing of well-decayed manure, and dig it well into the soil with a spading fork. Set the bulbs deep enough so that the base of the neck of the bulb will be two inches below the surface of the soil. It is better to allow these bulbs to remain in the same place for years with the roots undisturbed. After the new leaves commence to push out, mulch the soil around the bulbs with old manure and water from over-head.

There are many new varieties of these beautiful plants, and now is the time to purchase them, as there is no danger of their being frozen in transit. Any other plants belonging to this family, such as the imantophyllum, crinum, vallota, and agapanthus may now be planted and they require the same treatment.

All perennials may now be rearranged in the border and new varieties planted. There is a peculiarity about these plants; most of them, when brought from the East, make shabby-looking plants the first year, but after they become acclimated, they grow as well as they do in the East. Chose a partly shaded location for them and mulch the ground to keep it cool.

Santa Barbara, Cal. W. H. MORSE.

Tomato Vines Thirty Feet Long

THE accompanying picture shows three tomato vines that are thirty feet long. The trellis is twenty feet high and the vines hang down from the top half way to the ground. The vines bore flowers, green fruit



Where a ladder becomes necessary to gather the tomato crop. In California the tomato may be regarded as an ornamental plant as well as a useful vegetable

and ripe fruit all at once and fruited for several months, at Pasadena, where they were grown by Mr. F. C. Case. The photograph is by Mrs. Helen Lukens Jones.

New Jersey. T. M.

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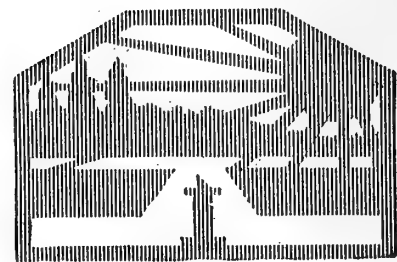


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This remarkable hardy perennial is our best new introduction, and is among the showiest of all herbaceous plants. The unfolding buds of light green tinge, gradually becoming whiter, until at last they burst forth into a veritable snowbank of drooping, fleecy bloom of purest white, the panicles often 2 to 3 feet long. In September the flowers turn to shades of pink and purple. A vigorous perennial 5 to 8 feet and absolutely hardy. Of easy cultivation. Give rich soil and ordinary border location. The illustration inadequately conveys the beauty of the delicate, feathered, drooping flowers. When known, it will be planted by thousands.

Prices by mail or express prepaid:

Size 1, Largest size	each 10	25c.	\$2	\$11
" 2, Heavier plants		40c.	3	16
" 3, Small strong plants		60c.	5	26

Stenanthium robustum

The Most Beautiful American Gardens

have acquired their distinctiveness and charm through proper use of our exquisite native American plants. In no other way may the harmony and unity of American landscape be preserved and enhanced, while

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however choice, results in harsh effects and clashes of color and form—in other words, "plants out of place."

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in North Carolina is the home of the gorgeous and rare Azaleas of the Carolina mountains. Kelsey's Hardy American Plant catalog, the finest published, is free.

HARLAN P. KELSEY, Owner, SALEM, MASS.



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The **OUTSIDE** and **INSIDE** of a garden hose are both important. But, because the **OUTSIDE** of a new hose **LOOKS** good, it doesn't follow that it **IS** good—much less that the **INSIDE** is good.

"GREENLEAF" GARDEN HOSE is the very first **STANDARD, GUARANTEED** garden hose ever offered, to our knowledge. It is by far the toughest, tightest, most durable and elastic hose ever made.

DON'T LET any dealer sell you a garden hose unless it has the "GREENLEAF" embossed on the outside. Send \$10 direct to us by registered mail, certified check, P. O. or Express Money Order, and we will promptly express prepaid fifty feet "GREENLEAF" hose, with standard nozzle and coupling.

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Interesting and entertaining little book, "HOSE SENSE" free for post-card request.

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Standard Bearer (fiery scarlet), J. H. Roach (clear yellow). The rare and beautiful 20th Century Dahlia.

2. IRIS AND GERMAN IRIS. In all colors of the rainbow. Japan Iris Kaempferi, immense flowers. One each pure white, light blue, deep royal purple, red tints. Four strong clumps. German Iris, three roots, different colors.



German Iris

3. TUBEROUS ROOTED BEGONIAS Well adapted for partly shady locations where they show a glowing mass of bright colors throughout summer. Two each single and double flowering in pure white, brilliant scarlet, bright yellow and orange, soft rose. Sixteen bulbs.

4. CANNAS. Strong roots with fine eyes. 3 yellow flowering, 3 scarlet, 2 rose, 2 white, 2 gold bordered. 12 Canna roots.

Any of the above collections for \$1.00. Two for \$1.75. Three for \$2.50. Four for \$3.00. Price includes free delivery. Send for Spring Catalogue. Our offer of Lily Bulbs in April number holds good for May. Address



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47 Barclay St., N.Y.

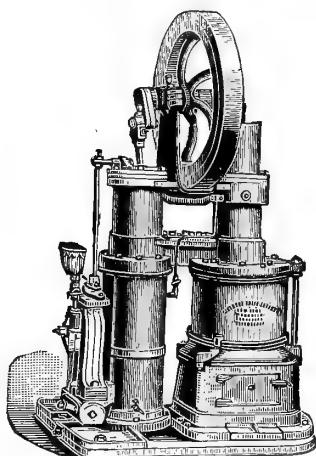
Send me..... of yourcollections

Enclosed find \$.....

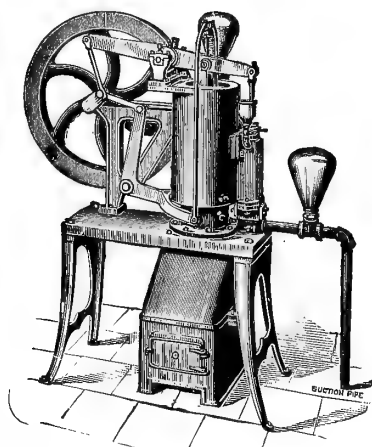
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THE world-wide popularity of the Rider and Ericsson Pumping Engines, for domestic water supply, and their adoption into every clime, have resulted in the appearance on the market of imitation pumps, so named as to deceive the innocent purchaser. Complaints received from many, who have been so imposed upon, impel us to publish this advertisement, and to advise intending buyers that they look carefully at the two cuts here shown.



The "Rider"

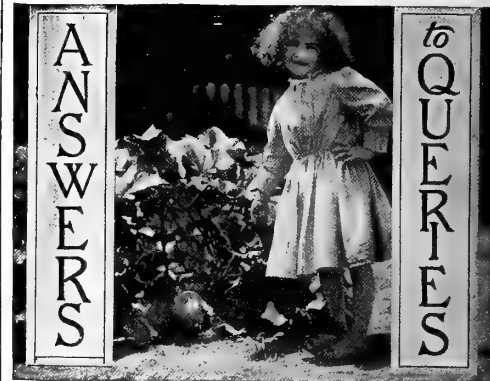


The "Ericsson"

They are facsimiles of the genuine. Be sure also, that the name-plate of the Rider-Ericsson Engine Co. appears upon the pump you purchase. When so situated that you cannot personally inspect the pump before ordering, write to our nearest office (see list below) for the name of a reputable dealer in your locality, who will sell you only the genuine pump. Write for Catalogue U.

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| 40 North 7th Street, | - | Philadelphia |
| 234 Craig Street West, | - | Montreal, P. Q. |
| 22 Pitt Street, | - | Sydney, N. S. W. |
| Amargura 96, | - | Havana, Cuba |



STRAWBERRIES GIVING TWO CROPS

E. S. W., Oregon—Clyde and Dunlop strawberries are two first-class varieties to grow for a second crop of berries in the fall. It is suggested that Hood River, Sharpless, Magoon, and Clark's Seedling be tried. These are standard varieties in many parts of the Pacific Northwest. Try also the Pan-American, which is reported on good authority to be remarkable for its continuous bearing. In southern California, the Arizona is valued for this purpose and I have seen it do very well in eastern Oregon. S. W. F.

GRAFTING DAHLIAS

E. L. B., Washington—Root grafting dahlias does not affect the color of the flowers. That it can be done is probably some newspaper story. Dahlias are sometimes grafted but it is not a profitable method of increasing them. As a usual thing it is only used for the preservation of rare, weak growing varieties. To graft dahlias, cut the top of the tuber with a slanting, upward cut; and the cutting or cion should be given a downward slanting cut of the same angle as the cut on the tuber so that they will fit together closely. Tie together with raffia or other soft material. Plant in a pot covering them deep enough so that the lower part of the graft is covered with earth. Put the plant under a bell glass or under a frame and the cut surfaces will soon unite.

QUINCE TREES FOR ORNAMENT

G. F. K., Nova Scotia—Beauty and utility are indeed happily combined in the quince. When trained to a single stem and when grown under favorable conditions it becomes a small tree of a singularly graceful habit; but as usually grown it is a spreading bush or high shrub. The bush form is probably preferable when it is grown for fruit and the tree form when it is grown for ornament with fruit as an incidental feature. The large white and pink blossoms are borne after the leaves appear, on the ends of shoots of the current season's growth, and later than the blossoms of other fruits. The foliage is a glossy, dark green unless attacked by blight and leaf spot, which can usually be prevented. But the chief beauty of the quince is the golden yellow fruits, which resemble the orange more than any other fruit—they are the golden apples of Hesperides. Of the several varieties grow either Champion, or Rea for ornament. The bushes will probably need to be sprayed for leaf spot and fruit rot. Dig the borers out of the trunk and keep a sharp watch for fire blight as directed in the January 1906 GARDEN MAGAZINE, page 275. S. W. F.

WHAT IS NITRO-CULTURE

T. W. L., Georgia—Nitro culture is a preparation of dormant bacteria that have been taken from the roots of leguminous plants and grown in proper media without nitrogen to increase their activity in gathering that element. These bacteria work in connection with leguminous plants, aiding their growth and storing nitrogen from the air in the "tubercles" formed on their roots. These cultures are sent out either dried on cotton or in liquid form in sealed glass tubes. The latter method is the more reliable. When ready for use the packet is prepared in warm water strictly according to the directions accompanying the packets and the colonies of bacteria multiply at an enormous rate. They are used by soaking seed in the solution or sprinkling soil with it. The nodules caused by the nitrogen gathering bacteria may be observed on the freshly dug roots of most peanut vines, sometimes on Japanese clover, and cowpeas, and often on many of the leguminous weeds. The surest inoculation is by using soil from a thoroughly infected field. The nodules on the Melilotus in the South will often adapt themselves to alfalfa; likewise those on the little Japanese clover (Lespedeza), will infect vetches and crimson clover.



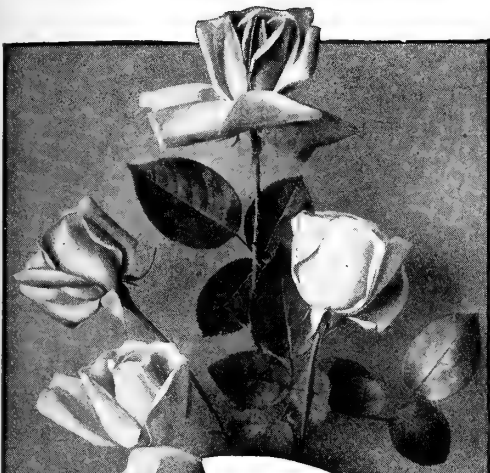
Beautify and Protect Your Home

by inclosing your grounds with the strongest, most ornamental and durable fence on the market. This illustration can give you but a faint idea of the beauties of



It has all the advantages of any other form of fence without their disadvantages, and is made in several sizes and styles to meet all requirements. Complete illustrated catalogue mailed on request. Kindly ask for Catalogue D.

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Since 1850 we have been making a specialty of Rose growing. We have 70 greenhouses and annually raise over a million Rose plants in over a thousand varieties. To spread the fame of D. & C. Roses we offer each year a remarkable collection of superb, hardy, ever-blooming Rose plants at an exceptionally low price. **Our Great Trial Offer for 1907** is known as the "Killarney Collection," and offers

**18 D. & C.
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We will send to all who ask for it, whether ordering the above collection or not, our

New Guide to Rose Culture for 1907

the *Leading Rose Catalogue of America*. 114 pages. Tells how to grow and describes the famous D. & C. Roses and all other flowers worth growing. It also offers a complete list of FLOWER and VEGETABLE Seeds at lowest prices.

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- The Battle-ground. \$1.50
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THE natural vitality of a tree or shrub is like the "constitution" of a man—it means ability to withstand unusual conditions. Transplanting is a period of crucial tests in a tree's life. That's where Geneva Nursery Stock shows its value. It is grown in soil specially adapted to starting strong, healthy growth, and a climate that puts vigor into every root and branch.

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This is an excellent time to plant evergreens, and every owner of a garden—large or small—should see the variety listed and illustrated in our catalogue. All trees are fine, symmetrical specimens.

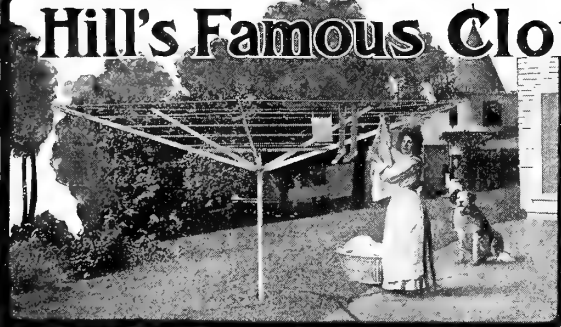
Our General Catalogue contains, perhaps, more information about nursery stock, more planting instructions, better spraying calendars and formulas than you have ever seen in a single book. It tells about every tree and plant you are likely to be interested in. Sent free.

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Save time and labor. Do best work. Book free
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PROPAGATING BLUE SPIREA

A. H. B., Penn.—The blue spirea (*Caryopteris Mastacanthus*) may be grown from cuttings of half ripened wood, taken in the summer or fall and struck under glass. It will take three years to get good flowering plants.

SOURCE OF PANSIES

E. P. N., Ky.—The heartsease (*Viola tricolor*), the parent of our modern strains of pansies, is the common wild pansy of Europe which has become wild in this country as it has escaped from gardens. It will be easily recognized along the roadsides from its appearance as a diminutive pansy.

SMALL FRUITS FOR INDIANA

W. A. B., Indiana—Prof. James Troop, Horticulturist in the Purdue University, recommends the following varieties of small fruits for growing in Indiana: Strawberries; Burbach, Haverland, Clyde, Warfield, Senator Dunlap, Gandy. Red raspberries; Cuthbert, Miller, Loudon, Haymaker, Golden Queen. Black raspberries; Kansas, Eureka, Gregg, Black Diamond. Blackberries; Snyder, Taylor, Erie, Buffalo.

PROPAGATING GENTIANAS

A. H. B., Penn.—The stemless gentian (*Gentiana acaulis*), may be grown from seed. Sow them one-sixteenth of an inch deep in a sandy soil. It is slow business, however. If the seeds are very fresh, they may germinate in a few weeks, but they are more likely to take a year. The soil should be kept damp until they do germinate. Prick out the seedlings while they are still very small. It will take about three years to grow flowering plants from seeds.

CHERRIES FOR MASSACHUSETTS

H. S. S., Mass.—The following varieties of cherries are recommended: Sweet cherries; Napoleon, Windsor, Downer, Black Tartarian. Sour cherries; Early Richmond, Montmorency and Morelo. You are perhaps aware that Massachusetts is the northern limit of hardiness of the sweet cherry, and it will succeed in your state only in the favored locations, so if you have tried all the varieties recommended and have tried them in the most favorable locations on your place and they have failed, then grow some sour cherries. They are much harder than sweet cherries. There are some sweet cherry trees in Dorchester that have attained great age.

HEDGES FOR SHADED PLACES

J. E. D. B., New York—The native *Rhododendron maximum* appears to be the most likely plant to make a dwarf evergreen hedge, if anything would. The advice given cannot be positive without a full knowledge of the situation. Talk the matter over with a local nurseryman who is acquainted with the soil and climatic conditions. Another possibility is the evergreen Hall's honeysuckle (*Lonicera Japonica*, var. *Halliana*), which could be trained over the fence. The same growth cannot be expected under heavy shade as is made in the open. The Canadian yew (*Taxus Canadensis*) should be ideal for the purpose, if it grows high enough, but I would hardly call that a hedge.

DOG-PROOF HEDGES

A. B. G., Mich.—For a dog-proof hedge on a light sandy loam which is subject to droughts in summer, and that will repel stock, the honey locust (*Gleditsia triacanthos*) is perhaps the best but it bears no showy flowers. Nothing will nibble it twice. The Osage orange (*Toxylon pumiferum*, known in the trade as *Maclura aurantica*), is another close growing hedge plant which will undoubtedly prove desirable. There is the common hawthorn (*Crataegus Crus-galli*), too, which flowers in June, and the Japanese quince (*Cydonia Japonica*), which has bright red flowers in spring. The rugosa rose (*Rosa rugosa*), is not easily beaten for either hardiness or prettiness and it flowers all the season. It could be used behind a wire retaining fence.

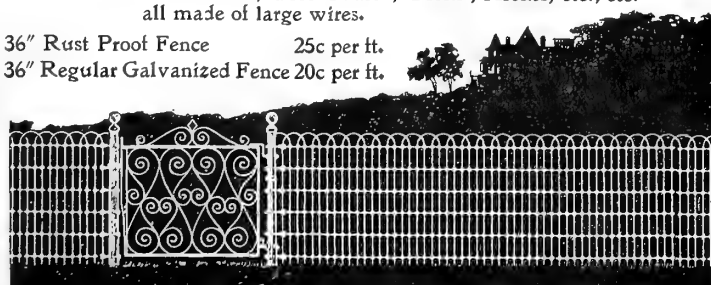
HOW TO GROW ROSEMARY

E. P. N., Ky.—The real rosemary of the old herbals and of the folklore of England is a plant known as *Rosmarinus officinalis*. This is something like the *Salvia*, having light blue flowers and much sought by bees. It grows in France on chalk cliffs near the sea coast. In America, the name has been transferred to various species of *Statice*, which has small blue flowers growing in loose, spreading panicles, and on a stalk sometimes as much as three feet in height. This is sometimes known as sea lavender, merely from the color of its flowers. It is often grown as a garden plant and may be raised from seeds sown in heat in early spring, and treated in the same way as any other perennial. Seeds sown in February or March, in heat, will give flowering plants that same year.

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TRANSPLANTING PRIVET

E. H. S., New York—Privet may be planted in spring or fall. If transplanted in fall give it a good mulch of leaves, loose litter or strawy manure, when transplanting set the plants six inches deeper than they were before. This is a good rule to follow whenever planting privet in hedges because it insures a good bottom.

HEMLOCK HEDGES FROM SEED

M. S., New York—Hemlock may be grown from seeds but a hedge of any size cannot be had under five or six years. Sow the seeds in April in a coldframe in rows four to six inches apart. Until the seeds have germinated keep the sashes on the frame and it will be better if the sashes have a thin coating of whitewash. As soon as the young plants appear above the soil ventilate the frame. During the hot summer weather shading will be beneficial.

WATER-LILIES IN CALIFORNIA

E. S. H., Cal.—The hardy water-lilies of the East can be grown with much success in the vicinity of San Francisco. Good white kinds are *Nymphaea Gladstoniana*, *N. Martiana*, var. *albida*, *N. odorata*. The tender water-lilies cannot be grown outside the year round where there is any frost. Read the articles on water-lilies by Professor Henry S. Conard in the GARDEN MAGAZINE for 1906; January, page 279; March, page 78; July, page 321; September, page 70, and November, page 180.

VARIETIES OF ASPARAGUS

G. O. P., New York—For green asparagus grow either Colossal or Palmetto. In the South Palmetto is a little earlier than Colossal but the chief point in its favor is that the stalks are all large and even in size; there are few or no culls. For white asparagus grow Mammoth White. The stalks will remain white until three or four inches above the soil. When grown from seed only a small portion come white but the white-stalked plants may be easily distinguished and selected for the bed.

PRUNING RAMBLER ROSES

M. W., New Jersey—The best time to prune Crimson Rambler rose is in the early spring—March or early April. Remove one-fifth to one-third of the previous year's growth and in old, well-established plants any of the old flowering wood which has become weakened. It is also a good plan to do summer pruning after the season of flowering is over. At this time pruning is limited to taking out old wood and pinching out weak and undesirable shoots. During the winter do not let the canes whip in the wind, tie them up to the trellis or to a stake.

CRUDE CARBOLIC ACID WASH

C. C. R., Penn.—The statement that carbolic acid is extensively used in New Jersey is absolutely untrue. It has been used to a very limited extent in a very limited locality and with a still more limited amount of success. I have followed the applications made from the original one upon which all the others were based, and have failed, up to the present time, to see any marked beneficial results. Crude carbolic acid painted on the trunks of trees will kill all the scales that it touches and no others. There is not a particle of evidence that one drop of the acid painted on the trunk gets into the general circulation of the tree, or affects any other portion of the tree in such a way as to prevent the development of scales or other insects. J. B. S.

THE BEST DWARF PEARS

W. S., Penn.—The pear is dwarfed by grafting it on the quince. Any variety of quince may be used for stock, but the Anger quince is most commonly used. It is imported by nurserymen from France but may be grown from seed. The pear is always root-grafted and nearly all varieties will unite with the quince. The few which do not are double grafted; that is a pear cion which will unite with the quince is inserted and when it has made a union and grown a year the variety which will not unite with the quince is then grafted into the pear cion. Pears grown on quince stock are as a rule shorter-lived than when grown on their own roots. Varieties to be recommended are Angoulême, Anjou, Bartlett, Fertility, Howell and Seckel. Dwarf pears need more care than standard ones. They are trained either to pyramids or walls, or trellis to cordons or espaliers. The best work on the subject, "The Miniature Fruit Garden: or the Culture of Pyramidal and Bush Fruit Trees" by T. Rivers, is out of print. The only book which is applicable to American conditions is "Dwarf Fruit Trees" by Prof. F. A. Waugh, and there was a good article in the February 1906, GARDEN MAGAZINE, page 12.

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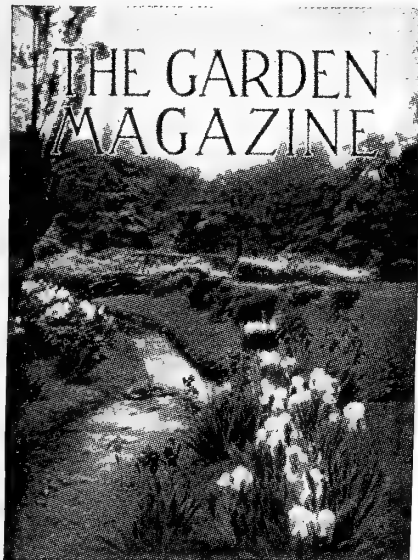
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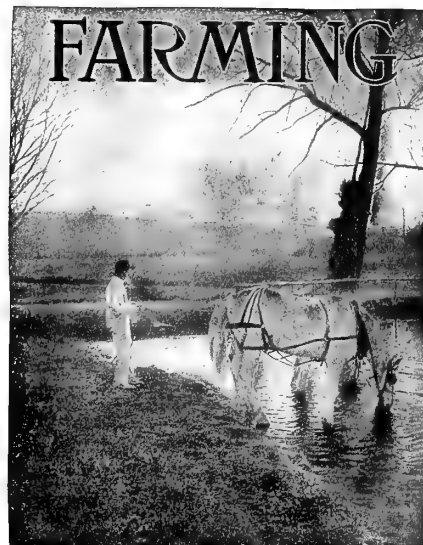
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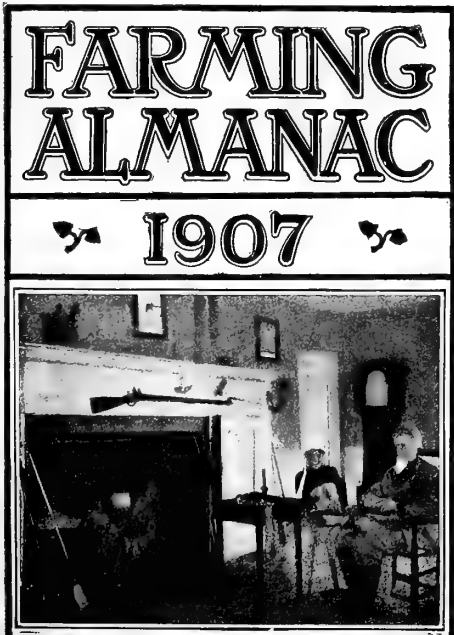
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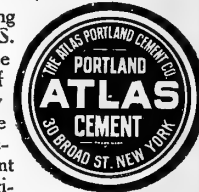
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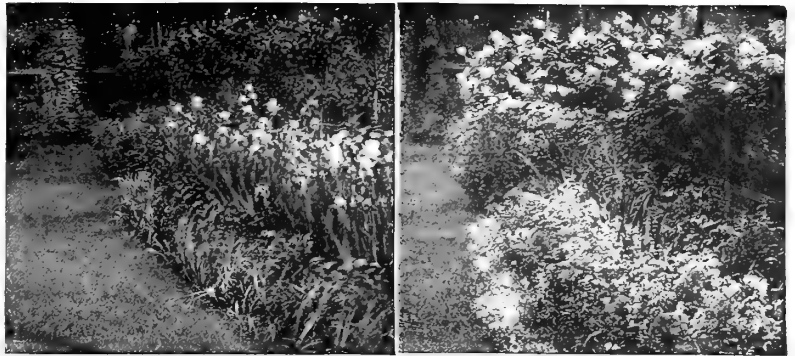
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The New England Nurseries, (Inc.)

Succeeding The Shady Hill Nursery Co.

Bedford, Mass.



Portable Summer Cottages

The above illustration is an example of one of our Portable Summer Cottages. It is built in sections, exterior walls are of Bevel siding lined with asbestos. The interior walls are panelled in art green stained burlap—our patented construction. It is cozy, comfortable, wind- and weather-proof and can be erected by two handy men in one day.

The Price is \$335, Freight Paid

The cottage contains a living room 12 ft. by 15 ft. A bedroom 9 ft. by 9 ft. with a closet 3 ft. by 3 ft. A kitchen 9 ft. by 9 ft. with pantry and closet. The porch is 6 ft. by 9 ft. The entire structure is painted two coats and sent out complete from our factory ready to erect and occupy.

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Write for Catalog No. 4.

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The People's Flower

NO flower grown is of such easy culture, or embraces so great a range of color in such endless combinations and variety, as the

GLADIOLUS

RARE and expensive orchids do not surpass it in rich beauty and elegance.

MY NEW BOOKLET, an artistic presentation of this gorgeous flower, tells all about it and describes hundreds of varieties.

SEND FOR IT. You may have it for the asking.

For One Dollar, I will send you my

Superb Dollar Collection

of six splendid sorts, covering a range of color from white and violet to dark, rich red.

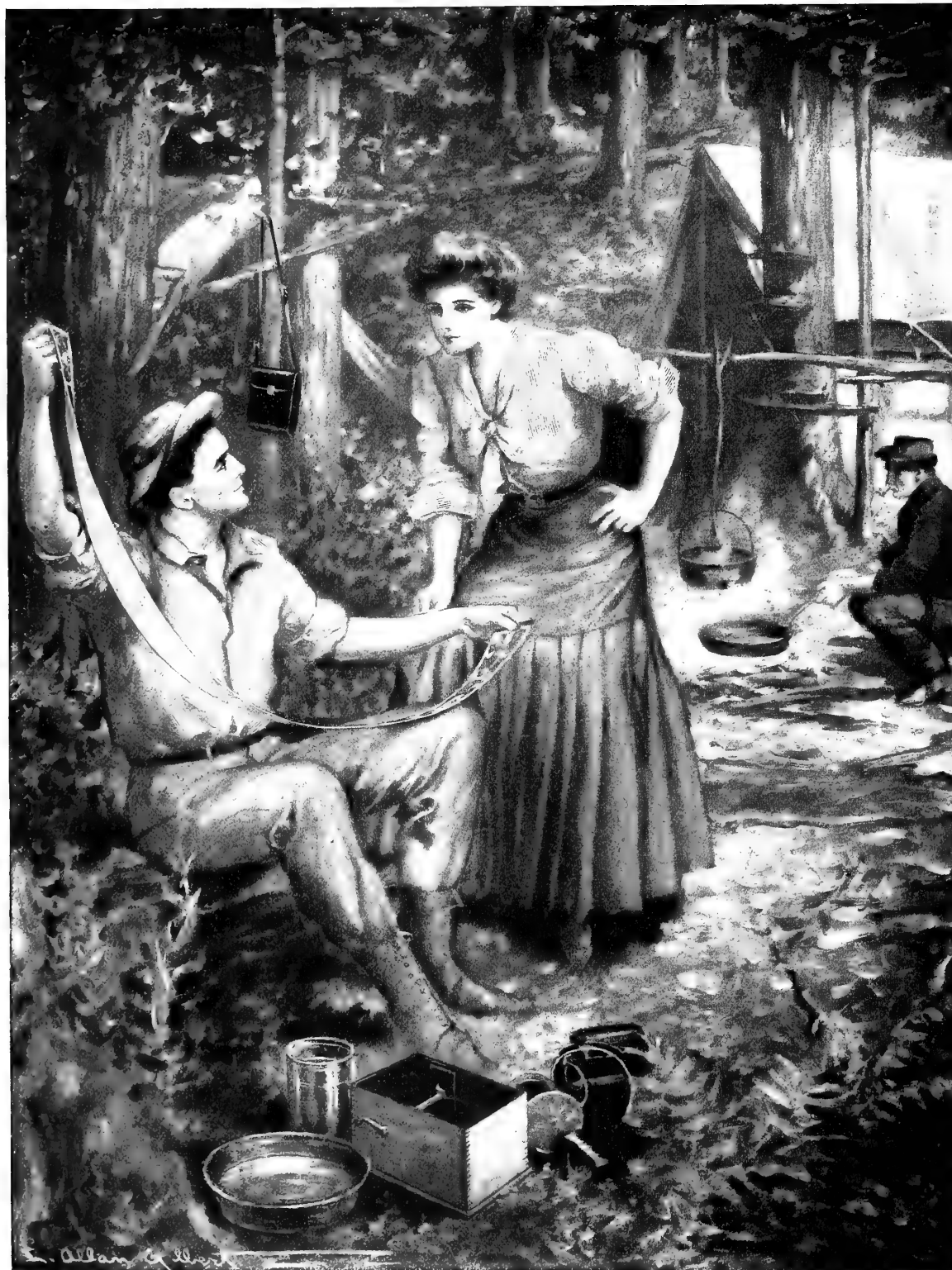
If you have never grown Gladioli before, this collection will make you an enthusiast.

ARTHUR COWEE

The Gladiolus Specialist

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BERLIN, N. Y.



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June

1907

Vol. V. No. 5

Beautifying the Home Grounds

Water-lilies in Tubs
Garden Furnishings

Garden Tools
Window Boxes

Vegetables for June Planting
How to Make a Flower Bed

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Farming

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133-137 E. Sixteenth St.



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“Nature’s Plant Food.”

Phenomenal Results Produced by This Modern Magical Fertilizer.

NO discovery ever made is so important to growers of flowers, vegetables, shrubbery, rose bushes, strawberries, trees, vines, lawns, etc., etc. It produces a magical growth. Vegetable growers develop nearly everything raised in the garden to abnormal size, and do it in ten days to three weeks less time. All plants and grasses are made to grow as if in the Tropics. Flowers are made to bloom so profusely and to grow to such sizes as to be taken for new varieties.

“BONORA” is used by the leading horticulturists, strawberry and vegetable raisers. It will make your lawn look like velvet.

“BONORA” is used on the CAPITOL GROUNDS, Congressional Library grounds, Botanical Gardens, Soldiers’ Home, Zoological Gardens, etc., at Washington, D. C.

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I’ll only count your sunny hours.” **The Sun Dial**

“Perhaps the subconscious and underlying charm of the sun dial lies in its decorative value. Scarcely can one conceive of an ugly sun dial, while there are not wanting those which for symmetry of proportion, grace of line, seamlessness of ornament and suitability to purpose provide a text from which a sermon on art might fitly be preached.” Extract from “Of Gardens and Their Furnishings” copy of which will be sent to anyone upon request.

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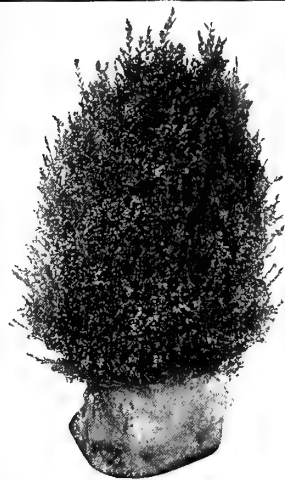
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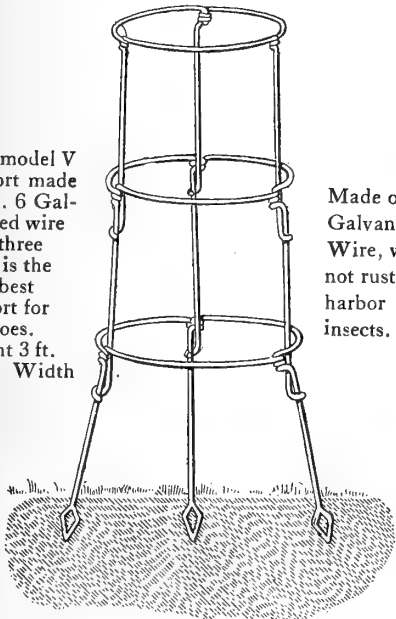
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Nurserymen and Landscape Gardeners.

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This model V support made of No. 6 Galvanized wire with three rings is the very best support for tomatoes. Height 3 ft. 11 in. Width 16 in.



Made of Galvanized Wire, will not rust or harbor insects.

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properly supported will yield a much larger and healthier crop. The growing strength of the plants is thrown into the tomatoes themselves where the vines are relieved of the strain of self support. The fruit and foliage is so heavy that the vines break and fall before the green tomatoes mature, unless properly supported.

We manufacture supports for all kinds of growing plants.

Write for illustrated pamphlet, "For the Greenhouse and Garden."

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St. James Building, NEW YORK



WHEN IT'S JUNE YOU FORGET THE GREENHOUSE

Forget that the balmy days with all their flower joys—all the fun of digging in your own garden so full of promise, will all too soon be a thing of the past. That in a few short months the garden becomes a dreary waste; that wintry blasts will bring longings for other climes where you could have your favorite flowers all the year 'round. But why not anticipate all these things and have them right at your very door-step with one of our glass enclosed Winter Gardens? We build them, bench them, ventilate and heat them complete, and now is just the time to talk it over with us, so things can be well started and the plants in bloom, leaving no gaps between the outdoor and winter garden's flowering. September is the time to start your tomatoes and cucumbers for Christmas; so it gives us none too much time to plan and erect your house. That is why we want to talk it over with you right now. Write us, or if within our reach, we will gladly come and look over your ground with you and endeavor to suggest the right thing for your particular wants.

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Each series, complete in itself, 25 cents postpaid.

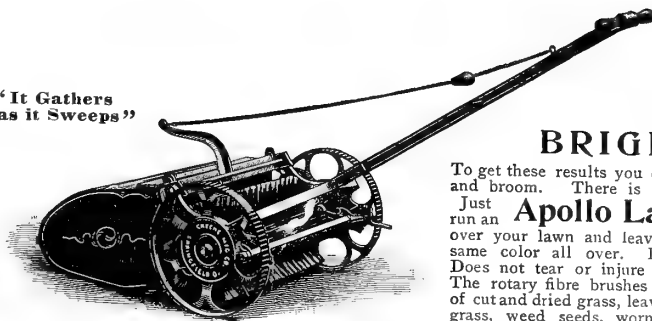
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Fifteen studies in each, identifying twenty-five or more wild flowers; drawings, mounting cards for specimens, guide card with full illustrated directions, all in artistic carrying case.

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To get these results you don't need to spend time and labor with rake and broom. There is an Easier, Quicker, Better, Cheaper method.

Just run an **Apollo Lawn and Walk Sweeper** over your lawn and leave it in perfect condition, clean, bright, green same color all over. It takes the place of rake, broom and shovel. Does not tear or injure the grass in the least. Nothing like it sold. The rotary fibre brushes sweep forward into receptacle every particle of cut and dried grass, leaves, sticks, stones, etc.: nothing escapes. Crab grass, weed seeds, worm casts, ant hills, etc., effectually taken out.

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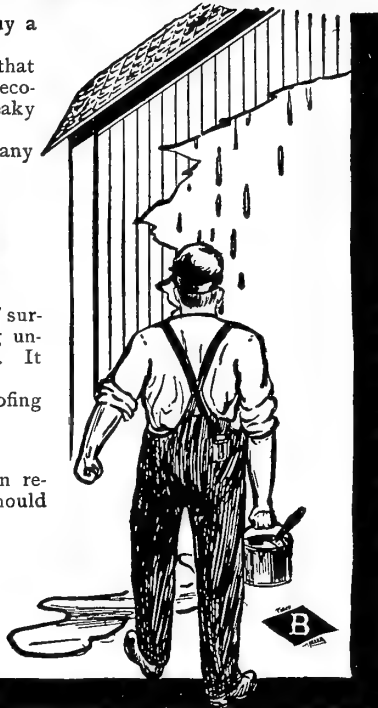
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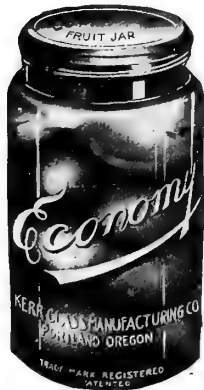
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Easy, Quick and Simple
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It is so tough and strong that it does not even expand under pressures that burst ordinary hose. It is extremely light and flexible.

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Lawns and How to Make Them

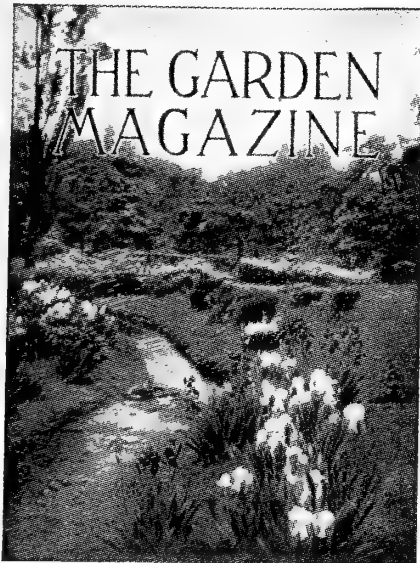
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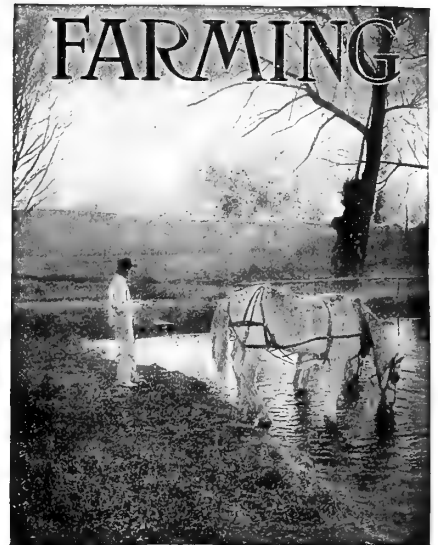
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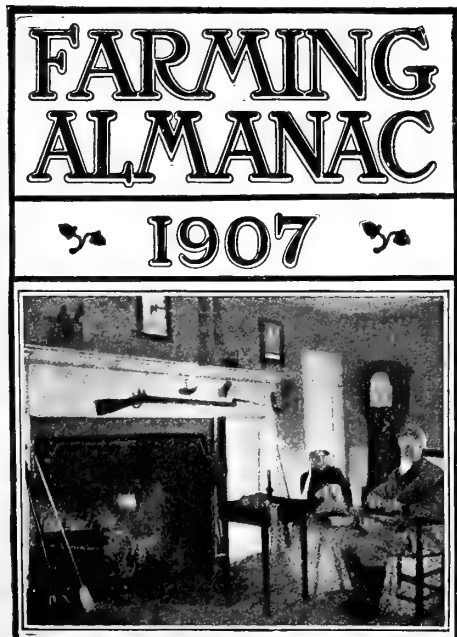
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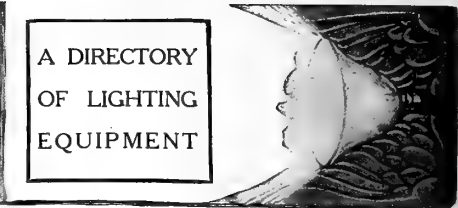
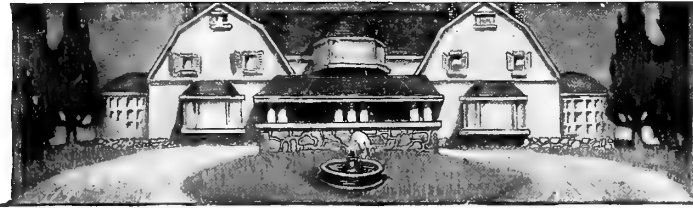
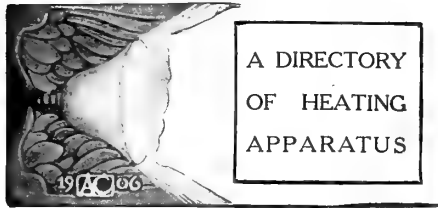
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COUNTRY LIFE IN AMERICA  THE WORLD'S WORK FARMING  THE GARDEN MAGAZINE 

DOUBLEDAY, PAGE & CO. NEW YORK.

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THE TRAITOR, by Thomas Dixon, Jr. has been postponed until July 1st

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The Garden Magazine

VOL. V.—No. 5
PUBLISHED MONTHLY

JUNE, 1907

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[For the purpose of reckoning dates, New York is generally taken as a standard. Allow six days' difference for every hundred miles of latitude.]

Opportunities that Beginners are Likely to Miss

JUNE is full of chances that even old-timers miss—opportunities to sow vegetables and flowers that would add greatly to the value and beauty of our gardens in the fall. In June we ought to be thinking of September, but we are not! We are thinking of—ahem! roses and things that have nothing to do with work.

But even roses have their bugs. Will you consider us hopeless Philistines if we suggest that at last, *at last, at last!* a way has really been found of “fixing” that hardened old sinner the rose bug?

And then, too, there is only one way of “avoiding” necessary work, viz. by getting new specialized tools that turn work into play. If you leave the work undone, you get tougher vegetables or none at all. If you have a wheel-hoe and an up-to-date spraying outfit, you will do the necessary work so much more quickly that there will be plenty of time for—well, anything you like in June.

Therefore, in order that you may have more time to live among the roses, we offer several hundred dollars in prizes to those who will grasp some of these fleeting opportunities of June. We really haven't time to count up all of these prizes. They are on every page of this number, but they will never be mentioned again, until the prizes are awarded.

They are not magnificent, world-stirring prizes; they are just friendly offers, as between garden lovers. The sums are little if any larger than we regularly pay for articles and we shall increase them, if desirable, without notice. Conversely, we shall not award prizes for articles we cannot publish. The point is that we should like to fill the June 1908 number of *THE GARDEN MAGAZINE* with personal experiences by amateurs on any of the subjects you see anywhere in this

number. Please send in your narrative of personal experience by November 1, 1907, and have photographs, if possible, to prove your success.

BEFORE JUNE FIRST

Buy cabbage and cauliflower plants. Latest date for small, cheap plants.

Plant now everything that cannot be safely planted in the fall in your climate, *e.g.*, magnolias, yuccas, rose of Sharon, torch lily or poker plant and hardy chrysanthemums.

You'll have to hurry if you want to plant any evergreens before next August, especially broad-leaved kinds such as rhododendrons and mountain laurel. They can be had in May and June, but only from specialists who are careful to move them with a ball wrapped in burlap.

HOW TO MAKE LIFE RICHER

Get a camera and make a photographic record of your garden. Read the articles on photographs by Mr. A. Radclyffe Dugmore in *Country Life in America*.

Buy Mrs. Comstock's “How to Keep Bees” and get an observation hive. Through the glass you can see everything. Bees near your orchard mean more fruit.

Get an opera glass and a good bird book with lots of pictures in it and become a mild bird crank. It goes well with golf. June is a great month for bird study.

Transform your garden into an outdoor living-room by providing a summer house or seats where one may write, rest or think.

A supreme happiness in gardening is pruning. Don't hire those shrub butchers who trim everything alike in March. The scientific, delightful and economic way is to prune everything after it blooms. Get a pair of pruning shears and be a free man!

EVERY PARAGRAPH WORTH \$5

Every paragraph on this page from this point on, is worth five dollars to somebody. All he needs to do is to work out the crude suggestion contained in any sentence that follows, in any way he likes, and send us an account of his success that is worth publishing in *THE GARDEN MAGAZINE*. Of course, we will gladly pay more for it if it is worth more.

Tender annuals sown after June 1st, are said to develop with astonishing rapidity and often bloom before plants that have been started earlier but have received a check.

Do you enjoy your garden at night? Would not one or two small lights add greatly to its beauty?

Add to your garden the subtlest charm of all—the sound of running water. You can afford it, if only for a little while each day.

Make a bird's bath tub and drinking fountain. Why not combine it with a miniature water garden lined with Japan iris or aquatic plants? Make a little concrete basin for it.

One or two progressive seedsmen in the North now sell artichoke plants which will produce their crop this year. The only other way to grow this biennial in the North is to sow seeds in May, and bank up the plants at the end of August to a height of fifteen inches, leaving only five or six inches of the plant above ground. This will keep the plant from being frozen, and next season it will bear fully.

Do you know that all the important hardy perennial flowers and vines are now grown in pots or baskets especially for people who cannot plant them before June? This is of great interest to belated movers and those who have summer homes.

Gladioli are now stored so carefully that they can be safely planted up to July 1st. A brisk demand has grown up for them in June because they enable us to grow an extra crop of flowers almost everywhere in the garden. For example, cut back larkspurs after their June bloom and they will flower again in September. Meanwhile plant gladioli everywhere among the larkspurs, so as to have crops of flowers from the same ground. You can put them in anywhere after a first crop of any kind of flower.

STRANGE BUT TRUE

Don't shoot robins to save your cherries. Plant Juneberries and the robins will eat them instead.

Why Ivory soap, or any other, should be a valuable insecticide is hard to explain, but it is a fact. Eben E. Rexford recommends it for use against rose enemies. It has the advantage of not making the bushes unhealthily as Bordeaux mixture does. A prominent nurseryman and florist writes that he has used it for years for an astonishing variety of insect pests.

Trees are now moved in full leaf in mid-summer! But it is only for people who have “money to burn.” They drive over to a nursery in June, see something they want and get it, regardless of price and precedent. And the trees live! Of course, they are carefully taken up with a huge ball of earth which is wrapped with burlap or something to prevent drying out the feeding roots.

The wonderful Texas rain lilies which bloom in three days after a rain in the South are best planted now in the North where they will flower in August. *Cooperia pedunculata* and *C. Drummondii*. They were described and pictured in *THE GARDEN MAGAZINE*, June, 1906, page 273.



One seldom has a well to make into a garden feature



A cement well head at the entrance to a California estate



An old fragment provides a convenient water supply



This is a Japanese antique fountain on a Bar Harbor estate

Garden Furniture—By Henry H. Saylor, ^{New York}

SUGGESTIONS FOR TRANSFORMING THE HOME GROUNDS INTO AN OUTDOOR LIVING-ROOM—A CLEAR AND ORDERLY ACCOUNT OF THE MANY ARTICLES WHICH ARE OFTEN PURCHASED WITHOUT A THOUGHT OF THEIR FITNESS

[EDITOR'S NOTE. *The GARDEN MAGAZINE* offers \$25 for the best article inspired by this one. It must be by an amateur who has transformed his garden into an outdoor living-room.]

FURNISHING a garden is, after all, much like furnishing a house. The safest rule to follow is that oft-quoted dictum of William Morris, "Have in it only such things as you know to be useful or believe to be beautiful." He spoke of the house, but what is the garden if not an outdoor living-room—an extension of the home with a merely incidental omission of the floor, walls and ceiling?

And it is far easier to follow this rule in the garden than indoors, where the gifts of unthinking relatives and the purchases of a reckless moment clutter mantel shelf, table and wall in hopeless confusion. Fortunately, one does not receive Christmas presents of garden bric-a-brac—as yet.

What things are necessary, then, in the garden? A place to sit down, surely; for though some of us are so busy digging and spraying that we never have a chance to rest and enjoy the beauty that we are fostering about us, still our family and our friends can enjoy it, and will enjoy it if they can

sit down and do so at their leisure. A seat or two, then, is our first necessity. A bench for two of red cedar can be bought for from \$8 to \$15. Or, you can build one for yourself if the digging and spraying does not require your undivided attention. Red cedar is the best wood for this purpose, white cedar coming next. The bark clings to the wood if the sticks are cut in the fall when the sap is not running. Paint the ends of the poles with a heavy red or ochre lead paint, and drive all nails well in, so that the heads do not make unsightly rust spots.

If you do not consider rustic seats beautiful as well as useful there are other kinds. The marble seat—a slab on two supports—is beautiful in a formal garden which has evidently not lacked anything else that money could buy. A most incongruous sight it is, however, in the garden which has been starved for want of good plants and care.

For the man who does not like rustic furniture and can afford a fitting setting for it there is the marble bench costing from \$60

to \$250. The same designs in limestone are ten or fifteen per cent. cheaper. Then too, there is the bench made of cement, a material which has proven its adaptability to so many uses in the last few years. A simple bench without a back costs about \$30. The more elaborate designs with backs, six or seven feet long, cost from \$65 to \$75, while a still more elaborate seat, semi-circular and about ten feet in diameter, costs \$150.

Cheaper still are the seats in finished cypress, painted white or green. A six-foot seat of good design may be had for \$25, while the semi-circular kind, ten feet in diameter, cost about \$45. A four-foot bench, with no back, costs \$12.

Leaving garden seats, the necessities in furniture depend entirely upon the size and character of the particular garden in question. In a small, informal one anything other than a resting place would have to be classed with "those things we believe to be beautiful." In a more pretentious outdoor living-room a fountain, a cement or wood balustrade, or



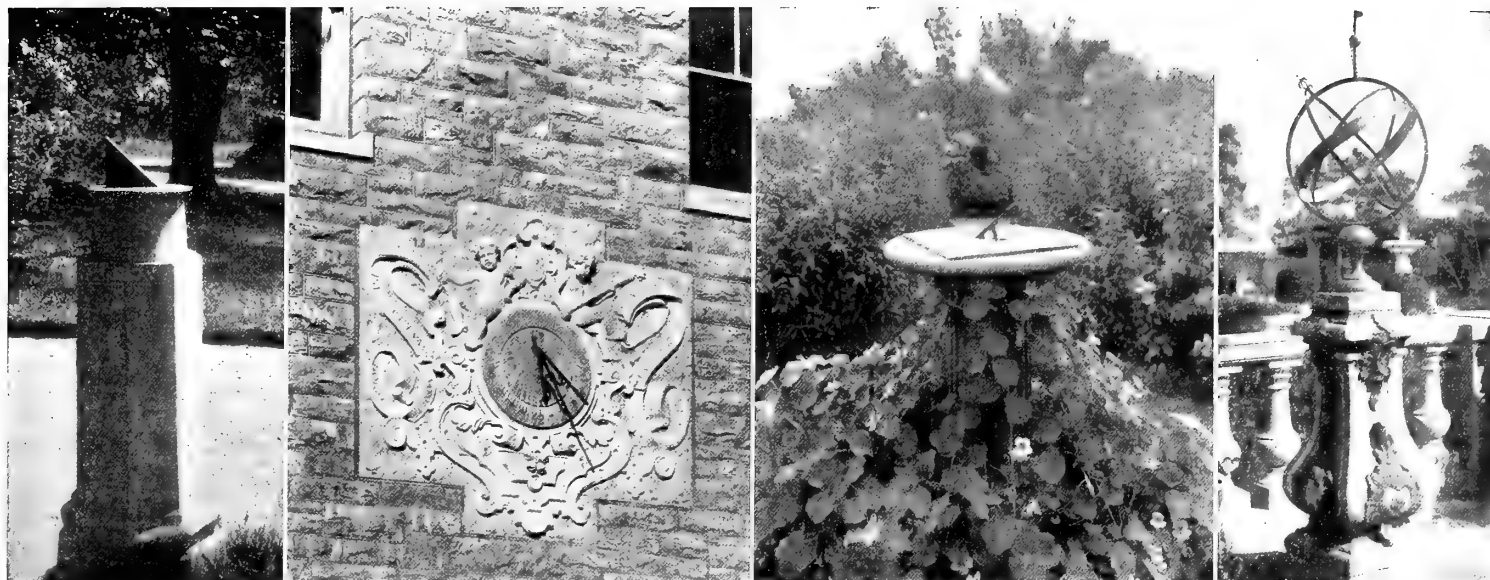
Folks used to build seats around a tree but it is a good deal of a makeshift



A garden seat of stone nearly covered by Japanese Ivy (*Ampelopsis tricuspidata*, also known as *A. Veitchii*)



It costs as much to do this as it does to put in attractive furniture



A sun-dial is almost an indispensable garden adjunct

One may build a vertical sun-dial into the garden front of the house

Don't grow vines too thickly around the pedestal or you can't tell the time

An armillary sphere dial in the Larz Anderson garden

a pergola might be classed among the necessities.

Another piece of furniture which might come in either class is the flower-box. When a garden is directly adjacent to the house, it is a good scheme to suggest the presence of growing things by flower-boxes placed between the columns of the portico. Simple wooden ones, painted white or green, may be made at home at a very low cost—a dollar apiece. Some very attractive reproductions of the old Italian boxes are to be had in cement, costing about \$40 for the four-foot ones. Terra cotta three-section boxes, three feet long, cost about \$25.

A sun-dial is certainly not a necessity in any garden, but there can be no doubt as to its wide appeal as a thing of beauty. At the junction of two paths, or as a terminal feature at the end of a walk, it lends a charm that nothing else can give. It seems hardly necessary to mention the fact that it needs

sun to warrant its presence, yet many a garden plan shows it to the north of a mass of shrubbery that is high enough to shade the dial. It must have a solid foundation, starting below the frost line, or it will have to be continually reset level. The cement pedestals cost from \$20 to \$50, the bronze dial about \$10 more.

A simple, fluted column in terra cotta, three feet high, can be had for \$10, which is just about the amount that the same design would cost in wood. Some of the more ornate designs in the style of the Italian Renaissance are charming, and the cost is quite low—from \$11 to \$18.

White marble pedestals can be had for \$45, without hand carving and the possessor can enjoy the satisfaction of knowing that this material will delight the eyes of generations to come.

Of course, the ordinary sun-dial is not accurate, within a half-hour or so, every

day in the year. If it is your habit to garden until train time, you can buy a dial with an adjustable gnomon which will give you absolutely correct time; it costs \$25.

Vases of clay, cement or marble are other luxuries with which to mark the transition from house to garden. On the piers flanking the porch steps or at the corners of the terrace wall they are seen at their best. There are many designs in cement made to hold box or bay trees, hydrangeas, or in other shapes to hold the drooping *Vinca minor*. The simpler designs may be had for \$10. The vases in green, brown, buff or red-glazed pottery cost from \$5 to \$10, depending on the amount of modeling in the design. Unglazed terra cotta jars and vases are cheaper. Marble vases cost from \$50 up to almost any amount one cares to pay.

Square cypress boxes are good to hold your portable bay trees. One kind is made with handles so that the tree can be carried



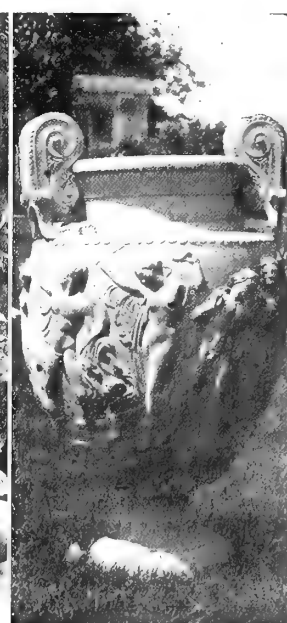
A stone lantern wrongly placed. It needs seclusion



A terra cotta pot, two feet across, costs \$15. This one rests on a cement base



Here is a suggestion from one of the old Italian gardens



Modern cement work compares favorably with marble



The pleached alley on Mrs. Henry Lee's estate at Brookline, Mass., is the oldest and most beautiful one in America. It is of hornbeam, about twenty years old

about by two men. Those two feet square cost \$10.

Water is certainly a necessity in your garden. Whether it is to be carried there in pailfuls from the hydrant or brought through pipes to a fountain, is a question to be decided with your hand on your pocket-book. It is possible to make a fountain serve a purpose other than merely a decorative one. By leading the waste pipe into a tile drain, the overflow may be used to irrigate some part of the garden which needs an abundance of water. The tile should be laid with dry joints, so that the water will work its way through into the ground all along the part that needs it.

Iron is the cheapest material of which to make a fountain, and it is possibly the least artistic. There is an endless variety of jets, sprays and fountain figures, the latter usually made of spelter, like old-fashioned gas fixtures, costing from \$10 to \$15,000. A good form can be had for \$50. The cast-iron basins are carried in stock up to twelve feet in diameter; they cost from \$9 to \$200 for round ones, \$30 to \$500 for octagonal designs.

A simple cement basin can be built for \$100 or less, including the plumbing for supply and drainage. These basins may be bought from the manufacturers of cement garden accessories, or, if a man is not afraid of the difficulties of building a circular form in wood, a basin may be cast on the spot. The simplest form for home manufacture would be a flat-top, square curb, say ten or twelve inches across, laid to the desired

radius. This could be cast first, on a concrete or stone foundation extending below the frost line, and the bottom of the basin laid afterwards. A flat bottom will serve the purpose as well as a bowl-shaped one and is far easier to make. If the inside vertical face can be flared outward after it has set, by adding, with a trowel, cement tapering from an inch or two at the bottom to nothing at the top, the danger of cracking in freezing weather will be lessened. The supply pipe may be an inch or three-quarters of an inch in diameter, the waste a size larger. Make the opening for the waste pipe near the top of the basin rim, so as to control the height of water, and protect it with a wire netting. Unless one wants to grow aquatic plants, six inches is sufficient depth for the water. About six inches of mud and a foot of water are needed for water lilies and lotus.

Still another use for water in the garden furniture is to have a wall-fountain for drinking water. Spouts in the form of lions' heads, gargoyles, and cherubs are made in cement and terra cotta. With the basin and the plumbing, a feature of this kind could be installed for about \$50 or \$60. I know one lady who provided a low basin in the garden wall, so that her dog could get a drink whenever he wanted it. When he didn't, the birds used it for a cool plunge.

Garden walls are often a necessity and always a decorative addition. One sees them mostly of brick with a capping of North River stone, bluestone or slate. A balustrade along the top, made of wood, terra cotta, cement or even marble, usually will add

greatly to their attractiveness. A brick wall sixteen or seventeen inches thick costs from seventy-five cents to a dollar per square foot of vertical surface. A balustrade in cement costs from \$8 to \$10 per running foot, in small quantities. I came across a very acceptable substitute for brick-work the other day at a very much lower cost. A man had set up locust posts to the desired height and to these nailed rough hemlock boards horizontally on both sides. These boards were twelve inches wide and each overlapped the one below it by an inch or so, like siding or clapboards on a house. Across the top was nailed a 3-inch plank. The wall was painted and was partly covered by vines.

When we come to summer houses, arbors and pergolas we are getting well beyond the necessities and into the realm of luxury. What a delightful luxury it is, however, to have a summer house, such as is pictured on the next page which is large enough to hold the dining-table and near enough to the house to permit of easy service from the kitchen. These houses are rather expensive to buy, ready made. If one can get hold of some good red cedar or white birch, however, any good carpenter can put a house together for you in three or four days. The best part of building a rustic summer house is that you can design it as you go. All you have to decide is the general size and whether it shall be round, square or octagonal.

It is well to provide, by the way, for a floor six inches above the ground; and

finished floor boards will be found more economical to lay and more satisfactory than one of rough poles.

As for pergolas, the country seems to be in the midst of a severe and widespread epidemic of them. Nowadays, one would almost as soon expect to find a garden without a Crimson Rambler as without a pergola. One sees them made out of everything from marble to old clothes poles. The thing really seems to be in danger of being very much overdone. A pergola, primarily, is a vine-covered passage from some place to some other place. Usually, however, one enters it from the lawn and comes out on the lawn.

One of the most attractive forms of pergola—if you must have one—is that with rough plaster columns supporting the framework of white painted beams and cross-pieces. These plaster columns are not nearly so hard to build nor so expensive as their appearance would indicate. Set a substantial fence post in the ground, say six inches in diameter, and build around it an approximately round form of rough boarding the diameter desired. On this nail wire

lath to hold the plaster roughcast. A square block of wood, two or three in. thick, will form the cap. The lateral beams, about 4 x 6 in. in section, of white pine or cypress, are centred on the columns. The cross beams may be about 2 x 4 inches, with the ends sawed to some pleasing pattern. Over these are laid other lateral pieces 1 x 2 in., and spaced about a foot apart.

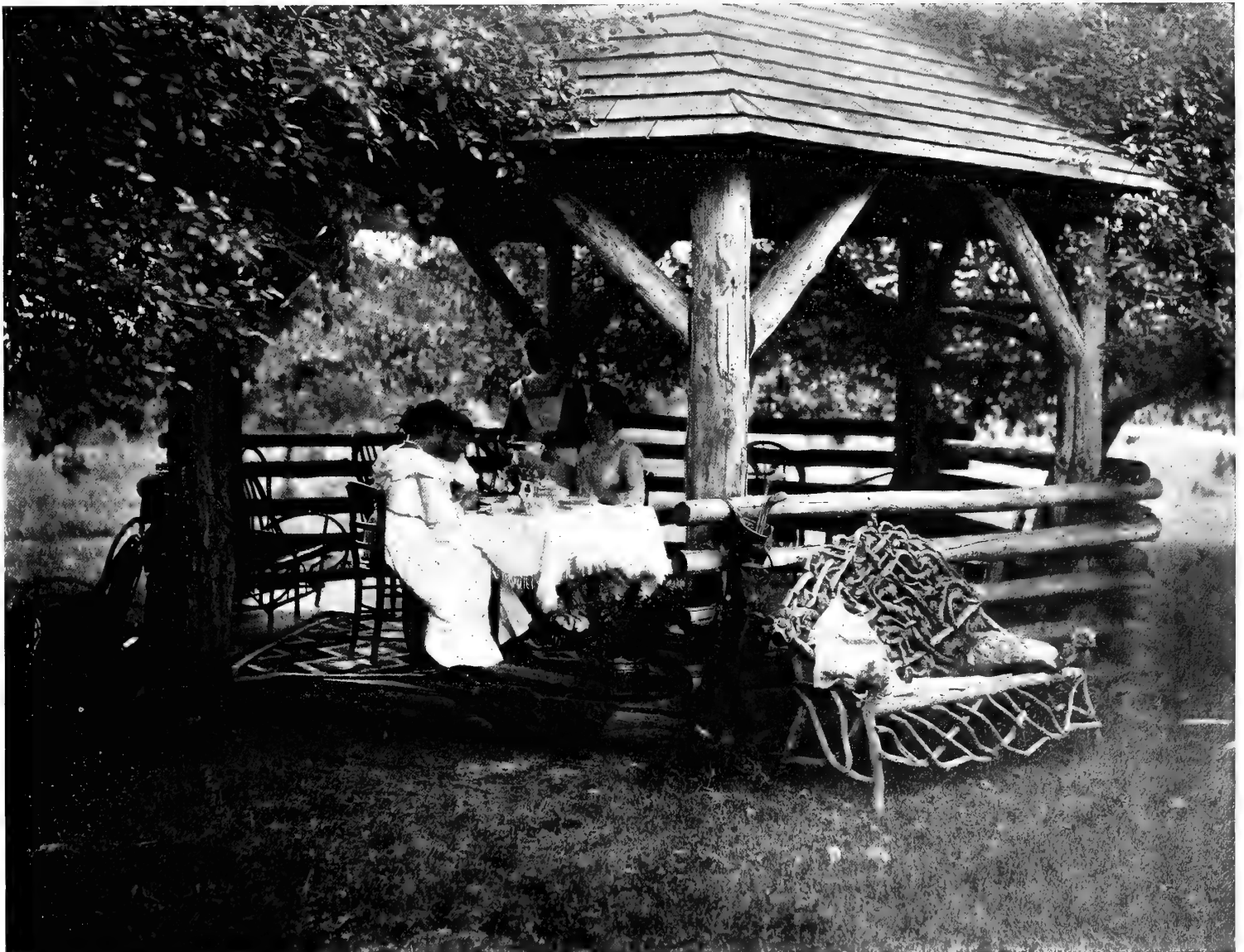
In a less elaborate form of a pergola, the large lateral beams support only cross pieces of rough cedar or birch, two or three inches in diameter, and laid six or eight inches apart. These are best attached to the lateral beams by hemp rope wound around the poles and led through a hole in the beam.

The arbor is a first cousin of the pergola which immigrated to America many years before the latter. As an entrance to some division of the garden, it forms a beautiful and almost essential part of the garden furniture. It differs from the pergola in having lattice sides as well as lattice roof. Rustic arbors may be easily built by anyone with a little knack in handling tools. Those built of finished lumber are more expensive but need not be out of reach of the humblest

garden owner. White lead and linseed oil paint is the best protection against the weather, all joints having been puttied beforehand.

Statuary in a garden is very like the little girl with the curl, who, when she was nice, was very, very nice and when she was bad, was horrid. In a strictly formal garden a few terminal figures—a marble or cement Pan or a Bacchante—are not only in good taste but almost a necessity. In cement these can be had for from \$50 to \$100, in marble, \$200 to \$300, or more if the model is made to order. But in the ordinary home garden one must proceed along this course slowly and in all humility, shunning anything of the "Dying Gladiator" type above all things.

The zeal of garden owners to furnish a garden attractively in the shortest possible time has led to many incongruities in style and general adaptability. In furnishing a garden, as in furnishing a house, it is well to remember that one has got to live with the result, so that a careful consideration of the general fitness of things will save both disappointment and money.



Red cedar is the best wood for building rustic work, white cedar and white birch coming next. A summer house should have a floor of planed boards

Vegetables for June Sowing—By E. D. Darlington, Pennsylvania

NOW IS THE TIME TO PREPARE FOR FALL AND WINTER VEGETABLES, AND FOR SALAD PLANTS AND GREENS TO BE USED IN JULY AND AUGUST—VARIETIES THAT WILL RESIST HOT WEATHER

[EDITOR'S NOTE.—We offer \$25.00 for the best article on this subject which we can publish in June, 1908. It must be written by an amateur who will plant this year many of the varieties here recommended. Illustrations are welcome, but not essential. The article must contain a "time table," showing in column form dates of sowing, of first and last use, length of row, yield and other useful directions for beginners. Latest date for articles, January 1, 1908.]

AS FAST as the early radishes, salads, and peas are gathered for use, clear the ground, and thoroughly work it over for another planting.

In a small garden, the beds or vacant rows may be dug over with the digging fork, as the soil is not as hard and firmly packed as it is in the early spring, and the tines of the digging fork will put it into a fine, loose condition, suitable for planting, better than the spade.

Thorough preparation before planting will ensure the best germination of the seed, and will also greatly lessen the labor of cultivation after the young plants have started into growth.

In the latitude of Philadelphia, gardeners make an outdoor seedbed about the middle of June for the fall and winter supply of cabbage, cauliflower and Brussels sprouts. The young plants will be ready to transplant by the latter part of July to the rows there they are to grow.

Near Philadelphia, I can safely count on a continuation of summer weather during September and through the early part of October, so that in these June plantings I will suggest some varieties, especially in sweet corn, which may not be as well suited for planting in cooler Northern localities.

BUSH BEANS FOR JULY AND AUGUST

If you want tender, brittle pods during the hot summer months, make small plantings every week or ten days, and use only the better varieties. If cultivation is thorough and constant, the plants will grow for a longer period, and if the pods are gathered as soon as large enough for use, the bearing period will be prolonged for a much longer period.

For the best quality in the green-podded bush beans I suggest the Stringless Green Pod, Extra Early Red Valentine, Blue Pod Butter and the Extra Early Refugee, which come on in the order named, but for the home garden it is usually more convenient to fix on some one favorite variety, and to keep up a supply by frequent plantings.

In addition to the green-podded sorts, make plantings one or more of the yellow, or wax-podded, varieties, or these may be chosen in preference to the green pods, as they do better during the warm summer season and the pods are less liable to rust than from the early spring plantings. Of the yellow-podded sorts, the new Brittle Wax, Round Pod Kidney Wax, Pencil Pod Black Wax and Refugee Stringless Wax are the best of the round-podded type. Some other new varieties have larger and more meaty pods, but are not as uniform in shape nor as attractive in appearance. New White Wax is the best in quality and is the most meaty yellow variety with a flat pod.

BEETS FOR AUGUST USE

Early in June make a second sowing of beets to provide a supply of young, tender roots after the early spring planting has become woody and lacking in sweetness.

My own preference is for an early, quick-growing variety, with a comparatively small growth of foliage and deep, or richly colored flesh, such as the Detroit Dark Red, Early Model or Black Red Ball.

BRUSSELS SPROUTS FOR WINTER

Brussels sprouts require about 150 days from seed to crop and are, therefore, generally started in May. But if you failed to

sow them in May, you may do so in June, as the crop is hardy and is improved by frosts. Start in a seedbed, transplant, and cultivate like cabbage. For our climate, the American variety, Long Island Improved, will give the best results and the earliest sprouts. In cooler locations, the taller-growing European sorts give good results and a larger yield.

CABBAGE FOR FALL AND WINTER

For this crop, seed is sown, in the latitude of Philadelphia, from June 10th to 20th. A larger quantity of seed is required at this time to produce a given number of plants than in the early spring, owing to the loss by insects. Sow the seed thinly in drills, and as soon as the seedlings appear, dust them frequently, early in the morning, with some fine, dry powder, such as land plaster, soot, or tobacco dust, to preserve them from the small black fly.

When they show the third leaf, thin to one inch apart. Stir the soil frequently and water copiously when necessary, so as to have strong, stocky plants to set in the latter part of July or early in August.

The only variety of the Savoy type that seems well-adapted to our climate is the Perfection Drumhead Savoy. The delicate flavored European varieties only reach their best development in a cool climate.

The dominant market type of cabbage in America is the Flat Dutch, or Drumhead, of which there are several strains that represent a better quality than the average. For pickling, slaw or even for making sauerkraut, the small, hard, round, red cabbage, are valued in some sections. In cool locations, the Danish Ballhead is grown for its splendid keeping qualities, but I have always considered it of inferior quality. Of the dark red sorts the small, hard Red Dutch is the most popular.

CARROTS FOR SEPTEMBER

These are becoming more popular, and I must confess it is only recently that I have realized how excellent they are when gathered while young and tender. To have them at their best, two or more plantings must be made, and by June it is necessary to make the second planting.

For table use the smaller and more slender roots are better, being freer from the woody core. Of these, the Scarlet Horn is the smallest and earliest in season. Danvers and Saint Vallery are long and slender, the first with a blunt tip and the latter tapering to a slender point. Half-long Scarlet Stump-rooted is distinctly slender, highly colored and of nearly even diameter throughout its length. If the soil is dry when the seed is planted, the covering must be firmly packed



Plant seeds of deep-red-fleshed beets, such as Detroit Dark Red or Early Model. Their color is much more appetizing than that of the light-colored varieties such as Bassano

over the seed in order to ensure a reasonably good germination.

CAULIFLOWER TASTES BEST IN FALL

Start cauliflower for fall use, when it is at its best, at the same time as the late cabbage. Give it the same treatment but set the plants farther apart, as they are of larger growth. Extra Early Dwarf Erfurt is the best type, and specially selected strains of this type are offered under the titles of Dry Weather, Snowball, Snow Storm, etc. All of these produce excellent heads when well grown, and it is not worth while to experiment with the older, large-growing types.

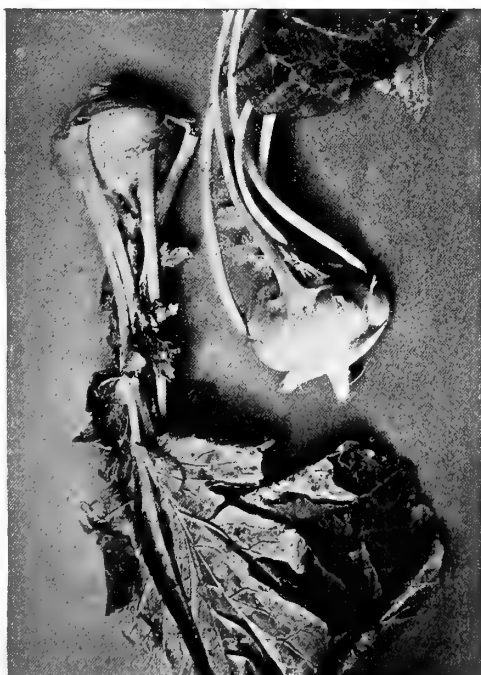
CHARD FOR SEPTEMBER GREENS

This is grown for the tender leaves and large, pure white leaf stalks, and while generally planted early for summer greens, it will produce a good crop in the early fall from a June sowing. When well started, the plants should be thinned out to stand six inches or more apart, so as to produce the large, white, celery-like stalks, which are trimmed, tied in bunches to be cooked and served like asparagus. The green portion of the leaves is cooked for "greens."

The Swiss Chard is the well-known type, while the new Lucullus is of taller growth and has the green portion of the leaf heavily crumpled like a Savoy cabbage.

SWEET CORN FOR EARLY SEPTEMBER USE

Make the June plantings of sweet corn for August and early fall use not more than a week apart. For this mid-season supply use a strong-growing variety; the Evergreen, if you like ears of good size and large grains and the Country Gentleman, if you prefer small ears and deep, slender grains. Do not plant extra early and second early varieties now, as they will come on too quickly, and during hot weather the grains become hard and tasteless in a very short time, but



Kohl-rabi is similar to a turnip but has a milder and more delicate flavor

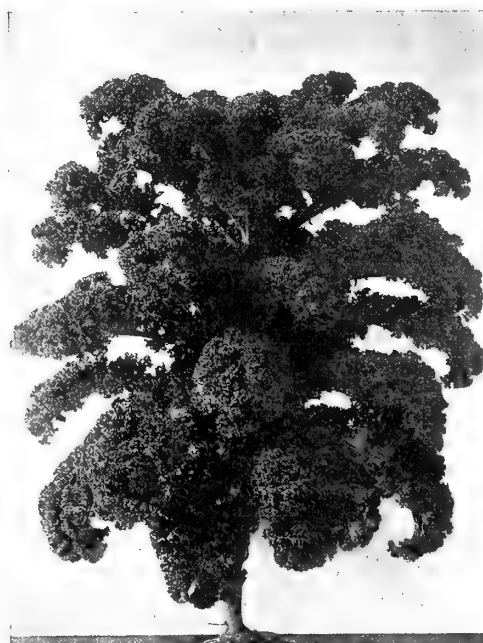
in varieties named above, the grains develop more slowly.

PLANT FALL CUCUMBERS JUNE 22d

For the main crop of cucumbers and to produce the largest number of small fruit for pickles, the seeds about June 22d. The larger-fruited sorts are better for table use, and I would suggest the better types of White Spine. The Fordhook Famous and Giant Pera are very large, long fruits, good for exhibition and of mild flavor, while the Cumberland is a very satisfactory sort for a good-sized prickly, or spiny, pickle.

ENDIVE FOR JULY AND AUGUST

Plant only a small patch of endive in June, as it is still a little early for this salad. Its rather pungent flavor is relished more in the fall after the weather becomes cool. Sow



Tall Curled kale. Excellent for greens and hardy, the flavor being improved by freezing

the seed thinly in the row and thin to eight inches apart, as it is difficult to transplant in hot weather. With the dark green sorts, the outer leaves are gathered together when the plants are of good size, and tied loosely to blanch the inner leaves. To this type belong Green Curled and Giant Curled, both of which have the edges of the leaves deeply cut or finely fringed.

The White Curled has a similar leaf but does not need tying up; as the leaves are naturally of a light golden tint. The broad-leaved Batavian or Escarolle should be left for a later planting, unless the bitter dandelion-like flavor is desired.

KALE FOR OCTOBER GREENS

Start kale in June in an out-door seed bed, and later transplant it to rows in the garden setting the plants about eighteen inches apart. When grown in this way, the plants will form a rosette of long, plume-like leaves, with heavily fringed, or frilled, edges. The plants



Savoy cabbage. The best variety for our hot climate is Perfection Drumhead Savoy

are entirely hardy and the flavor is improved by freezing. Therefore, they can be allowed to stand in the garden and the leaves gathered for boiling greens at any time during the fall or winter.

For June planting, I use Dwarf Green Curled. It is sufficiently ornamental in appearance to deserve a place in the flower garden or for use for decorative purposes.

KOHL-RABI FOR AUGUST USE

This member of the cabbage family is but little grown in the country but the gardener who seeks novelty should try at least a small planting of it. It has a swollen, bulb-like stem which somewhat resembles a fine turnip in texture, but has a milder and more delicate flavor; hence it is well adapted for spring and summer use.

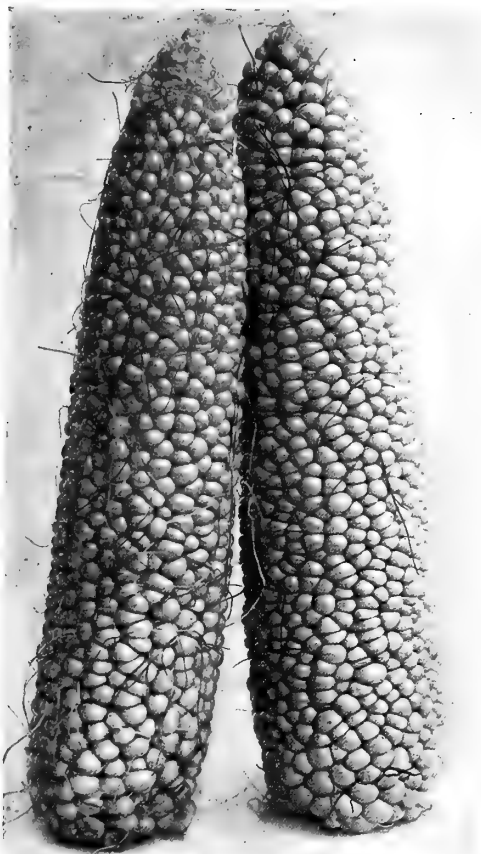
Start the plants in a seed bed and when they show the fourth leaf, transplant to eight or ten inches apart. In the best strains, the bulbs develop very quickly, and will be ready in about eight weeks after planting the seed. The bulb rests on the ground and must be gathered when from two to three inches in diameter, while the skin on the upper portion is still soft and tender.

The Early White Vienna is pale green in color and of the best flavor. The Purple Vienna differs only in the reddish purple coloring of the skin.

HOT-WEATHER LETTUCE

Make two or three plantings of lettuce during June. The most satisfactory kind for the hot summer weather is the crisp, heading type; if in rich, loose soil and with frequent workings to keep the earth loose and mellow. Good heads of the cabbage, or butter, type may be had by a selection of the best varieties, and would I suggest the May King for a medium-sized, early head, and the new All Seasons for a large, well-folded head to withstand the summer sun.

The crisp head type grows to a larger size, stands the heat well and heads quite firmly under good cultivation. It has thinner, crisper leaves than the cabbage type, blanching to a paper white instead of golden yellow. Of this type the Iceberg and Giant Glacier are the best varieties. New York or Wonderful grows to a much larger size, but the outer



Country Gentleman corn. Better for succession now than an early variety; stays in good condition longer

leaves are of a very dark green tint and less pleasing in flavor than the two preceding varieties.

Many gardeners prefer the bunch, or cutting, lettuce to the heading varieties as being more readily grown and as being available for use at any stage of growth. For June plantings of this type, I suggest the Black-seeded Simpson and the Morse, both good sorts with a large amount of leaves of a light golden tint, of handsome appearance and excellent flavor.

The cos, celery, or romaine type of lettuce may be had during the hot months with good cultivation, and is esteemed for its mild flavor and refreshing crispness. The best garden type is the Dwarf White Heart and its smaller, earlier prototype, the Express Cos. These do not need tying to blanch the inner leaves, as they fold over closely at the top.

The secret of summer lettuce is to make frequent plantings of small quantities of seed, and to keep the ground well hoed close up under the leaves every two or three days and after each hard dashing rain, as the plants will "bolt," or run to seed, if the soil is allowed to become packed and hard.

LEEKs FOR LATE FALL AND WINTER

The seed of these can be planted thinly in drills like onions, during the month of June, for late fall and winter use. When the young plants are well started, they should be thinned out to stand three or four inches apart, and when they reach good size, draw loose earth up around the stems to blanch

them. The plants are hardy and may be left in the row until needed for use, but it is better to dig them late in the fall and set them closely together in a trench or coldframe, as they are more accessible for use after the ground freezes. For a medium-sized stalk plant the American Flag, which is simply the old London Flag renamed. For a very large, thick stalk plant the Scotch Champion, or any of the novelties of recent introduction.

MUSKMELONS FOR SEPTEMBER USE

A planting of an early muskmelon made about the middle or last of June in a favorable location, will produce excellent flavored fruits in September after the vines of the early planting have been killed by blight or continued fruiting. For this late planting, the Netted Gem, or Rocky Ford, and the Emerald Gem are unsurpassed, yielding a large number of small, or "individual" fruits of the very best flavor.

MUSTARD GREENS—A THIRTY-DAY CROP

The finely fringed, or curling mustards are very ornamental in appearance, and a row of well-grown plants adds to the attractiveness of the garden. The young leaves are good "boiling greens" at any season, and a leaf or two adds a delightful pungency to a cool salad, or furnishes an ornamental garnish. The Fordhook Fancy is the most distinct and showy, having a curved, heavily fringed, dark green leaf resembling an ostrich plume, while the Southern Giant Curled has a shorter, broader leaf with finely cut edges.

Mustard for salads is ready in about ten days; for greens, about thirty days.

RADISHES FOR JULY AND AUGUST

A crisp, juicy radish, freshly pulled, is a treat for the breakfast table. With rich soil and frequent hoeings, to promote a rapid growth, and frequent plantings of seed radishes may be had even in the summer months. The small, round extra earlies are not adapted for June planting this far south, as they become hollow, or pithy, unless pulled while extremely small, but some of the long, slender varieties are crisp and tender, while the larger, thicker roots that require a longer growing season have hard crisp flesh of excellent flavor, even when grown under the warm summer sun.

For very mild, quick-growing, slender sorts plant the Long Scarlet Short Top and White Icicle, and for a succession the Long Cardinal, Chartiers and White Delicious. If round, or globe-shaped, radishes are wanted plant Large White Globe, Golden Globe and Surprise.

THE REGULAR TIME FOR RUTABAGAS

For a fall supply of these hard-fleshed and fine-grained Stone turnips, the middle or last of June is the proper time to plant the seed. The Sweet German, or French, is the best of the white-fleshed sorts with the Improved Purple Top for a yellow. To my mind, the new Strap-leaved Neckless is a great improvement over all the older Rutabagas, as it grows more quickly, has a smaller amount of foliage, with a perfectly

smooth, round, or ball-like bulb. The flesh is fine grained, mild flavored. This type may be had in either the yellow or white-fleshed varieties as preferred. The foliage of this new type is distinct as it is a strap-leaf, while the older sorts have a long leaf divided into large lobes.

SPINACH FOR JULY AND AUGUST

Spinach may be had during the summer just as readily as during the cooler spring and fall months, by using the new, large-leaved varieties. These plants make a longer growth of foliage and stand for a much longer time before running to seed. Moreover, since their leaves are much longer and of heavier substance, a smaller area will afford a much more abundant supply.

For June plantings, choose the Victoria or the new Long Season. The former grows more quickly and has larger leaves.

WHY TO PLANT TOMATOES IN JUNE

Make a second planting of tomato seed early in June, in an open air seed bed, in order to have plenty of tomatoes after the early varieties have ceased to bear. Watch the young plants closely and dust them frequently with an insecticide to preserve them from the small black fly. Transplant this second planting to the rows as soon as large enough to handle. For this planting, I prefer an early variety such as the Chalk's Jewel or Fordhook First as the larger, later-fruited sorts, are often caught by frost before they can ripen. For a small garden early sorts of the bush type, such as the Quarter Century and Dwarf Champion are excellent.



Tender, juicy string beans may be had all summer by making frequent plantings.

Nile Beauties in a Tub—By Lilian Baynes Griffin Connecticut

SOME WATER-LILIES ARE CERTAINLY BETTER THAN NONE AT ALL—IF YOU CANNOT HAVE A POND FOR THEM TRY A TUB—WHEN THE WATER-LILY BLOOMS FORGET THE TUB AND THINK OF THE FLOWER

FOR two years after I started my garden I was warned off from trying water lilies by the following "culture note," which I read in a catalogue: "*Hardy varieties of lilies may be planted as early in the spring as one can stand to work in the water.*" And I pictured myself waist deep in the chill water of a New England pond in early spring, the muddy bubbles gurgling derisively around me while I endeavored to anchor a lily bulb under my feet. A trip to Egypt where I might stand dry-footed on the banks of the Nile and gaze at the glories of the lotus seemed a slight undertaking compared with the courage required for beginning home culture.

One warm May morning, however, I saw an old gardener standing on the edge of a large pond tying lily bulbs to stones and placidly throwing them here and there into the water.

"In a couple of months or so," he volunteered, noticing my interest, "the middle of the pond will be as green as the lawn, and I can pick a pail of lily buds every morning without one of them being missed." This was inspiring, and I began to ask a few questions on lily culture.

"Get a tub or old cask, have it sawed in two and you can grow them," he said. "All the water-lily needs, is still, warm water, sunshine and good soil."

This recipe seemed so much more cheerful than the one I read in the catalogue that I purchased a cask and had it sawed in two. I followed the gardener's directions faithfully in regard to the sunshine, the still, warm water and good soil. With the amateur's impatience to see the lilies in blossom, I dug and pulled half-grown plants from a back-water and filled my tub with these. This experiment was not a success. In the first place I was unable to keep the casks from

leaking, and, too late, I found that into one cask I had put enough lily plants to supply a small pond. That summer I saw one successful lily tub filled with flowers and beautiful shiny green leaves. To my surprise I learned that this tub contained but one root. This was my first experience.

The tub garden shown in the illustrations is made of beer vats sawed in half and sunk into the ground about two and a half feet. They are covered inside and out with cement of a neutral tint; cement also is used to knit them together; the tubs have a warm, sunny place, and are filled two feet deep with earth; the water is supplied by hose. When the water reaches about seventy degrees Mr. Peck begins to plant his lilies. This is usually about the middle of June. Experience has taught him that no time is saved by starting them earlier.

Outside the tubs grow marsh plants, and here and there are great clumps of native rice grass which reaches the height of six or seven feet as early as the first week in August, while marsh forget-me-nots flourish in the moisture surrounding the tub and make exquisite patches of blue against the gray cement.

In another part of the garden grows a beautiful little patch of the Japanese water-lily. The leaves of this lily are of deep green, firm and shining, growing into a circular mat. With every breath of wind that ripples the surface of the water they drift about, bearing their cargo of blue blossoms, until like a tiny fleet they huddle together in some sheltered place. It is grown in large zinc pans made for the purpose. They, too, are sunk into the earth about half a foot, so that nothing but a narrow rim five or six inches high extends above the level of the lawn.

In still another part of this garden is a zinc

tank with a deep centre constructed for the purpose of growing a night-blooming lotus, and about once a year this gardener has the pleasure of taking his neighbors by moonlight across the grassy paths of the garden to see the great pink head of the lotus flower resting on the top of the water.

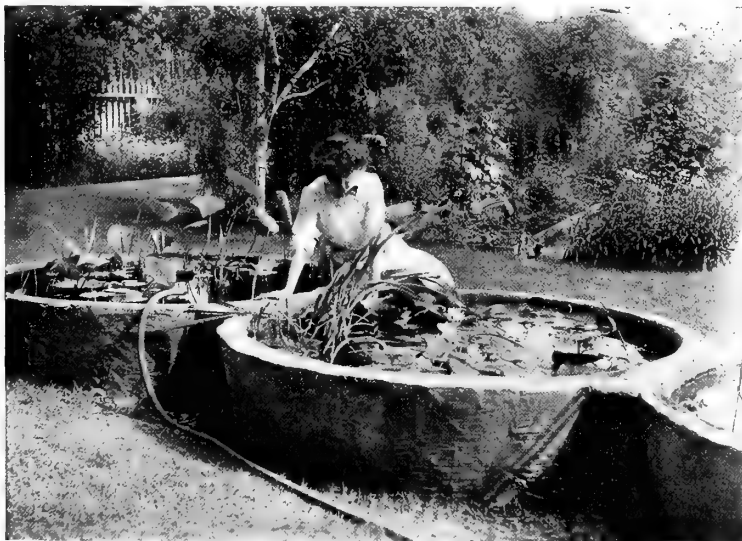
For the beginner in tub gardening, the following plants are safe enough and long-suffering enough to save him from disappointment:

The sweet-scented water-lily (*Nymphaea odorata*); the variegated sweet flag (*Acorus Calamus*, var. *variegatus*), which has leaves with deep yellow stripes when young but fading as the summer advances; the pickerelweed (*Pontederia coradata*), a lusty perennial with flowers of a delicate blue; the water snowflake (*Limnathemum Indicum*, sometimes spoken of as *Villarsia Humboldtiana*), whose flowers last but a day, but are borne in such profusion that there is never any lack of bloom throughout the season; and the Egyptian paper-plant (*Cyperus antiquorum*, usually spoken of as *Papyrus antiquorum*), which, if it has a chance, will fill any tub or pond in Christendom.

The water hyacinth (*Eichhornia speciosa*, or *E. crassipes* of the florists), will succeed admirably in the tubs, but care must be taken to keep it within bounds as it spreads very rapidly. There are bladder-like growths at the base of the leaves which keep them afloat. Numerous spikes of blue flowers which last but a day are borne in rapid succession.

The parrot's feather (*Myriophyllum proserpinacoides*), a graceful half-hardy aquatic with weak stems reaching six inches above the water. It must be planted in a shallow place.

The floating moss (*Azolla Caroliniana*) is a very pretty little plant of a deep green color but in full sun assumes a reddish hue.



Was there ever such an odd receptacle for water lilies? These are beer vats sawed in two and cemented outside. They belong to a gentleman who lives on Nile Street, Hartford, Conn.



A zinc tank in which Mr. Peck of Hartford, Connecticut, grows one of the tender, night-blooming species of water lily. He also grows wild rice, Japan iris, etc.

Summer Window Boxes—By Wilhelm Miller, ^{New Jersey}

ONE HUNDRED AND FIFTY DOLLARS IN PRIZES OFFERED BY THE GARDEN MAGAZINE—FIVE DOLLARS EACH FOR THIRTY PHOTOGRAPHS, WITH DESCRIPTIONS, MADE AS A RESULT OF READING THIS ARTICLE

"There is no point in bemoaning the absence of lawns, the scanty dimensions of dooryards, the prohibitive cost of every foot of street frontage. Venice, the most beautiful city in the world, is a city without lawns and almost without land. Some of the ugliest streets in the world, architecturally speaking, are absolutely delightful more than half the time by virtue of the window boxes."

THE one place in this world where flowers are most needed is the crowded portion of a city where every foot of ground is covered by stone or brick. Vines and trees are the most important things for such locations.

The only other practicable thing is to have window boxes, and I strongly dissent from

the dictum of the National Council of Horticulture that "the use of window boxes is not to be recommended extensively except for crowded down-town districts, apartment houses and hotels." Every building in country or city, almost without exception, ought to have window boxes for two reasons.

First, their suggestion of nature is restful and inspiring. Second, they make the best possible foil to bring out the beauty of architecture. Whether a building has greenery about it or not, we want window boxes—in the latter case to supply greenery, in the former to make a more intimate connection between art and nature.

The one great objection to window boxes is their expense. It is possible to make one without paying a cent if you are fortunate enough to have the boards, tools, fertilizers, paint, soil, labor and plants, but even in this extreme case, the real value represented is less than \$1.25. In a great city a bushel of good soil is worth fifty cents at least. The lowest price for a box is seventy-five cents. The plants mentioned in this article are the cheapest and they cost fifteen cents each, on the average. A first-class window box complete usually costs from three to five dollars.

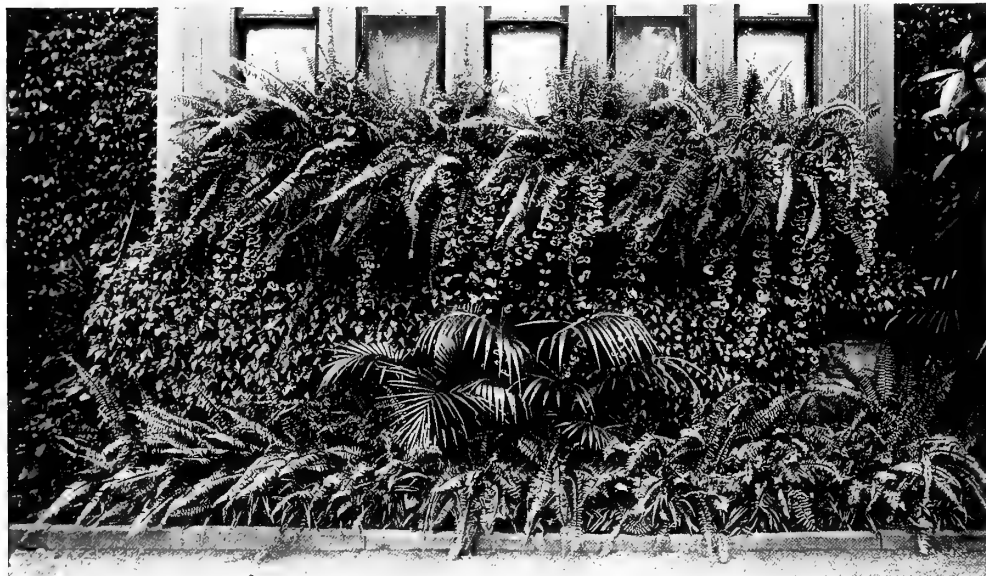
HOW TO MAKE A WINDOW BOX

Make it to fit the window, so that you can use it outdoors in summer and indoors for winter. Eight inches is deep enough; more than that makes the box too heavy and gains nothing, for you have to use fertilizers anyhow. Use seven-eighths or inch lumber—ordinary spruce or pine. Paint it the color of the house, two coats, outside for looks and inside to prevent decay. Bore 1-inch holes in the bottom every twelve or eighteen inches. Cover these holes with broken pots or rough stones in such a way as to prevent the soil from falling out, while still securing drainage. Put plenty of charcoal into the soil so that it will not get sour. If the box is to be placed where leakage of dirty water will do harm, get a zinc-lined receptacle to place under the box.

If you want climbers, use one or two strips of chicken wire, because they are neater and more lasting. The cheapest way to make a trellis is to put up two wires and tie strings across.

To fasten the box to a second-story window, use four screw-eyes and a yard of wire, as figured in THE GARDEN MAGAZINE for April, 1907, page 196, where working drawings are given for the cheapest box known to us at present. I believe, however, that this can be greatly improved and cheapened.

The ideal soil is composed of three-fifths rotted turf, one-fifth well decomposed cow manure, one-tenth sand and one-tenth leaf mold. You can get it from your local florist. If not, buy a 10-pound package of pulverized sheep manure for fifty cents, or five pounds of bone meal for thirty cents. (Every seedsman catalogues fertilizers). Use half of the former for a box eight feet long, or a



A window box of Scott's Boston fern, with variegated periwinkle as a trailer (*Vinca major*, var *variegata*). *Ampelopsis* on the wall. Another kind of Boston fern in pots below



Showing how vines, area-planting and window boxes work together to make even a factory attractive

cupful of bonemeal to every half-bushel of soil. Mix one or the other of these thoroughly with the soil before filling the box. Never use heavy clay soil. Some people have raised good window plants in nothing but street sweepings—no other fertilizer.

PURCHASERS' GUIDE TO WINDOW PLANTS

(The trade or catalogue names are used in this table)

FOR FOLIAGE EFFECT ONLY OR CHIEFLY

Trailers (hanging down several feet)

- Best green and easiest to grow German ivy
- Best variegated..... *Vinca major*, var. *variegata*
- Best spotted leaf *Pilogyne suaveolens*
- With dainty little flowers Kenilworth ivy

Edgers (hanging down three to twelve inches)

- Easiest Green "Wandering Jew" (*Tradescantia vulgaris*)
- Commonest variegated..... *Tradescantia multicolor*
- Strawberry geranium or mother of thousands *Saxifraga sarmentosa*
- Variegated ice plant *Mesembryanthemum cordifolium*, var. *variegatum*
- Artillery plant *Pilea serpyllifolia*
- Variegated white and green . *Anthericum repens*

Centres

- Best for shade Boston fern
- Best for fragrant leaves..... Lemon verbena
- A curiosity *Coccoloba platyclada*

FOR FLORAL EFFECT

Climbers or trailers (climbing or hanging down several feet)

- The most popular..... Nasturtiums
- Unique purplish flower *Cobaea scandens*
- Blue, 3/4-inch across *Convolvulus Mauritanicus*
- Flame, tipped yellow Manettia vine
- Several colors..... *Maurandia Barclayana*
- Blue moonflower *Ipomoea Learii*
- White moonflower..... *Ipomoea Noctiphyton*

Trailers only (hanging down several feet)

- The best Ivy-leaved geranium
- Edgers* (hanging down six to eight inches)
- Best white, fragrant Alyssum
- Best large blue *Browallia elata major*
- Best small blue *Lobelia gracilis*
- Hangs down less *Lobelia Erinus*
- Best yellow, spotted Monkey flower
- Best changeable..... *Lantana delicatissima*
- Cigar plant *Cuphea platycentra*
- Many colors, fragrant Verbenas
- Flowers close at night *Gazania splendens*

Centres

- The easiest and best..... Double geraniums
- Fragrant, several colors Single petunias
- Fragrant, violet Heliotrope
- Pinkish *Impatiens Sultani*
- Mixed colors Snapdragon
- Purplish blue Ageratum

SHADE-DEMANDING

Centres

- Purple, red, pink..... Fuchsias
- Several colors..... Flowering begonias
- Eight colors, costly Tuberous begonias

Trailer

- "Little pickles" yellow flowers *Othonna crassifolia*

THE SECRET OF SUCCESS AND FAILURE

The secret of robust growth and numerous flowers is plant food, which you can get from any seedsman or florist. Simply ask for a "fertilizer for house plants." A one-pound can of liquid that costs twenty cents will last a season. The directions are on the can.



Ferns are the best for the shady side of the street. The only flowers that demand shade are fuchsias and certain tuberous begonias. Flowers are often stolen in great cities

You will not need fertilizers if the soil has been carefully prepared in the manner first described.

The reason why people fail is that they sprinkle the soil instead of soaking it. If there is trouble, poke into the soil and nine times out of ten you will find it dust-dry two or three inches below the surface. Soak the box once a day—twice in hot weather. Water slowly and never cease until the surplus begins to run out of the holes or cracks.

HOW TO CHOOSE THE PLANTS

The ideal window plants are hard-foiled ones, like English ivy, aucuba, *Dracana indivisa*, and the palm called *Chamarops*

excelsa—because of their greater size, dignity and permanence. Also, they require less care than flowers. However, they cost more than fifteen cents each and as a rule require a foot of soil. They are, therefore, omitted from this article, with the remark that English ivy is the best of them all because it lasts both summer and winter outdoors, costs about twenty-five cents and does not require more than eight inches of soil. The following are all soft-foiled plants and therefore faster growing and cheaper.

The first thing to decide is whether you want a foliage or floral effect. Foliage is surer, more dignified and requires less care. Flowers are more brilliant but need



A window box of good rustic construction. Petunias in bloom



This is built to hang below the ledge for windows where it is necessary to open and close shutters

more care and offer more chance of failure. Flowers do best and require the most water in the hottest position, viz. where they get the afternoon sun. The sunniest exposure is toward the south; the next to the west.

On the shady side of the street you can raise satisfactory flowers even if you have a diffused light, but they will not be so numerous. In dense shade, flowers are impossible and ferns do best. The only flowers that must have partial shade are fuchsias and tuberous begonias.

The fewer kinds you use the simpler, purer and stronger will be the effect. Variety weakens. Here are some of the best combinations. *For foliage effect:* 1. Boston fern alone. 2. English ivy and lemon verbena. *For flowers:* 1. *Lobelia gracilis* and geraniums. 2. Ivy-leaved geranium and petunias. 3. Alyssum, snapdragons (for a foot-wide box) and climbing nasturtiums. 4. *Othonna crassifolia* and fuchsias (for shade). I believe it is better to have only one kind and mass them for color effect.

The best and most popular plants for summer window boxes seem to be common and ivy-leaved geraniums, English and German ivy (*Senecio mikanioides*).

FAVORITE VARIETIES OF CHIEF SPECIES

Alyssum. The double is better for this purpose than the single.

Begonias, flowering. Otto Hacker, red; Purity, white; Vernon, crimson-scarlet; Margery Daw, salmon-pink.

Begonias, tuberous. These are the only costly plants here listed. They cost about sixty cents a dozen, dormant, in March or two dollars a dozen started, in May. Single varieties better than double for this purpose.

Geraniums. Doubles better than singles, because flowers last longer and are not destroyed by rains. Singles, however, bloom more freely. Doubles recommended: Jean Viaud, rosy pink; John Doyle, scarlet; Marquise de Montmort, carmine purple; Mme. Barney; Malgache, yellowish orange; Marvel, crimson-maroon; White Queen, white; Double General Grant, orange-scarlet.

Heliotrope. Ordinary better than Giant for this purpose.

Petunia. Hybridized singles better than doubles for this purpose.

ORDER BEFORE JUNE 1ST

Have something different! Why put up with the scanty variety you can get from a

local florist in a small village when all the plants mentioned in this article can be easily secured by mail or express? All the great seedhouses that have plant departments, catalogue these species for May delivery. They will travel two or three days without injury. Small plants are mailed in tubes. The best way is usually by express.

\$150 IN PRIZES

We offer five dollars each for the thirty best photographs made as a result of this article. They must be accompanied by detailed descriptions. Open to amateurs and professionals. Rules: 1. Last date for pictures November 1st. 2. Give outside dimensions of box, cost of box, soil, plants, etc., when started and dates of bloom. 3. We reserve the right not to award all the prizes in case the pictures are not of the proper standard.

While there are no other restrictions and it is not necessary to read what follows, we hope that the following ideas will be illustrated:

1. Window box receiving no direct sunlight or only one hour a day.

2. Best window box of shade-demanding plants.

3. Window boxes for floral effect, costing three, four or five dollars complete. Not more than three kinds of plants. (Three prizes.)

6-8. Home-made boxes filled for one, two or three dollars. (Three prizes.)

9-13. The cheapest good box for tenements. (Five prizes.)

14. Best porch effect—several veranda boxes.

15. Best house effect—several window boxes.

16. The tallest climbers.

17. The longest trailers.

18-20. New ideas in design, arrangements or adaptation to peculiar and different places. (Three prizes.)

21-25. Mixed window boxes. (Five prizes for those who like a great variety of flowers.)

26-30. Any kind of window box at all. Five prizes to cover any idea connected in any way with window boxes which is not covered by the preceding.

PARTHIAN SHOTS

Do not put flowers into window boxes that are within the reach of children in large cities.

Bedding plants, e. g., coleus, alternanthera and achyranthes, are often used in window boxes, but in my opinion the law of fitness requires that plants notoriously adapted to bedding should not be used for window boxes when there are plenty of others which by long associations we have come to think of as primarily window plants.

Pick off dead leaves.

Don't let the soil get hard or baked on top. Loosen it every few days with an old fork.

Water by preference in the evening or early morning. But water at any time if the plants are flagging.

Use the box all the year round. Have pansies and daisies in bloom from March 15th to May 15th.

Petunias are easily whipped by wind; geraniums are not.

NEW YORK'S WINDOW-BOX LAW

The following is the law of New York City which relates to window boxes, flower pots and other objects that are often put upon window sills:

"SECTION 671—It shall not be lawful for any person to place or keep on any window-sill, railing, or balcony, top of porch, or any other projection from any house or other building in the City of New York, any earthen flower-pots, wooden box, or other article or thing whatever for the cultivation or retention of flowers, shrubs, vines or any other article or thing whatever, unless every such flower-pot, box, or other article is securely and firmly fastened or protected by iron railings, so fastened as to render it impossible for any such pot, box, or other article to fall into the street, under a penalty of \$10 for every offense, to be recovered in the manner now specified by law for the collection of fines imposed for the violation of ordinances of the corporation."

Mrs. E. Hegaman Hall, chairman of the committee on flowers, vines and area planting for the Municipal Art Society of New York, writes as follows:

"If a window box is firmly fastened to the casement of a front or side window, I doubt if there is any existing law to forbid its use, any more than forbidding such an incumbrance as an awning or a shutter—the shutter often becomes loosened from its moorings. Plant pots are not easily fastened in, save by railings in front of them, but the best mode I have yet discovered of securing a box to the building is by means of long steel hooks in the box and staples in the window casement. These can be purchased at any hardware store for five cents apiece, and if each box has four hooks upon it, two at the top of the box and two at the bottom, at the corners, I am certain that it would never become loosened in any kind of a windstorm.

"The advantage of hooks and staples is, that when the windows are to be washed the box can be unhooked and placed indoors till the windows are cleaned, and then afterward it can again be placed on the sill and hooked to the casement."



If a box cannot be placed on the window sill it may be fastened like this

A Better Way of Buying Vegetable Plants—W. E. Pendleton, Pennsylvania

HOW TO GET VARIETIES OF TOMATOES, EGG-PLANTS, AND PEPPERS OF THE BEST QUALITY FOR HOME USE, INSTEAD OF UNKNOWN VARIETIES FROM THE CORNER GROCER OR THOSE COMMERCIAL VARIETIES WHICH LACK QUALITY

WHEN you buy plants of tomatoes, egg-plants or peppers at the corner grocery, the chances are that no name will be attached. You can never make any progress in gardening unless you start with named varieties. Even if the grocer offers named varieties, you cannot be sure that they are truly named. And if even they are truly named, you have no assurance that the plants are the product of high-bred seeds. A better way to do is to buy your vegetable plants from seedsmen of established reputation. Almost everybody can do this, because these plants can be safely shipped a three days' journey. Inasmuch as THE GARDEN MAGAZINE likes to be on the saving side, I would advise you not to order these vegetable plants from any one who is more than two days distant. The only possible objection to this plan is that the plants may, by some accident, be delayed in the express office and reach you in a wilted condition, but that can be easily remedied. Simply soak the balls in water for from five to fifteen minutes and shade the plants for a few days after setting them out. There is no danger of losing them if that little bit of ordinary attention be given.

BUY FROM A SEEDSMAN

A still stronger inducement to buy these vegetable plants from a seedsman instead of from a corner grocery is that you may pick out the varieties adapted to home cultivation, whereas the grocer is almost certain to have only varieties adapted to market conditions. Thus you can select for quality. Every one of the varieties mentioned in this article may be obtained between May 15th and June 1st, which is the regular time to set out these plants, and they all stand for quality and home use.

I do not pretend that amateurs can get better vegetable plants from the seedsmen than they can raise themselves. The ideal way is to have a hotbed or coldframe so that you can start these long-season, heat-loving plants in March and harden them before planting out. Then you can choose the most favorable conditions for transplanting, but many people are not willing to take this trouble, and there are thousands who move on the first of May or who, for other reasons, cannot begin their gardens until it is too late to sow these seeds.

QUALITY IN TOMATOES

A quality tomato, according to my definition, must be meaty as opposed to mushy. A "mushy" tomato is one in which a cross-section shows the three cells and it contains too many seeds. In the meaty variety, the cell walls are multiplied to such an extent that the cellular structure is lost. Many of the market varieties are mushy. The meaty variety gives you more for your money. Many people think the scarlet tomatoes are

more beautiful than the pink ones. Neither color is associated with quality. If you want an early pink tomato, get June Pink or Earliest Pink; if you want a scarlet early, get Earliana.

The following are meaty, main crop varieties. If you want a very large, pink variety choose Ponderosa; if you prefer a medium-sized, pink variety, choose Tenderloin; if you want a scarlet variety, choose Crimson Cushion. None of these are as attractive in appearance as many of those commonly grown for market, because they are more likely to be wrinkled, and there is often a green portion next the stem which does not ripen and, therefore, has to be cut out. These varieties have such large fruits that they had better be grown on an inclined chicken-wire trellis, or in some other way which will keep them from breaking off, without giving you the bother to support them.

If you want a tomato adapted for training to a single stem, choose Freedom. Its flesh is not so solid as that of the five preceding, but the variety is an enormous cropper, and as the fruit is of medium size, it will not break off.

QUALITY IN EGG-PLANTS

The plain truth is that there is little choice between the different varieties of egg-plant so far as variety is concerned, but it does make a great difference as to whether you get cheap seed or good seed, because the seeds of egg-plants have to be bred with unusual care. They require constant selection in order to keep the fruit true to shape and color. Moreover, the chances are that egg-plants bought from a corner grocery will not be of as productive a strain as those you can get from a seedsman of national reputation.

QUALITY IN PEPPERS

Americans do not like hot peppers. We prefer the mild, sweet peppers for salads, but you might as well have a thick-fleshed variety as a thin-fleshed kind. The Chinese

Giant is the largest sweet pepper, and is admirable for salads but too large for stuffing. If you want a medium-sized pepper for both purposes, choose Sweet Mountain or Bull Nose. The former is a trifle longer and therefore more desirable for stuffing.



Earliana the best early scarlet tomato: fruits large, many to a cluster. Season four weeks long

Some people fancy a longer pepper and therefore buy Ruby King, which is no better in quality than the two preceding. It does particularly well in the South. In the North, it does not set its fruit so freely as the others.

[NOTE.—THE GARDEN MAGAZINE offers \$10.00 for the best account of vegetable plants raised as a result of reading this article. The varieties need not be those here recommended, but they must definitely stand for quality and for adaptability to home use. We suggest that you get the same variety from the seedsman of national reputation and from a local grocery and keep accurate record like that described by Mr. J. L. Kayan in his article entitled "A Vest-Pocket System of Garden Records," in the February, 1907, GARDEN MAGAZINE, page 21.]



Sweet Mountain a medium-sized sweet pepper. Good either for stuffing and baking or for salads



Only for people who have a greenhouse, since these plants cannot be kept over winter in a cellar. Rubber plants, fancy caladiums and anthericum



A bed for people who have no greenhouse. (Caladium bulbs, however, must be kept in a warm place.) Tall cannas and elephant's ears (*Caladium esculentum*)

The Making of a Flower Bed—By J. T. Scott, New York

A FAIR STATEMENT OF THE RELATIVE MERITS AND LIMITATIONS OF BEDDING PLANTS AS OPPOSED TO HARDY PERENNIALS—WHERE EXOTICS FIT AND WHERE THEY DO NOT—MINUTE INSTRUCTIONS FOR THE CRAFTSMAN

[EDITOR'S NOTE. We offer \$5 each for the best twelve photographs made as a result of reading this article. Each one is to show an important, typical place on private grounds where bedding plants really fit. The designs must be simple—not complicated. As color will not show in photographs, we hope that originality and imagination will be exercised upon foliage effects and upon new ways of harmonizing plants with architecture or providing a transition from Art to Nature. Give names and numbers of plants used, colors, and cost of bed.]

THE relative merits and limitations of bedding plants and hardy perennials have never been fairly stated. Bedding plants have two advantages over hardy perennials. They produce a good effect the moment they are planted, whereas a newly planted border does not. They require less skilled care after planting, because a bed contains one kind of plant, or few kinds and these change little, whereas a border contains many kinds which change greatly and there-

fore require more varied knowledge for their care.

On the other hand, bedding plants, though cheaper and easier the first year, cost more than perennials in the long run, because they must be stored over winter in greenhouse or cellar. Also, the labor item is greater, because bedding plants have to be planted in a precise, formal manner.

Again, the individual bedding plant remains attractive all summer, while the indi-

vidual hardy flower has a relatively short period of bloom and may be shabby or unattractive when out of bloom. The hardy border stands for variety and its danger is dissipation, weakness, restlessness. The flower-bed stands for unity and its dangers are gaudiness and monotony.

Perennials are more natural, because they show the progress of the seasons, while bedding plants are more artificial, since they are often sheared and set in geometrical lines, and being of a tropical nature can never harmonize in a Northern landscape.

The law of fitness indicates a perfectly sensible rule which both parties can unite upon without this everlasting squabbling. *Never put bedding plants where Nature is dominant; put artificial objects only in an environment where art is dominant.*

Don't put a flower bed in the middle of a lawn, because it interferes with the landscape by introducing a tropical note into a temperate climate, and because it makes your lawn and yard look smaller than it really is.

WHERE FLOWER BEDS REALLY FIT

Put bedding plants near the house, because in that position they will make a transition between art and Nature. Piazza lines are often straight for necessary structural reasons, and the lines around the dwelling are often straight and therefore severe, but a flower bed can be cut out and planted in such a manner as to remove entirely any stiff effect.

For example, in most cases the levels surrounding the dwelling are undulating and the piazza appears more prominent in one place than in another. When this is conspicuously the case, a flower bed will serve to harmonize and tone this down. Select the taller plants to be placed where



A strong artistic effect. Note the position of large, medium and small leaves, and the highly distinct forms

depth is greatest and taper off with dwarf ones where the depth increases. Strive to have the back line conform with the line of the piazza, or other lines of the building, and where the plants at the back are highest the bed will have to be widest, so as to have an even natural slope from back to front, as the plants used for edging must be the same height all around.

Whenever the cellar doors have to be hid, or a direct view of any unsightly object obliterated, or a straight line in front of a window is objectionable, a bed with graceful lines will make a wonderful change.

Again, a certain background of trees or shrubs may be too abrupt or the fence line unattractive. In such a case, a flower bed rightly placed will change the entire effect.

A gateway, or a point where two roads meet can always be embellished to good advantage by a bed of shrubs or flowers, but do not make it on too large a scale for the environments.

There are endless different situations that call for original ideas, but in any case don't break up the lawn or cut beds along the sides of the driveway or path leading to the house. Nothing looks more amateurish than a promiscuous scattering of bed and shrubs in such a place.

PREPARATION OF THE FLOWER BEDS

This is of first importance for upon it hang failure or success. It is slow work at best and the average person usually makes the first mistake here. The practical mechanic in all lines of business shows his superiority in his painstaking preparation. When every part is thoroughly prepared in minutest detail, the actual work of construction is mere child's play.

In excavating for a dwelling, the top soil and the subsoil get mixed more or less. In some places, the top soil is all taken off; in others, there may be one, two, or more feet of it. In any case, examine it thoroughly by digging into it from eighteen inches to two feet deep, and unless there is at least eighteen inches of good top soil you should take off whatever good top soil there is and



Water the plants well before distributing them to the place where they are to grow. To remove them from the pot invert it and tap the rim on something solid

lay it to one side. Then remove the poor, subsoil to a depth of at least eighteen inches. Put the top soil back in the bottom and add as much more as is necessary to fill the hole level full.

If the bed is immediately in front of a background of trees or shrubs, all the large roots that encroach must be cut back. They will grow again and the operation must be done every year or two. It will not harm the trees, for if they do assimilate some of the rich, prepared soil they will show it in their healthier condition.

FERTILIZERS FOR BEDDING PLANTS

Bedding plants consume great quantities of fertilizing material. They make a much heavier annual growth than hardy perennials. Well decayed manure is always better than commercial fertilizers, because they supply humus, which improves the moisture holding capacity and admits air to the roots. No hard-and-fast rules can be laid down for quantities but here are the principles:

1. All plants that are valued mostly for their foliage effects (e. g., castor oil, cannas, grasses), will need more fertilizer than those that are valued chiefly for flowers.
2. The richer the soil, the more abundant the growth.
3. Plants that are grossly fed will usually go more to foliage than flowers. If geraniums are planted in a rich soil they will not flower half so well as they will in a soil that is comparatively poor.
4. The amateur is not likely to overfeed bedding plants. Change the variety of plants used every year, because it rests the soil and because novelty is "part of the game" in bedding to a greater extent than in other forms of gardening.

If the bed in which you are to plant geraniums was manured last year, do not give it any manure this year. For other plants, I would advise using a 1- to 3-inch dressing of well-rotted manure, spread evenly over the surface and then dug into the bed to a depth of from six to ten inches.



Vinca major, following hyacinths, showing how a shrub collection may be brightened in summer when the shrubs are out of bloom. Highland Park, Rochester



Flowering tobacco and salvia following a display of tulips. The tobacco flowers all summer; in the fall the salvia is a blaze of color



Never put flower beds in a turn-around—too trifling. Shrubs are better. A good heart-shaped bed and background. Geraniums and coleus. The bed next the house is appropriate; the one in the lawn is not. It interrupts the open green space every yard should have.

The average man begins at one end, turns the whole thing over and when he gets to the other end, finds that he has a big hole with nothing to fill it. It takes longer to fill this hole by pushing the soil back with the rake than it would to dig it over again! Besides he pulls half of the manure to the surface in doing so.

To show a better way, let us first take the case of the square bed and assume that the manure is already spread.

First. Cut the edges of the bed evenly all round with an edging knife, using a garden line as a guide.

Second. Commencing at one end, take off a strip of manure, say twelve inches wide, along one side, and put this into a wheelbarrow, or dump it at the opposite side upon a piece of canvas, or bagging, to keep the lawn clear.

Third. Dig a trench a spade deep and twelve inches wide in the same place, i. e. directly under the place from which you removed the manure, and leave this in a wheelbarrow, or dump it in another heap as in the case of the manure. This will give you a good opening to start with.

Fourth. Get into the bed and push a strip of manure, say eight inches wide, into the bottom of this opening, and then turn the soil under this into the opening, on top of the manure. This will still leave an opening in front of you. Repeat the same thing right along, being careful always to keep the opening clear for the manure, and when you come to the last spit fill in the manure which was taken from the other end and cover up with the soil taken from the opening.

By following this method, an even surface will be maintained without any trouble, and the manure will be well and deeply buried instead of sticking up in lumps above the surface to interfere later with the raking and planting of the bed.

DIGGING A ROUND BED

If the bed is to be a round one, the first thing to do is to find the centre and then drive a stout stake right into it, letting the stake

project one foot or more above the surface.

Second. Make a loop on the garden line and put it over the top of this stake and stretch the line to the outer edge of the bed. Make a loop here again and place it around the handle of the edging knife, just above the blade. Keep your line taut and cut the edge right around. By this means you will describe a complete circle quickly and correctly.

Third. Beginning at one side of the bed take off a strip of manure twelve inches wide (as in the case of the square bed) half way across the bed, i. e., a continuous strip from the edge to the stake in the middle.

Fourth. Take out a spadeful of soil as in the other case for an opening. Proceed as before by putting your manure in the bottom and the soil on top, but in this case make a complete circle and finish at the point where you began. The important point is never to pass the centre stake. Mind this and you will surely end in good style where you started.

WHY THE CENTRE SHOULD BE HIGHER

Keep the centre of the bed highest, and if the opening should get filled towards the edge, throw a spadeful or two to the middle. It is much easier when you come to rake the bed. A round or oval bed should always be mound shaped, and indeed, all flower beds should slope up from the edge more or less. A flat bed never shows off as well. You have to stand almost on top of it in order to see it properly, while a well mounded bed can readily be seen from a distance.

Another important point is to have the edge of the bed one or two inches lower than the lawn, or you will have trouble keeping the edge trimmed.

Raking is usually a laborious job but it ought not to be if the spading was thoroughly done. The holes and lumps should all be regulated with the spade, and the only thing left for the rake to do should be a light scratching to pulverize the surface.

There should not be any moving backward

or forward of the soil with the rake, but it should pass over the surface lightly like a comb, leaving no ripple or furrow and merely catching any stone or other material that is too large to pass through the teeth. This is the hardest of all the manual part to learn. One can always tell an adept workman by the way he handles a rake.

PLANTING—MINUTE INSTRUCTIONS

Whenever planting a bed of formal design, first draw the plan on the bed with a sharp-pointed stick, just as you would on paper, and then plant each variety separately to make sure there is no mixing of plants.

In the case of a square bed, line it off with the garden line, and plant one line at a time, marking off the distances apart before laying the plant down. If the bed is round, use a central stake, as in digging, and the garden line with a loop in it. Begin in the middle and draw two or three circles before beginning to plant.

If the bed be a large one, get two or three boards to stand on, or you will make holes with your feet that will be hard to fill. The boards need not reach quite to the centre as you can always stretch a foot or two.

When two or three lines have been drawn, pull out the stake and set a plant in its place, level off the surface between this and the next line before commencing to plant, and so on. Pull the boards back as you finish each line. The experienced operator can always measure the distance between the plants with his eye, but the amateur should not attempt this. Measure the distances accurately and mark off each place before knocking the plants out of the pots. Then knock out enough plants at one time to finish each line. In this way you will do the work much more quickly and the roots will not have a chance to become injured from drying.

REMOVING PLANTS FROM POTS

The easiest way to get the plants out of the pots is to stick your spade or spading fork as far as you can into the lawn or bed,

leaving the handle standing up perfectly straight.

Take the bottom of the flower pot in your right hand and place your left hand over the top, letting the tips of your fingers rest on the soil, with the stems of the plant resting between the index and middle fingers.

Then turn the plant and pot upside down and give the edge of the pot a few gentle taps on the spade handle. The plant and ball of earth will slide out with very little trouble and be secure in your left hand; the empty pot in the right.

AN INGENIOUS HOME-MADE COMPASS

After two or three lines have been set, it will be impossible to use the centre stake as a guide. The line would break the plants already set. For marking off the lines nearest the edge, a rough form of compass is very useful. This may be made of three pieces of lath, sharpening two of the ends for points. Drive a nail through the other two ends, so that the points can be moved to any distance you wish. Nail the other lath in the middle of either one of the others. This is the guide.

Stretch the points then as far as you want them and join the other end of the guide to the second leg of the compass. Place one point at the edge of the bed, stretching the other point into the bed in the place where you want to make the line. Then move around the bed pulling the compass after you. This will make a circle at an equal distance from the edge of the bed all the way around. Mark off the distance between the plants as before for the next line. Reduce the width of the compass to whatever distance is desired and so on until the bed is finished.

This compass is the handiest means of drawing irregular lines in such a bed. It is also very useful in drawing geometrical designs, if such planting is to be done.

MAKING THE HOLES

If the bed has been thoroughly prepared, it will be an easy matter to make the holes for each plant, as the ground is quite loose. Hold the handle of the trowel in your right hand with the blade pointing downwards as you would a dagger. Drive this into the ground directly on the top of the line with one stroke. At the same time, hold your plant in your left hand. Pull the trowel and soil toward you and before the loose soil has time to fall back into the hole thus made, put the plant into it. It is the work of a second. One stroke of the trowel should make a hole sufficiently large to hold the ball of earth out of a 4-inch pot. When planting, set the top of the ball from one to two inches below the surface of the ground. With the back of the trowel, push the soil back and then firm it down with both hands, but don't make it too firm as you are liable to injure the plant. All that is needed is to have the earth well packed around the ball. A good watering after planting will settle the soil sufficiently.

SUGGESTIONS FOR ARRANGING THE PLANTS

A good combination for sub-tropical effect is tall-growing cannas, with a few castor oil

plants in the middle, edged with elephants' ear (*Colocasia antiquorum*, var. *esulentum*, usually spoken of by the florists as *Caladium esulentum*). Set the castor-oil plants about three feet apart each way; the tall cannas (e. g. Austria, Burbank, Florence Vaughan, Beauté Poitevine or Queen Charlotte), two and one-half feet apart each way; and elephants' ears one and a half feet apart.

The dwarf cannas, such as Tarrytown, Express, Mont Blanc, Buttercup and Charles Henderson, may be planted from one and one-half to two feet apart each way.

For yellow effects, the tall-growing cannas, Austria, Queen Charlotte or Premier are best. For scarlet, Sam Trelease and Florence Vaughan are best.

Of the more dwarf varieties, Buttercup is by far the best yellow. It grows only from one and one-half to two feet high and makes a beautiful edging plant.

The best dwarf scarlets are Tarrytown, Express and Charles Henderson in the order named.

In planting a canna bed, it is best to stick to one, or at least, two colors, as mixed colors do not show to good advantage. However, the centre may be all of scarlet with Buttercup for an edging; or the centre may be composed of any of the tall-growing yellows with Black Beauty or King Humbert (dark-leaved varieties) for an edging. Another good edging for a canna bed is fine-leaved grasses—*Pennisetum villosum*, (known in the trade as *P. longistylum*), or purple fountain grass (*P. Rueppelii*). These may be planted a foot apart.

A very brilliant effect can be had by making a solid bed of scarlet sage (*Salvia splendens*). This does not come into flower until rather late and gives the vividest red we have. It is also very useful as a cut flower. This bed



Rose moss or portulaca goes to sleep in the afternoon, but will grow in the poorest sandy soil and has many brilliant colors

can be edged with dusty miller (*Centaurea gymnocarpa*).

Rubber plants (*Ficus elastica*), make a good base for a sub-tropical bed, using grasses or any of the highly colored acalyphas for an edging.

A very pretty bed can be made of various cacti, century plants and sedums with echeverias for edging, but the edging must be planted after a geometrical design to give the best effect.

Among flowering plants for summer bedding, geraniums have few equals, and if planted in poor soil will flower the whole summer through. The best varieties for this purpose are S. A. Nutt (double scarlet), General Grant (double red), Beauté Poitevine (double salmon) and Jean Viaud (double pink). The silver-leaved, dwarf-growing variety Madame Salleroy makes the most suitable edging for a geranium bed, but can only be used with red and scarlet varieties. Sweet alyssum also makes a pretty bed with these same colored geraniums. Dwarf blue ageratum may be used with white geraniums. Dwarf scarlet nasturtiums may be used with white and also pink varieties.



Cacti are essentially curiosities and ought, therefore, to be secluded. Their lines do not harmonize with those of architecture and soften them as cannas do. Put them in the garden

The geraniums may all be planted about fifteen inches each way; Madame Salleri, for an edging, about ten to twelve inches; sweet alyssum, nasturtiums and ageratum about eight to ten inches.

Begonias are very suitable subjects for summer bedding. The taller varieties, such as *B. coccinea* (*B. rubra* of gardens), or the metallica type make a good centre or background with the free-flowering semperflorens and Vernon types in the foreground, and the Erdfordii varieties (such as *Erdfordii gracilis*, *rosea* and *Fairy Queen*) for an edging. These begonias do well in a partially shaded place but do not flower as freely as in the sun. The larger varieties may be planted eighteen inches apart and the dwarf ones about twelve inches apart.

For foliage effect, coleus gives the greatest variety. Golden Bedder and Yellow Ver-

schäffelti are the best yellows, Verschäffelti the best red and Hero the best dark. They are best used for formal design work but can also be used for bedding. They also will do well in a mixed bed having such things as Thompsoni, Souvenir de Bon and Savitzi abutilons with their variegated leaves in the middle, and acalyphas or achyranthes next to them; then a broad belt, say two or three lines of coleus, with alternantheras for an edging. When used in this way, plant two or three rows of one color next to one another, as single narrow lines of one thing makes a bed look too patchy.

A beautiful bed may be made of verbenas alone planted ten inches apart, and heliotropes also look very well when planted *en masse*. I have seen a very pretty bed made of standard heliotropes. These are plants trained to a single stem. The stem is three or

four feet high with a bushy top, and a groundwork of low dwarf plants. Such a bed is very pretty and the flowers useful for cutting.

Petunias are excellent for solid planting but they do not look well when mixed with other things. Examples are endless and we could go on with enough to fill a volume.

A very attractive bed of the house plants may be arranged outdoors. Such plants as palms, screw pines (*Pandanus*) Norfolk pine, (*Araucaria*) all of which will do better outdoors during the summer in shaded or sheltered place than if kept in the house the entire year, but sink the pots in the soil to the rims. For edging use some such plant as palm grass (*Panicum plicatum*) or the so-called variegated panicum (*Oplismenus Burmannii*).

To avoid injury from late frosts do not put any of these plants outdoors until after June 1.

What to do With Old Bulbs—By John Dunbar, Rochester N. Y.

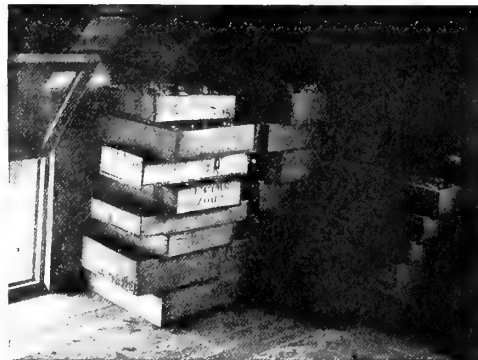
TAKE UP YOUR TULIPS, HYACINTHS AND DAFFODILS FROM FORMAL FLOWER BEDS BEFORE JUNE 1st, TO MAKE ROOM FOR BEDDING PLANTS, AND STORE THE LARGE BULBS AS HERE DIRECTED

AS THE quantity of bulbs imported from Holland is annually increasing, it seems a fair inference that there must be a great deterioration in quality and a large amount of waste in their cultivation, or else our Dutch friends could not transact the large amount of business they do amongst us every year.

We do not contend that tulips, hyacinths, crocuses and many varieties of narcissus can be perpetuated indefinitely, even with the best care, without a certain amount of annual deterioration and loss. The experience of the best horticulturists and gardeners proves that tulips and hyacinths particularly will decrease in numbers and quality.

In saving over old bulbs at Highland Park, Rochester, N. Y., I have tried different methods with varying results, and the plan now in operation I consider the best in giving me quantity, quality and ease of handling.

Tulips and hyacinths, when planted in formal beds, must be lifted in order to get the beds properly prepared for summer bedding plants. It cannot be otherwise, because it is necessary to manure, dig and perhaps rearrange the grade of the beds. In areas, and informal beds amongst shrubs, where annuals may be largely planted, it is



After the bulbs have been cleaned, stack them like this in a cool, dry, well-ventilated room

in some kind of design, it is necessary to prevent mixtures. When the bulbs are blooming and before the decaying flower stems or seed pods have been cut (and they should be removed as soon as they are through blooming) outline clearly the different varieties or groups in the beds by making a depressed mark with the end of a rake handle or by laying a piece of stout cord, or a series of narrow slat strips to indicate the lines of demarcation. Of course, each variety should be plainly labeled.

As soon as the stems begin to turn yellow and show evidences of ripening I start to lift the bulbs. A light spade or spading fork is placed behind the bulbs, the bulbs lifted with the decaying stems attached and placed in seed flats 22 x 14 x 3½ in. (but any convenient size will do), and packed closely together, a label bearing the name of the variety being placed in the flat. The flats are placed on the floor of a shed loft and the windows and ventilators left open. Here in a short time they soon get thoroughly dried. If there is a large number of flats and floor space limited you may pile the flats one above another, but be sure to place large cleats between them to allow the air to pass freely.

not so necessary to lift the bulbs, as the annuals can be planted on top of the bulbs, and the bulbs left undisturbed for two or three years. I have frequently done this, but my experience of late years has not been favorable to this treatment of tulips and hyacinths. The most satisfactory results are obtained by lifting the bulbs no matter what conditions they are planted under, at least in this part of the world.

In formal beds where there may be two or three colors or varieties blended together



Dig your tulips towards the end of May to make room for summer bedding plants



Lay the bulbs this way to economize space while securing perfect ventilation for all



Stack the flats like this. An ideal place for drying bulbs, cool, dry, well ventilated, roomy



If you are cramped for room, you can stack them this way for ventilation



Showing tulip bulbs in various stages of cleaning; also what is saved and what discarded



A flat of hyacinth bulbs preserved by the method recommended in this article

On wet days the workmen remove the stems and all loose old skins from the bulbs and throw out anything that looks like a diseased bulb. Also the numerous bulblets, that form in connection with the large bulbs are all discarded. Only those are saved that are plump, round, and well-developed and give indications of good flowers. When they are cleaned, they are kept in the flats on the floor of this loft, and kept well ventilated and cool until planting time in October and November. I succeed better by this method of treatment than by any other I have tried, in retaining those healthy chestnut-brown skins on the tulips, that are so conspicuous on bulbs received from Holland every year.

In gardens where only two or three thousand, are to be preserved, they may be tied up in paper bags and hung on the rafters as soon as they have dried in a cool airy shed. I have seen them do very well in this way, but I believe, it is much safer to spread them out in flats, as there is always a liability to "sweat," and decay when the bulbs are up in bags, and much damage may be done before the trouble is observed.

A close watch must also be kept on mice and rats. I never used to be troubled with these rodents to any extent, until the last few years, when they seem to have developed a sudden appetite for tulips, and I have to fight them with traps and poison or they would soon cause extensive losses.

The question is often raised, how about those numerous bulblets or offsets that form in connection with the old bulbs? Cannot they be raised or propagated and keep up an unfailling and increasing supply?

It takes two to three years for offsets to form first-class flowering bulbs, and during this time they must be carefully cultivated

in a warm, light loamy, well drained moist soil.

There are many places on this continent where Dutch bulbs can be successfully grown on a more or less limited scale for private use, or to supply the market, but the conditions in labor, environment, etc., are so much more favorable in Holland, that the raising of tulips and other bulbs here will not be profitable, at least for a long time. Yet I am aware that attempts have been made in some parts of the South, and the West, and perhaps are still in progress, to grow tulips and other bulbs as an industry, but to what extent those engaged in it have made it profitable I have never been able to ascertain, and at least they do not appear to have any appreciable effect on the bulb supply of this country.

As for private gardens and public parks attempting to raise their own bulbs for a permanent supply, it would clearly be a case of "penny wise and pound foolish," as first-class bulbs can be bought much more cheaply from Holland considering the labor entailed in handling them here, even admitting that they could be successfully raised in quantity.

Any one who wishes to try as a diversion the raising of tulips from offsets should plant them in a bed in the garden in light well-drained soil about five inches between the rows and two to three inches between the bulbs. If they produce miniature flower stems remove them until they are three years old.

As a general rule hyacinths deteriorate much more rapidly than tulips. Even when carefully saved the flowers are seldom as large the second year as the first, but it pays to save them, and for a number of years they

will produce flower spikes quite freely, which are very handy for cutting, although gradually diminishing in size. The propagation and increase of hyacinths is a much more difficult matter than that of tulips, and I am not aware that it has ever been attempted in this country.

Many varieties of hardy narcissus can as a rule be much more easily perpetuated in this country than either tulips or hyacinths. The various forms of poet's narcissus and the jonquils will stand unmolested and flower freely and vigorously for many years. I have had them growing in the sod for a long time and apparently increasing in vigor each year. I endeavor to plant them in position where they need not be disturbed. As a rule most of the hardy, large-trumpet daffodils and medium-crowned varieties of narcissus, if planted in proper conditions, will do well for two or three years, but as soon as they show signs of weakness and decrepitude they must be lifted, dried and rested until the following fall.

In lifting narcissus it is very important to wait until the foliage has entirely died down and the bulbs have ripened, and the flower buds have formed for the following year.

I have frequently been asked why daffodils have failed to flower after they have been lifted and replanted, when they appeared to be strong bulbs. The trouble has been the lifting of them before they have entirely gone to rest. When for various reasons I have to lift different kinds of daffodils out of beds, they are given exactly the same treatment as the tulips receive. The poet's narcissus, jonquil, and Van Sion daffodils can be increased readily by offsets, and large quantities of them can soon be obtained.



A flat of tulip bulbs after the tops have been removed and before cleaning



After cleaning by this method, showing how well the beautiful brown coats have been preserved



After cleaning by another method, showing how few of the skins are preserved

Annual Flowers for June Sowing—By Thomas McAdam

HOW BELATED MOVERS MAY BEGIN A GARDEN IN JUNE AND HOW OLD-TIMERS MAY HAVE PLENTY OF FLOWERS IN SEPTEMBER WHEN GARDENS ORDINARILY BEGIN TO FAIL

[EDITOR'S NOTE.—THE GARDEN MAGAZINE offers two prizes of \$10 each for the best narratives of personal experience derived from following out the suggestion made below. One prize is for beginners who will sow the common kinds in June. The other is for amateurs, not beginners, who will try some of the less common flowers here mentioned. Latest date for articles November 1st. Each article must be accompanied by at least one photograph proving the success.]

THERE are some annual flowers, like sweet alyssum, which will bloom in thirty days from the time the seed is sown. Most of the flowers mentioned in this article will begin to bloom in August, if sown in June; a few will begin in September and all of them will have a good long season of bloom before frost.

The annuals for June sowing fall into four groups: 1. Those which ought not to be sown outdoors until June, viz. portulaca and scarlet sage. 2. Those which many people like to have every month in the year, e.g. mignonette and pansies. 3. The great, universal favorites which mature quickly enough so that late beginners may sow them in June for August bloom. These are also the very ones that are likely to cease blooming in September from April-sown seed and therefore we should sow them all in June in order to give new life to our gardens when they ordinarily begin to fail. Examples: marigolds, annual phlox, annual coreopsis, California poppy, zinnia. 4. The less common annuals which will bloom in September from June-sown seed and give variety of color and form to our gardens when they are ordinarily reduced to few types and run too much to yellows.

For the convenience of the reader all but the less common kinds are here treated in alphabetical order.

Alyssum (*A. maritimum*), is the best white-flowered edging plant of its height, because it will bloom twenty weeks if not allowed to go to seed and will bloom after frost. Blooms a shorter time if transplanted; therefore, sow where it is to remain. Will bloom in thirty days. Little Gem is a favorite for edging because it is compact and only six inches high.

California poppy (*Eschscholzia Californica*). Gives scattering bloom all summer and even after frost, and if protected in winter will bloom a second year. Often self sows. Good edger because of finely cut foliage, but most brilliant when used alone in rather large beds. Broadcast thinly and rake in lightly.

Calliopsis (*Coreopsis tinctoria*, but known to seedsmen as *Calliopsis elegans*) gives us the best browns, with or without yellow, that we have among cultivated flowers.

Candytuft (*Iberis amara* and its variety known to the trade as *I. coronaria*) has the same color, shape and height as alyssum but lacks fragrance and only blooms four to eight weeks. The only inducement to grow it in addition to alyssum is the candelabrum-like clusters. Don't transplant. Sow Little Prince (height six inches) where it is to remain, and thin when one inch high to four by eight inches.

Love-in-a-mist (*Nigella Damascena*), in spite of its daintily cut foliage and pretty blue flowers is primarily a curiosity and will charm every new generation of children as long as the race survives.

Marigolds, French and African (*Tagetes patula* and *erecta*). These have only three colors (yellow, lemon and orange), their form is commonplace and the smell of their herbage is too pungent for many. Their strong point is their extraordinary profusion of bloom over a long season and therefore they are invaluable for gay and brilliant mass effects. One of the most reliable flowers after frost.

Mignonette (*Reseda odorata*) is the most popular flower grown solely for fragrance. Its great weakness is its short season of bloom as it quickly runs to seed in hot weather. Therefore, select moist soil and water freely. As house and garden ought to be fragrant every day and night of the season, many people sow mignonette every ten days until July 1st. Because of its lack of beauty and desirability for cutting it is best grown in the vegetable garden where it can be grown in larger quantities and with less care. Don't transplant it.

Nasturtiums (*Tropaeolum majus*), ought

not to be sown outdoors before May 15th and as they dislike transplanting should be sown where they are to stand. I have never had them cease blooming before frost, but why not make an extra sowing of them in the vegetable garden in June and pickle the young pods? They are delicious.

Pansies undoubtedly make the best show when sown in autumn for early spring bloom. When sown in early spring they give scattering bloom all summer. When sown in June they will give a good show in early autumn.

Annual phlox (*Phlox Drummondii*) is noted for its extraordinary range of colors, precision of markings and perfection of form. Get the most expensive seed you can buy and enjoy the results of plant breeding.

Pot marigold (*Calendula officinalis*) is rather coarse, but very welcome after a hard frost.

Rose moss (*Portulaca grandiflora*) stubbornly refuses to germinate until June 1st. It has some atrocious magentas and closes in the afternoon, but will grow anywhere, carpets the ground to perfection, comes in ten colors, has extraordinary brilliancy, blooms amazingly right through a drought and can be transplanted in full flower to fill unexpected gaps elsewhere. It does best in hot, sandy soil and you ought to give each strong plant a foot each way to spread.

Scarlet sage (*Salvia splendens*) is commonly sown indoors in March, because of the universal habit of trying to get everything early whether there is any reason for it or not. Scarlet sage in July and August makes a garden look too hot. A big mass of it in the dog days is blinding, gaudy and monotonous. Let it light up the cool days of September for you. It is not safe to sow it outdoors near New York until June 1st.

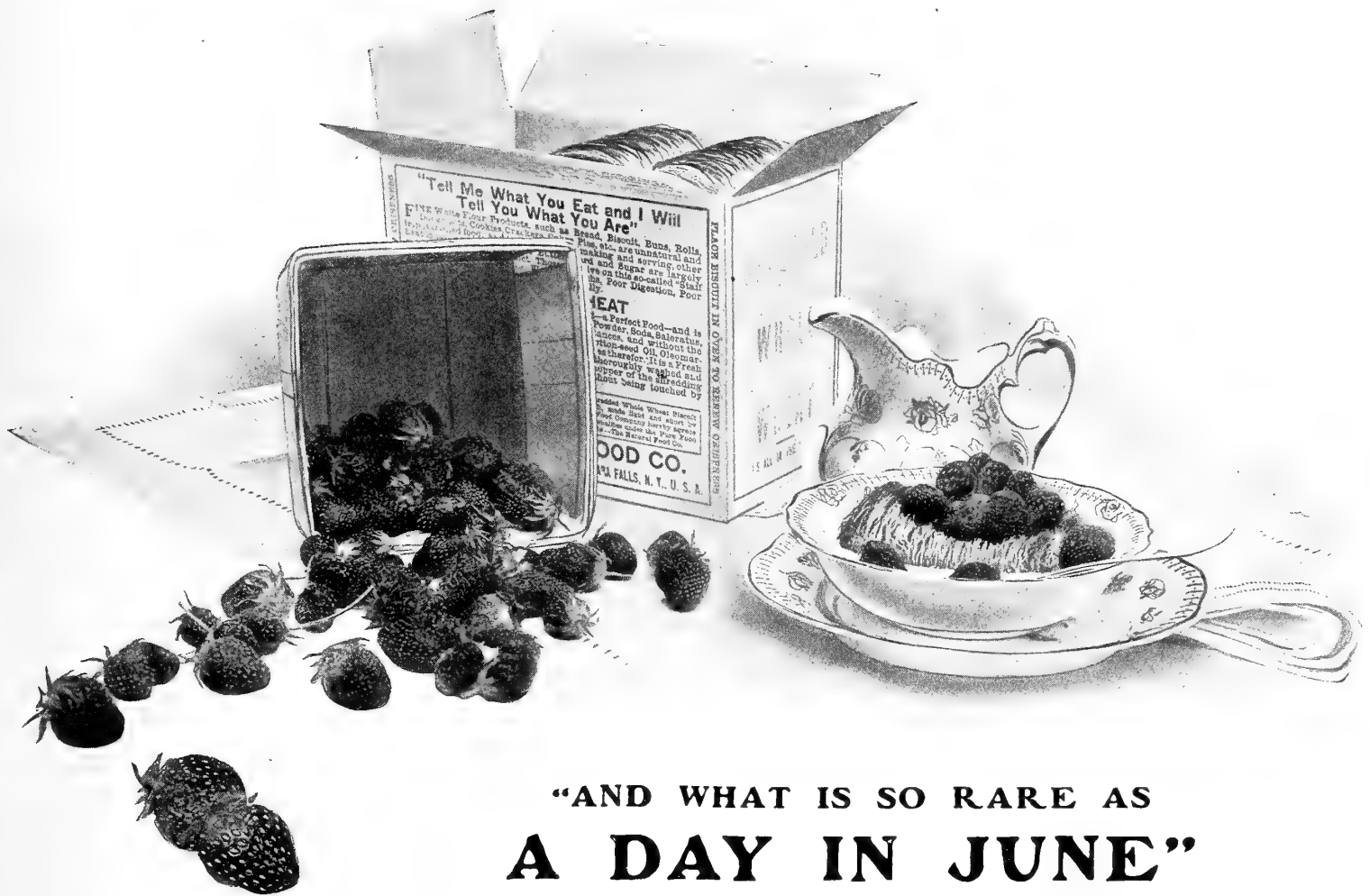
Zinnias are stiff and coarse and some of their colors are metallic. Also there is no pleasure in growing a cheap strain, for the flowers will be flat and ragged. However, zinnias will produce more brilliant mass effects for less care and for a longer season than phlox or any other annual. They have at least a dozen colors, and high-priced seed will give high-bred flowers whose great size, perfection of form, depth of head and numerous petals are a joy to see at close range.

THE LESS COMMON KINDS

These are worth trying but we have no space in which to describe them. *Calceolaria scabiosajolia*, *Campanula macrostyla*, *Centaurea moschata* and *C. suaveolens*, *Euphorbia marginata*, godetias, *Gypsophila elegans*, *Lupinus mutabilis* and *L. Cruikshanksii*, *Nemophila insignis*, *Sanvitalia procumbens*, var. *flore-pleno*, and *Saponaria Calabrica*.



Love-in-a-mist (*Nigella Damascena*) has finely divided foliage; grows one to two feet high; 16 flowers, white, blue or yellow; showy



“AND WHAT IS SO RARE AS
A DAY IN JUNE”

WITH SHREDDED WHEAT AND STRAWBERRIES

FOR strawberries or other fruit make a basket of the biscuit by crushing in top with bowl of teaspoon.

The red ripeness and savory sweetness of the luscious strawberry combined with the purest, cleanest and best cereal in the world—SHREDDED WHEAT. A joy to jaded palates; a boon to bilious livers.

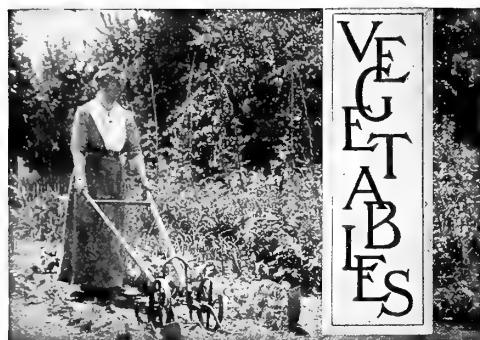
The porous shreds take up and neutralize the fruit acid, holding the delicious aroma of the berry, presenting a wholesome combination that will not disturb the weakest stomach. More digestible and more nourishing than the soggy white flour dough used in making ordinary short-cake. Serve with cream and sugar.

SHREDDED WHEAT contains all the brain-building, muscle-making material in the whole wheat made digestible by steam-cooking, shredding and baking. Contains more nutriment than corn or oats and is more easily digested.

If you like SHREDDED WHEAT BISCUIT you will like TRISCUIT, the Shredded wheat wafer. It is used as a Toast with butter, cheese or marmalades. An ideal food for flat dwellers, light house-keepers, campers, for picnics, for excursions on land or on sea. The best of all wafers for chafing dish cookery. The “Vital Question Cook Book” is sent free.

The Natural Food Company

Niagara Falls, N. Y.



Sugary Southern Sweet Potatoes in the North

[NOTE.—Twenty-five dollars will be paid for the best article by a Northern amateur who will grow this style of sweet potato in 1907 with entire satisfaction and success. Six photographs desired.]

EVERYBODY knows that Southerners scorn the dry, starchy potatoes that Northerners eat, because they are deficient in sweetness. One reason why Northerners cannot get the soft, sugary varieties of the South is that they do not ship well or keep well. Therefore, this type should be raised in Northern gardens. We are confident that it can be done with satisfaction by amateurs as far north as Boston, Toronto, Minneapolis, Omaha and Seattle. Of course, the crop will not be heavy, but sweet-potato pie and fried sugary potatoes are far ahead of mere boiled sweet potatoes. Moreover, the sugary type is adapted for baking, while the mealy type is not. Anyone can get a Farmers' Bulletin on sweet potato culture from the United States Department of Agriculture, Washington, D. C. The Readers' Service Department of THE GARDEN MAGAZINE will inform anyone who is interested where plants may be obtained. *It is necessary to act at once.* Only the varieties recommended by Professor Starnes are to be used. Nansmond will not do. The following are the best replies received to several letters of inquiry.

A SOUTHERN PROFESSOR'S ADVICE

The difference between the starchy sweet potato and the sugary Southern type is due to variety and not to soil or section. Any variety of the Jersey strain—as Big Stem Jersey, Yellow Jersey, Red Jersey or White Nansmond—removed from the shores of Delaware Bay to South Georgia, will reproduce itself with unimpaired starch content and with but slightly increased sugar content. Conversely, the Georgia removed from Savannah to Long Island will lose but little, if any, of its sugar content and add nothing to its starch, while the characteristic flavor of either will not be perceptibly changed. The effect of soil or even climate—within reasonable limits—will be found but slight, at first. In course of time it may induce some modification. This will be more readily understood when it is realized that new varieties of the sweet potato are the result almost entirely of "bud variation."

The reason sugary potatoes are not grown as far north as San Francisco, Chicago or even Boston is ethnological, and neither botanical nor climatic. The market gardener

will not plant them because the public doesn't want them and therefore will not buy them. Nor will the housekeeper of Savannah or Mobile or New Orleans buy the starchy Nansmond strains—what Henry Grady used to term "Jersey punk."

For over two centuries the Southern kitchen (of the higher type) has been dominated by the African—by nature one of the best cooks the world has ever produced. What "old mauma" cooked "went." But "old mauma's" race has notoriously a "sweet tooth" that would shame a plantigrade, and it would have been more than miraculous if she had failed—in two centuries—to impose her own saccharine tastes and her wonderful sugary confections upon the generations to which she ministered—God bless her dear old memory! For "she caught 'em young."

Additionally, for climatic reasons it was easier at first to grow Irish potatoes at the North than sweet potatoes, and easier to grow sweet potatoes at the South than Irish potatoes. Each section followed naturally the line of least resistance. The Northerner therefore inherited, as time passed, a taste or predisposition for the dry, mealy, starchy characteristics to which he was accustomed in the Irish potato. This on occasion he extended to the sweet potato also—and so were differentiated and finally crystallized the dietetic preference and demand of the two sections.

Yet the taste for the sugary type of sweet potato at the South is not universal. Many, of uninterrupted heredity and training, prefer the mealy type—especially with butter or milk—while the old "blue-fleshed," "red-skinned," Black Spanish of our boyhood days is something to be now realized only in our dreams!

Nor are all Southern potatoes sugary. There are two main types—the saccharine and turpentine. Of the saccharine type, the best in quality, but not usually productive, there are the three main strains: Georgia, pumpkin and vineless (or bunch). They were originally varieties, but differentiation has slowly crept in to such an extent that they must now be termed "strains." The Sugar Yam and Yellow Yam are but offshoots of the Georgia. Indeed, without inaccuracy, they may still be considered synonyms.

The vineless or bunch is comparatively a newcomer—unquestionably an offshoot or "bud variation," originally, from Georgia. At first strictly a variety, it has differentiated into a "strain" and there are scores of vineless over the South—some good, some bad and some indifferent. Even pumpkin—once so distinct—with its deep-colored flesh—has widely differentiated and there may be now had the Vineless Pumpkin and the Split-leafed (lobed) Pumpkin, in addition to the original form with "shouldered" leaf.

The other principal Southern type is a heavy producer of large coarse tubers used chiefly for stock feeding and known as the turpentine strain. To it belong Southern Queen, St. Domingo and the like. It exudes heavily a resinous sap which gives the strain its name, and is not valued except for its productiveness. There are other minor

types as the Spanish strain, to which belong the old Black Spanish and Orleans Red or Nigger Killer—but this is not intended to be a technical paper, and the enumeration already made covers the best market types. Neither Barbadoes nor Hayman are of good quality, though the latter produces large crops.

Tennessee Yam is a memory. For all practical purposes it is obsolete. The original Tennessee had a "shouldered" not a "split" leaf. Later a type with deeply lobed leaves appeared under the same name, and the original type, having meanwhile sadly deteriorated, dropped out of sight.

There is not the least reason in the world why the sugary type of sweet potato may not be grown by amateurs in the North, particularly New Jersey or Long Island. There are no climatic or horticultural obstacles in the way. As the hair- tonic man says: "Try it and be convinced." But you must have a sandy soil and plenty of hot sunshine.

Georgia. HUGH N. STARNES.

A NORTHERNER'S EXPERIENCE

Have you not stated what is contrary to existing facts? I have lived in the South and also here in the North; I have eaten sweet potatoes brought from the South and stored at home during the fall and winter. I have found them to be very dry and sweet but not as high in quality as most of those raised farther North!

I have grown sweet potatoes that are fully as sweet as the Southern ones but more watery and in my opinion more palatable and nutritious than Southern grown potatoes of the same variety. The great essential requirement is a sandy soil. If grown in heavy loam the potatoes are destitute of sweetness.

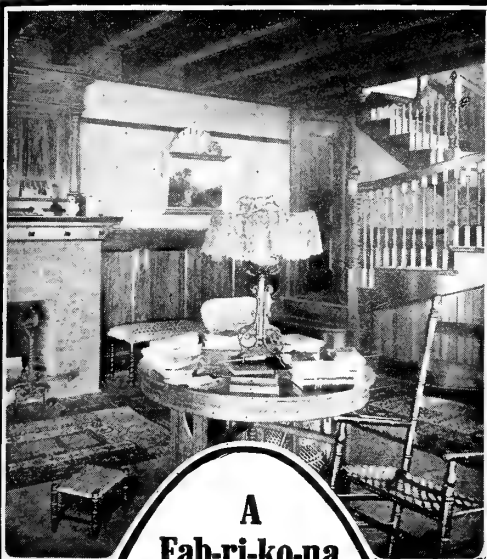
They may be grown as far north as Boston but *must be planted the last* of May. I have grown large sized tubers of Big Stem, Yellow and Red Nansmonds and Harrison Seedling as well as the Bush Vineless, but my soil is just suited for them. Hayman and Vineless are both good but the season is not quite long enough to grow them to full size. Pearson and Harrison's Seedling improve in flavor as the season advances and the latter (a white variety) is not good until late. It is excellent for baking.

Long Island, N. Y. E. STANLEY BROWN.

Are Your Larkspurs Diseased?

If your larkspurs are diseased, please send specimens with your name and address to Dr. Erwin T. Smith, U. S. Department of Agriculture, who wants to know how widely this mysterious disease has spread. He is trying to find a remedy for it. Meanwhile he says: "If I had plants very badly attacked by it, I should remove and destroy them, and the remainder I should spray with copper fungicides, hoping that this might prove a remedy."

The disease attacks the growing point just at the time that the flower should be produced, completely crippling it and causing black patches.



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If your dealer offers you a substitute, say to him, "No, thank you; I want what I asked for. Good-bye." Trade with the dealer who gives you what you ask for. That's JAP-A-LAC. Write for beautiful illustrated booklet and interesting color card. FREE for the asking.

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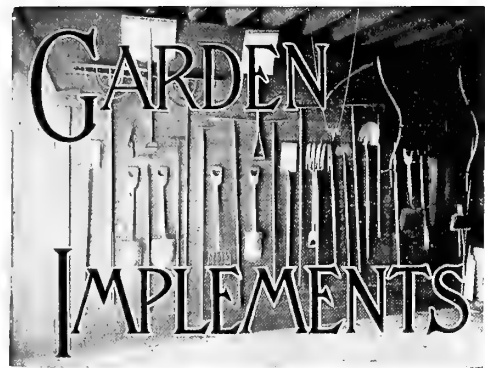
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Cabot's Shingling "Quilt" Makes Warm Houses



Clark & Russell, Architects, Boston



Tools that Help in June

THE two big jobs of June in the vegetable garden are thinning and cultivating. It is a waste of time, strength and temper to do these things in the heat of the day with the old-fashioned tools—hoe and hand-weeder. Both operations are best performed at dusk or in the cool of the morning by the wheel hoe, which does away with stooping and backache, and transforms work into play. There are many farm implements, but only one garden implement, that can be called revolutionary. The best wheel hoe I know of costs \$7. This may seem a lot of money, but I believe the implement pays for itself the first season. If you have a wheel hoe, you need never bother about the dozens of specialized hoes, rakes, cultivators, weeders and curious combination implements, for buying a wheel hoe is like buying all your garden tools at once.

This \$7 wheel hoe has two wheels. The single wheel hoe costs only \$5.85, but it is worth more than \$1.15 extra to have two wheels, because they run steadier and enable you to straddle a row so that you can get closer to the plants. They tell me that the \$9 size is the favorite, but I consider the extra \$2 for additional rakes and hoes a waste of money for the ordinary home garden. The costliest attachment of all is the drill, which is only for market gardeners. I find the fine rakes of little use. The most useful feature in my opinion is the scuffle hoe and the large cultivator teeth come next. These are the ones that enable you to maintain the all important soil mulch in your garden with the least effort. The former simply cuts under like a hoe but with a continuous motion so that it furnishes the quickest and easiest way to cultivate your garden. The teeth, however, do a more thorough and lasting job because they scratch, like a rake. They require more muscle and you go "steady by jerks."

If you think you cannot afford a wheel hoe, you should get cheap hand tools that are better adapted to making and maintaining the surface mulch than are the common hoe and rake. You can get an 8-inch scuffle hoe, with a handle and a V-shaped blade which has the sides turned up to prevent cutting off plants, for seventy-five cents. It is not as quick as the wheel hoe, but it is twice as fast as the English scuffle hoe because it cuts both ways and perhaps four times as fast as the common, or draw hoe.

If you want something that is faster than a rake, you can get a "garden cultivator,"

for a dollar which will enable you to cultivate a 50 x 100 ft. garden after every rain in about half an hour, while a common rake will take you an hour.

June is the great time for pruning hedges. There is a new kind of shears with one edge serrated, which prevents slipping and enables one to cut wood twice as thick as ordinary shears do. They are said to be self-sharpening. The 8-inch size costs about \$1.80.

Everybody ought to protect his street trees from horses and wagons. Unfortunately some cheap tree guards are vulgarly ornate, but there are plenty of good ones to be had, and there is an expanded metal tree guard costing \$2.25 which has some simplicity and dignity. Those made to order often cost \$15.

June is the time to study trellises and training devices of all kinds, in which notable progress has been made of late years. Cucumbers and other vines require eight feet square, if allowed to lie flat, and this is too much for a small garden. Train them on poultry wire. Keep your tomatoes off the ground or they will rot. If you need stakes for dahlias, gladioli, etc., get strong ones that will be as inconspicuous as possible. It is sad to see one's loveliest peonies spattered with dirt by the rains. There is a kind of adjustable iron frame that holds up the drooping varieties, without being conspicuous.

New Jersey.

THOMAS McADAM.



Home-canned Red Raspberries

USE "Lightning" quart cans. Fill the cans with firm fresh fruit, shaking down, not pressing it. Make a syrup of one quart of water and three pounds of sugar. Place the cans in a deep pan or kettle of water, bringing it gradually to boiling heat; then fill them to the brim with the boiling syrup, fasten the covers securely, using new rubbers. Put several thicknesses of paper in the washboilers and place the cans on the paper, being careful that they do not touch, cover them with boiling water and cover the boiler. Leave them on the kitchen table until morning, then put them in the cellar.

Raspberries canned in this way retain their color, form, flavor, and fragrance, and as they have escaped the boiling process, every seed remains in its own little cell.

My method of preserving pieplant is as follows: Peel the stems, cut them in inch lengths, and fill the cans. Pour in cold water to the brim, secure the covers, using new rubbers, and put the cans in the cellar. It will be found good even after the next year's crops.

Geneva, N. Y.

ELIZABETH S. MILLER.



The Californian's Reminder

ALL plants that are natives of tropical or semi-tropical countries may now be planted or transplanted.

Inspect such plants as papyrus, *Cyperus Antiquorum* and other rhizomatous plants; if the ends of the rhizomes are lifting out of the soil, dig under them and sink them down until they are just beneath the surface.

Give cannas, calocasia, *Hedychium coronarium* (commonly called ginger plant), crinums and other tender bulbs an extra watering and feeding. The following formula is clean and does away with any objectionable odor providing it is used at the time of making: Phosphate of ammonia, two ounces; nitrate of soda, one and three-quarters ounces; nitrate of potash, one and three-quarters ounces; sulphate of ammonia, one and three-quarters ounces; water, fifty gallons. Use one gallon to each large plant twice a month or add fifty gallons more water and use it every week.

All palms do well if planted this month for the plants have the summer months in which to form new roots and to establish themselves. Specimen palms will need to have their dead or disfigured leaves sawed off. Do not remove the base of the leaf stalk that clasps the trunk, as that will injure the trunk. *Cocos plumosa* and others that have trunks like it are easily damaged by removing the base of the leaf stalk too soon. The trunk will split and never heal, causing permanent disfigurement. *Trachycarpus excelsus* and *Livistona australis* should never have the fibre removed from their trunks; allow it to decay and fall off. Never allow anyone to drive a nail into a palm trunk. I have seen a *Washingtonia* ten feet in circumference and eighteen feet high in the clear killed by driving a spike into its trunk.

Many of the annuals that were sown in March and April will now begin to show flowers, and any lack of water at this time tells seriously in the number of the flowers although it may not show so much on the plants. A mulch of old manure spread over the surface of the ground will prevent evaporation, causing the soil to retain the moisture which is of great benefit to the plants. With a mulch on the surface, half the quantity of water will be sufficient.

Dahlias are injured very easily by allowing the soil to become dry. If these plants are not mulched, lose no time in putting one on. Keep the flowers cut and do not allow any flowers to ripen seed, or any dead flowers to stay on the plants. An occasional application of liquid manure will help the plants.

Santa Barbara, Cal.

W. H. MORSE.

Aching Feet cause Nervousness and Headaches

You would understand *why* if you could see the inside of your shoe with your foot in it.

At every step your foot bends—the sole of your shoe bends scarcely at all. This continual rubbing makes your feet burn—throb—ache; and—it strains your whole nervous system, for the little nerve-cells in your feet form nerve trunks

that extend all the way up the lower limbs to the brain. Your head throbs! Trifles irritate you! You feel "tired out" without knowing the cause! It all comes from the feet.

In the RED CROSS SHOE, there is no irritation and no strain. The sole, though of regulation thickness, is flexible—it bends when the foot bends. The leather is tanned by a special process that preserves all its life and elasticity. While affording ample protection and support, the shoe moves with the foot like a glove with the hand. It is absolutely comfortable, and it relieves the dangerous strain on the nervous system.

"Can't praise them enough"

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Mrs. A. P. Warman, 112 Chestnut Ave., Trenton, N. J.

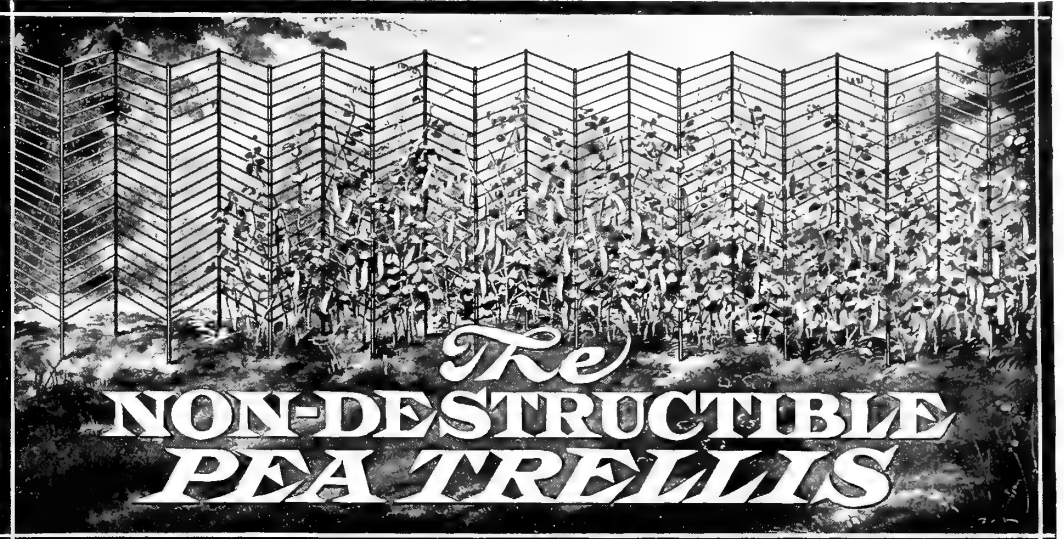


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Our free booklet, "Women To-day," shows the new Spring styles. Write for it.

Leading dealers keep the Red Cross. If yours doesn't, we will gladly send you the name of one who does. Or, we will supply you direct, fit guaranteed. If this trade-mark with the name Krohn, Fechheimer & Co. is not stamped on the sole of the shoe shown you, don't buy. Imitations have neither the style nor wearing qualities of the Red Cross. Oxfords, \$3.50; High Shoes, \$4.00.

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The Non-Destructible Pea Trellis is made of hard galvanized steel wire, in sections ten feet long and of any desired height. Five feet is the regular height for garden peas. The vertical members are heavier than the horizontals and extend a foot below the bottom wire. The verticals and horizontals are electrically welded at their intersections. So firm a joint is thereby made that it is impossible to loosen or pull them apart.

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It can't rot. The wind can't blow it over. Fire can't destroy it. It is neat in appearance and will outlast your garden.

At the end of the season, take it down and store it away. One hundred ten-foot sections only occupy a space six feet wide, ten feet long and twenty-five inches high.

Your hardware dealer will supply it.

Before buying, write to Department "L" if you wish to examine a section of the Non-Destructible Pea Trellis.

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By simply pushing sleeve forward the fine spray can be changed into a steady, solid stream, and vice versa.

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Substantially constructed of brass. Has attachment for holding on lawn when used as a sprinkler.

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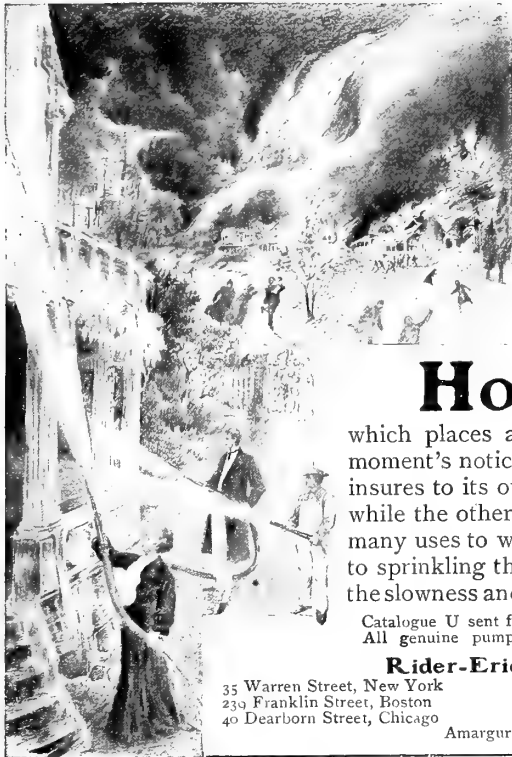
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Safety in the Suburbs

for life and property is a question of adequate water supply. If you occupy a country place, remote from a public fire department, you are *never* safe from the carelessness of servants or children, or even from a fire upon your neighbor's property, if situated closely adjacent to your own, unless you are provided with a

Hot-Air Pump

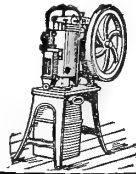
which places at your disposal an ample water supply at a moment's notice. The feeling of security which a Hot-Air Pump insures to its owner will alone repay him many times its cost, while the other advantages of owning one are as varied as the many uses to which water is daily put, from the morning bath to sprinkling the lawn and garden. It does away entirely with the slowness and expense of carrying water by hand.

Catalogue U sent free on application. Beware of imitations. All genuine pumps bear the name-plate of this company.

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Protecting Strawberries from Birds

SINCE our laws have been narrowed down so, in connection with the killing of birds, it has gotten to be quite an important matter to protect strawberries from birds, especially on private estates where the birds gather them in great numbers, on account of being unmolested.

It means a little work and expense to protect the berries, but it pays, as the birds



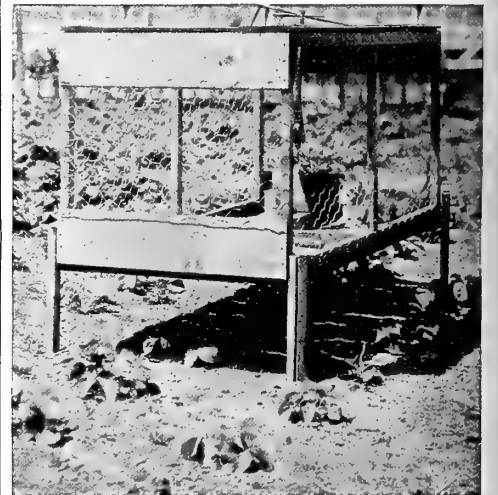
The unsatisfactory way of protecting strawberries from birds. Mosquito netting does not allow enough light and air to enter. You can get the size but not the flavor

ruin a great many berries and usually the best ones.

Scarecrows and little hand-made wind-mills that click as they turn are no good. The birds soon learn not to fear them.

Fish nets are also used, and they are very satisfactory but they are rather expensive, as you should have a trellis of some kind for the net to rest on. This should be high enough so you can go under the net to pick the fruit. If you lay the net on top of the plants it will be necessary to remove the net each time you pick the berries.

Mosquito netting is not as expensive as fish nets, but it is not so satisfactory, as there is not enough air in circulation through the netting to allow the fruit to mature properly.



Looks like a ridiculous "stunt," but is really the cheapest and best way. Make a cage, put a cat in it and the robins will not dare to touch the berries

Gillett's Ferns & Plants, For your dark shady places.

There is no corner so shady, no soil so light and sandy, but that some of our hardy ferns and flowers will thrive there.

Our long experience in growing this class of plants gives us confidence of being able to assist you in your selections.

Try also the **LADY'S SLIPPERS** for beautifying the dark corner by the porch.

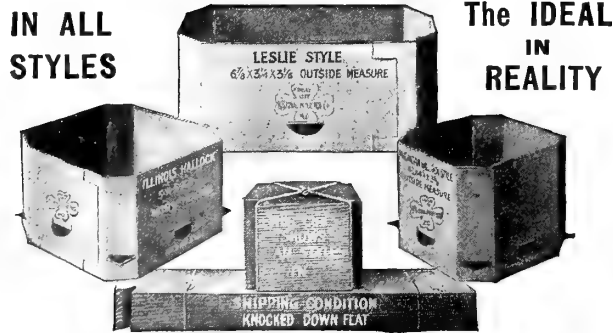
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Write for illustrated descriptive catalogue. **Edw. Gillett, - - - Southwick, Mass.**

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A Sanitary Fruit Preserving Package
The Only Approved Practical Paper Berry Box in Existence.
Folded up sample sent on receipt of 10 cents.

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Patentee will sell his rights or organize a special company. Demands are too large for present arrangements. Interested parties will please address above company.



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An absolutely sanitary bathroom is an impossibility if the floor is of wood. It is bound to be close and stuffy and unless the most exacting care is taken, will become far worse. Wood absorbs unsanitary elements, and scrubbing only makes it absorb more. Soon or late it reeks. Moreover, wood furnishes no satisfactory color, and color is the secret of clean effect.

White should predominate in your bathroom floor and its airy appearance be emphasized with blue. This effect can be produced with marble, or tilings of stone composition; but such materials are cold under foot, slippery, and unsanitary because of innumerable filth-collecting cracks between the pieces.

There is only one way of having your bathroom perfect, and that is to cover the floor with

PENNSYLVANIA INTERLOCKING RUBBER TILING

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"Old Hickory" Andrew Jackson Chair \$2.75

For comfort, serviceability, style and durability this chair is perfection. Just the thing for Porch, Lawn, and Out-door use, as the weather cannot affect it. Made entirely of genuine white hickory with beautiful natural bark finish. An exact duplicate of the **Old Andrew Jackson Chair**. Seat 17 inches wide, 15 inches deep; height over all, 36 inches. Price, \$2.75. Two for \$5.00. Freight prepaid east of Mississippi River. 120 other styles of "Old Hickory" Chairs, Settees, Tables, etc., from \$1.50 to \$25.00.

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I tried the scheme last season and it worked to perfection. I did not have six berries ruined by birds during the entire season. Robins, the worst offenders, are very much afraid of cats, and I have seen them perch around the garden and watch both the strawberry bed and the cat and conclude that the game wasn't worth it and fly off.

Anyone can give this a trial, as cats are even more plentiful than first-class strawberries!

Long Island. W. C. McCOLLOM.

A Hot-Weather Transplanting Device

DURING the hot weather one often wishes to transplant seedlings and plants but is deterred by fear of losing the plants or the work is needlessly delayed by waiting for a rainy day.

Here is a plan I have tried and found successful for several years. In the spring I save all the rakings of grass and leaves and leave them in a pile to make leaf-mold. When I wish to do any transplanting I dig either a trench or a series of holes, as the plants require, about two inches lower than most of the plant's roots will come.


Then I take some of those partly decomposed leaves and put them in a pail and wet the leaves thoroughly and place a layer of them about an inch and a half thick in the bottom of the trench or hole and then level the ground, filling in with the dirt previously removed. I set out the plants then just as anyone does earlier in the spring, using a dibble to make the holes for roots.

The wet leaves put the moisture where the plant wants it—at its roots, and the soil is not made in a hard cake around the roots which happens ordinarily when water is poured into a trench. By capillary attraction the soil becomes moist all around the plant but remains loose and the leaves hold the moisture for several days, acting much like a sponge. It is also a great saving in water which is an important item wherever it is costly or has to be carried by hand a considerable distance.

Of course, one must be very careful in digging up the plants to get as many of the roots as possible and be especially careful not to expose leaves or roots to the wind or sun during transplanting.

By this method I have done transplanting even in the morning of hot days and seldom met with a loss. If the day is very hot I put something up to shelter the plants the first day.

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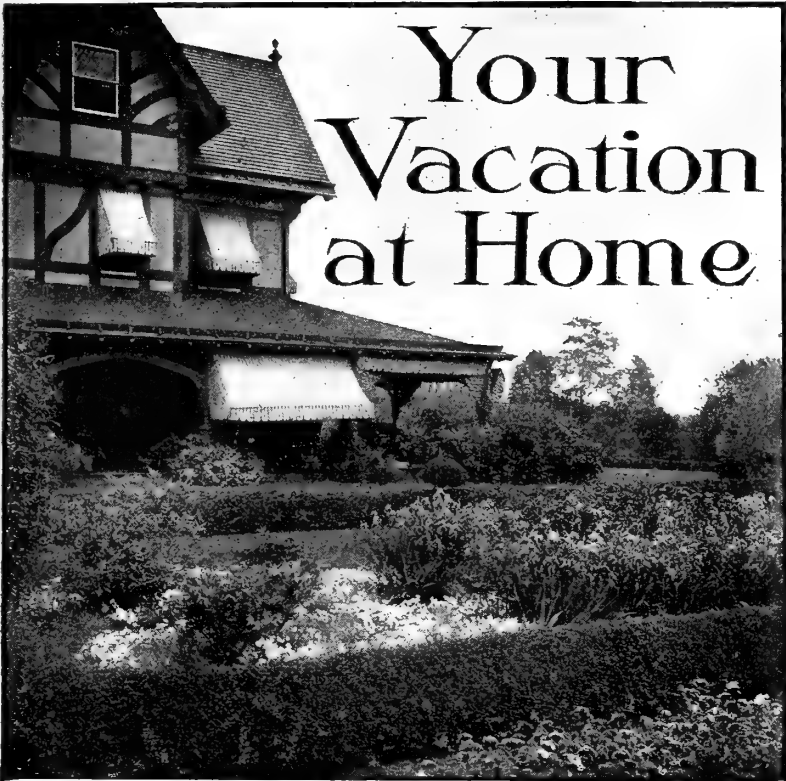
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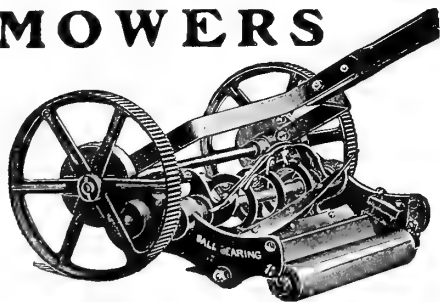
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Insecticides for June Use

THE month of June is a busy one for the amateur gardener who means to get the better of the insect host. These pests make their first big and insistent attack at this time, and unless they are rounded up sharply, all the care given to the early raising of the plants will be labor lost.

Every gardener should have ready a supply of Paris green or arsenate of lead. These two poisons, or one of them, will be practically sufficient to attack all the insects that chew the leaves or flowers. Whale oil soap or kerosene emulsion is to be used for green fly, and all other lice. The oyster shell bark louse takes its travels abroad during June and all fruit and ornamental trees where it is present should be sprayed with one of these substances. White scale on roses, the pear leaf mite, and the pea louse must be looked for daily.

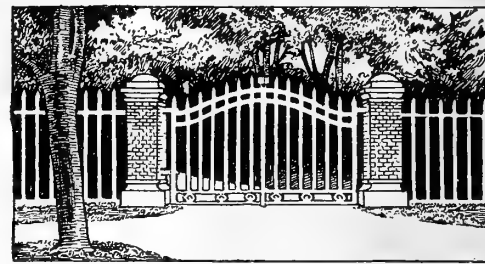
Whale oil soap offers an easy means of making an emulsion and costs about fifteen cents a pound. A pound cake will make about six gallons of solution. Kerosene emulsion can be made by using a soap like Ivory, and making a thick paste with warm water and then mixing in thoroughly one gallon of kerosene to ten or more gallons of the soapy water. It is rather troublesome to thoroughly emulsify kerosene, and very much more convenient to buy one of the ready-prepared emulsions, sold in the seed stores, which can be diluted with water as required. It costs about a dollar a gallon (65% oil); and one gallon will make anywhere from nine to twenty-five of emulsion for use.

If the harlequin bug appears on melon and squash vines, make an extra strong soap mixture for him, using one and one-half pounds to a gallon of water.

The best poison for all chewing insects is arsenic. You can be sure of killing the worm if you can get him to eat a grain of Paris green, but Paris green is not an easy thing to apply, especially in water which is much the most convenient vehicle for the amateur. In fact, you can't dissolve it. A much more practical substance is lead arsenate; it sticks on the foliage longer, but unfortunately it gives the plants the appearance of having had mildew, because lead arsenate is white. However, this objection has recently been overcome in a specially prepared form which has a green color. This costs about twenty cents a pound, which is sufficient to make about ten gallons of solution except, of course, when you are pestered (as you are bound to be, especially if you are on sandy soil) with that arch enemy of flowers, the rose chafer. These arsenate preparations will kill the rose chafer but they must be used at double the normal strength, and they must be used frequently right on, or in, the flowers.

Look out also for the currant worm, saw fly, grape berry moth, earworm on corn, potato bug, pear slug, plum curculio, and tomato worm. All of these can be killed by the arsenates.

After the strawberry crop is gathered, spray the bed for leaf blight, using Bordeaux mixture. Most amateurs balk at the use of Bordeaux mixture because it is decidedly



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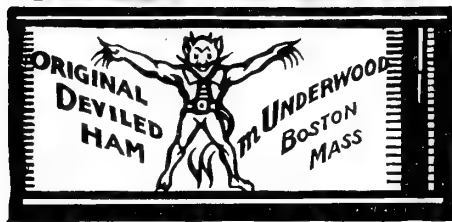
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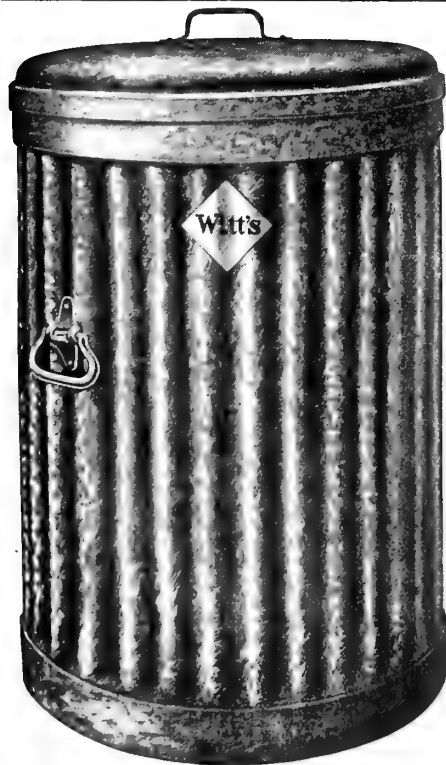
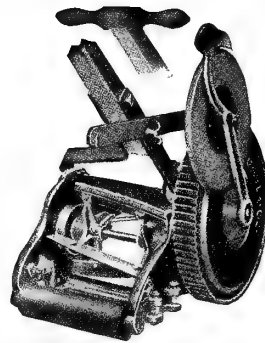
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DEPARTMENT A.

CINCINNATI, O.

troublesome to prepare, but it can be bought, almost ready for use, in very convenient powder, or paste forms. The paste form is perhaps the better of the two, but the experiment stations say it is not so effective as the freshly made article; all the same it has a reasonably satisfactory effect and that is all the amateur wants. To make up for its lessened value, use a little more of it. One pound of the paste will make fifty gallons of spraying mixture, and should not cost more than a dollar. Use it wherever a fungus disease is expected, also for the striped beetle on melons by adding a little arsenate of lead to it, and on potatoes for the flea beetle. Somehow or other, the flea beetle jumps away from Bordeaux mixture.

Ammoniated copper carbonate is a preparation very similar to Bordeaux mixture but more expensive, yet it is valuable because it makes a perfect solution; it should be used on all fruits when they are half developed for the same purposes as Bordeaux mixture is recommended.

In June, the apple borer gets active and must be dug out with a wire; or inject some carbon bisulphide.

If you only have a few small bushes to spray, the poison can be applied adequately by means of an ordinary whisk broom. As a general rule, the small hand sprayers are not very serviceable, but I have seen one that is made entirely of brass (and brass or copper is an essential except that for ammonia iron is used) which holds a quart and sells for two dollars. The special features of this machine are that it makes a continuous spray by means of a compressed air chamber and it has two nozzles, one making a direct jet, and by means of the other a jet can be directed either up or down, or in any direction desired. Of course, when used with heavy mixtures such as Bordeaux mixture or Paris green, the machine would have to be shaken constantly to insure the suspension and free passage of the poison.

For larger gardens, it would be much more economical to buy some machine of greater capacity and these are now to be had in various forms. Some are of the character of force pumps which can be attached to the sides of pails or tubs, but by far the best thing is one of the many forms of high-pressure spray pumps from which a continuous jet is produced. These vary in size from easily portable forms, holding only a few gallons, up to machines that require two horses to haul them, and the prices range accordingly from about five dollars up to hundreds.

The amateur who really means to get the best results should not hesitate about spending a few dollars on getting a good spray pump, and one that has extension rods, by which the spray can be easily carried to the tops of high trees will be well worth the extra dollars.

More explicit instructions on the use of poisons will be found in Professor Sanderson's excellent spraying calendar in the April GARDEN MAGAZINE, which tells you not only what to do, but also how to recognize the insect or disease, and the time of its appearance.

New York.

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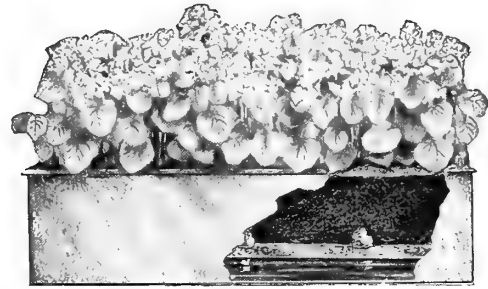
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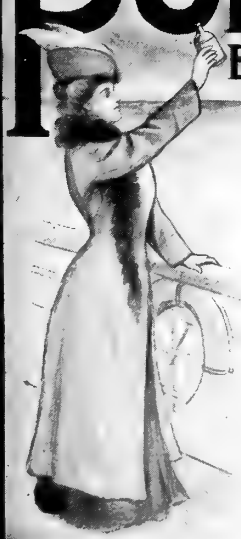
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Enclosed find \$_____ for _____ packets of seed or lily collection as checked above.

Name _____
Address _____

The Great Flower Shows of June

NINETY per cent. of the flowering shrubs bloom in May and June, and the most delightful way to study them is to visit a nursery that makes a specialty of them.

The great flower shows of this period are furnished by roses, azaleas, lilacs, peonies, irises, rhododendrons, and the great genera prunus and pyrus, which comprise the ornamental cherries, plums, peaches, crab apples and pears. These are all large groups, containing dozens of species or varieties, and therefore it is impossible to get any conception of the relative merits of the different kinds from books and pictures.

We have arranged for a series of delightful outings for readers of THE GARDEN MAGAZINE, by asking all the nurserymen we know, whether they will have special flower shows, between May 15th and June 30th. In general, this is the time when the nurseryman's spring rush is over, and he can enjoy outdoor life with his friends, but many nurserymen have failed to reply, or have written us that they cannot well receive visitors in great numbers, because the nurseries are remote from large cities.

We are happy to report, however, that the following nurserymen will have special shows to which readers of THE GARDEN MAGAZINE and their friends are welcome, provided they will notify the nurserymen at once of their desire to attend. This is absolutely necessary in order to arrange accommodations where such are necessary.

Be sure to specify whether you are interested in one particular flower or only in flowering shrubs in general. You will not be solicited for orders.

Chicago, Ill. The Peterson Nursery, 108 La Salle Street, has several acres of peonies and iris, which attract large crowds for three weeks, especially on Saturdays. Not open on Sundays.

Philadelphia, Pa. The Andorra Nurseries, Chestnut Hill, will have peony and rhododendron shows in early June. Decoration Day usually finds these at their best. Meehan & Sons at Germantown will have flowering shrubs, perennials and old trees. The Wm. H. Moon Company at Morrisville, Pa., (midway between New York and Philadelphia) will have flowering shrubs.

Near *New York*, Bobbink & Atkins, Rutherford, N. J., will have a general collection of flowering shrubs, and will notify you of any specialty in good condition. The Cottage Gardens, at Queens, L. I., will have several acres of peonies and rhododendrons. Geo. H. Peterson, Fairlawn, N. J., will have a rose and peony display.

Pittsburg, Pa. The Elliott Nursery Company has several acres of peonies in bloom, about the first week of June, and will provide an automobile if it is notified, and if it is convenient.

Near *Boston, Mass.* The Bay State Nurseries at North Abingdon and the Reading Nurseries at Reading Mass., make a specialty of rhododendrons and also will have flowering shrubs and perennials. The Old Colony Nurseries at Plymouth will have a big show of peonies for a very short time—



For All Leaf-Eating Insects—

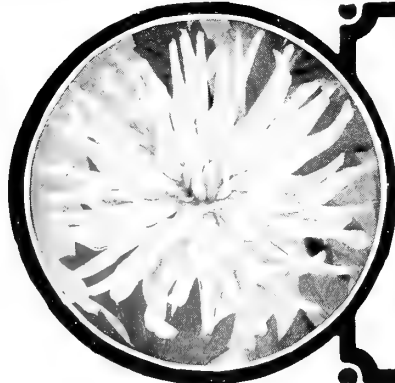
Codling Moth, Bud, Gypsy, Brown-tail and Tussock Moths, Tent Caterpillar, Canker Worm, Pear and Cherry Slug, Vanessa Butterfly, Maple Worm, Potato Bug, Currant Worm, Asparagus Beetle, Cranberry Insects, etc.

Swift's Arsenate of Lead

Write for Free Booklet

Explaining why it cannot burn or scorch the most delicate foliage; why rain will not wash it off; why it gives absolute and constant protection without the necessity of frequent respraying. Being white, foliage sprayed with it is readily distinguished and you can see that it is there. Highly endorsed by leading growers and Government Agricultural Stations. Write for booklet to-day.

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Rare and Choice Cactus Dahlias

Over 300 of the newest and latest introduced varieties are offered in

Rawson's Garden Manual for 1907

Mailed free upon application. This booklet is entirely new. Most complete, artistically illustrated and contains more choice and rare things for the garden than we have ever offered before.

Seeds, Bulbs and Plants

W. W. RAWSON & CO.,
5 Union St., Boston, Mass.

The Anglais Table Decoration for Arranging Cut Flowers

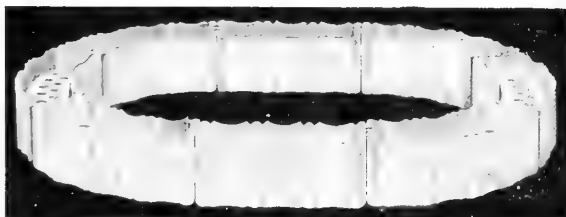
Naturally the ANGLAIS TABLE DECORATION will be at once appreciated by lovers of flowers. The ANGLAIS TABLE DECORATION is made up of two low Colonial glass vases, one crescent and one rectangular in form, each containing a JAPANA CUT FLOWER HOLDER ready for use. (See Note.)

It takes 6 Cres. to make a circle. 6 Cres. and 2, 4, 6 or 8 RECT. to make an oblong according to the size desired.

The Effects Possible are Limited Only by the Possessor

NOTE—The JAPANA is a solid piece of glass full of holes allowing a perfect circulation for the water and holding the flowers in their natural position (the Japanese idea of beauty). Being of glass the JAPANA does not show when in water and flowers last much longer.

Just the thing for a Wedding Gift.




6 Cres. 2 Rect. with Japana \$6.00
AN OVAL ARRANGEMENT



Centre Piece in Use.

Low Vase with "Japana" complete - - - - \$1.00
"Anglais" units with Japana complete, each - - - - 75c.
Sent upon receipt of price. Circular on application.

M. V. GARNSEY, LaGrange, Ill.



THE MORE SHEER the Fabric—the more DELICATE the Color—the more NECESSARY the use of **PEARLINE** Soap Powder for Washing. PEARLINE is absolutely HARMLESS and does the work without rubbing. BEGIN this season by Washing everything and especially your FINE things with PEARLINE and see how much BETTER THEY LOOK and how

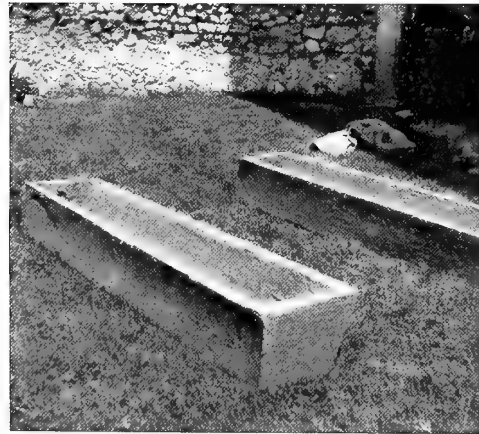
Much Longer They Last

also specimen trees sixty years old. The New England Nurseries, Inc., at Bedford, will have flowering shrubs and herbaceous perennials. The Eastern Nurseries at Jamaica Plain and Holliston, Mass., will have many rhododendrons, flowering shrubs and perennials; they should be notified in advance.

A Concrete Veranda Box for Eighty Cents

FOR some years we had used wooden boxes for flowers on our stone porch, only to find them unsatisfactory, on account of warping, cracking, and the consequent very careful watering needed to keep the plants from drying out, and as more and more stone, stucco and cement houses were built in our neighborhood, the possibilities of concrete were considered.

On account of weight, we decided to make boxes, five feet long, all walls one inch thick, so as to be easily handled. We have since found that any length concrete box can be



A cement veranda box just taken from the mold and ready for finishing off

successfully made, but as our old boxes had been in 10- and 15-foot lengths, a 5-foot unit was easier to experiment with, and could be used to good advantage.

We made a mold consisting of bottom, sides and end planks, loosely nailed together, the nails not quite driven in. This mold we lined, loosely, with poultry netting and folded the ends and corners so as to make a reasonably close fit to the walls of mold.

To go inside the netting we made an inner mold, consisting of four pieces of plank, sides and ends, not nailed but with cleats near each end of side planks, of such thickness as to let the two end planks come inside of the side planks, so as to make the outside end face of the inner mold smooth. This mold measured two inches smaller each way than the outer mold, leaving an inch clearance all around.

Mortar, consisting of one part Portland cement, two parts of sand and enough water to soften the mass to the consistency of dough, was poured in bottom of outside mold over the wire, to a thickness of one inch. The inner mold was then set in, care being taken to keep it central, and the space between the sides and ends of the two



PIEDMONT Red Cedar Chest

Direct From Factory

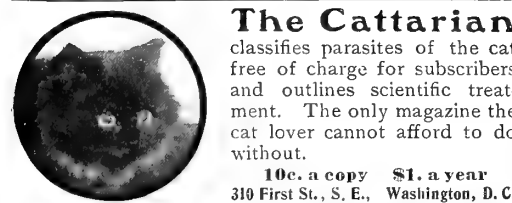
A PIEDMONT RED CEDAR CHEST best protects your furs, woollens and fine clothing from moths, dust and dampness, and at least cost. A Piedmont costs about the same as one season's cold storage—an 1 lasts forever. Exquisite odor of red cedar permanently assured. Not veneered, but made of solid Southern red cedar. Handsomely trimmed. Made in several sizes. Buy a Piedmont. Do away with ill-smelling moth balls. Have stored articles always safe, fragrant and handy. **Ideal Gift for Xmas, Birthday, Weddings.** Shipped direct from factory; freight prepaid. We refund money and pay return freight if dissatisfied. **Write for Booklet now,** and learn low factory prices and full description. **PIEDMONT FURNITURE CO.,** Dept. H, Statesville, N. C. We also make a beautiful box Couch of Solid Southern Red Cedar, handsomely upholstered. Send for booklet and prices.



Stewart's IRON FENCE is cheaper than wood and lasts forever. Has style, finish and the recognition of a world-wide reputation as the best fence made. Over 100 handsome designs for residences, academies, churches, cemeteries, etc.

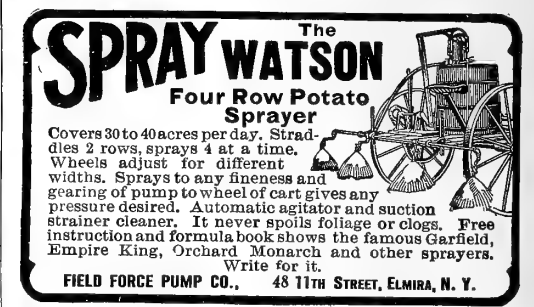
AGENTS WANTED in every town. Ask for Catalogue 110. **THE STEWART IRON WORKS CO.** Cincinnati, O. "The World's Largest Iron Fence Works." Iron vases, iron settees—decorative and useful.

My Booklet. A New Idea FOR PLANNING GROUNDS SENT FREE **FRANK HAMILTON** Landscape Gardener Bryant Building, 55 Liberty St., NEW YORK Tel. 1286 Cortlandt.



The Cattarian classifies parasites of the cat free of charge for subscribers and outlines scientific treatment. The only magazine the cat lover cannot afford to do without. **10c. a copy \$1. a year** 319 First St., S. E., Washington, D. C.

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The SPRAY WATSON Four Row Potato Sprayer

Covers 30 to 40 acres per day. Straddles 2 rows, sprays 4 at a time. Wheels adjust for different widths. Sprays to any fineness and gearing of pump to wheel of cart gives any pressure desired. Automatic agitator and suction strainer cleaner. It never spoils foliage or clogs. Free instruction and formula book shows the famous Garfield, Empire King, Orcharh Monarch and other sprayers. Write for it. **FIELD FORCE PUMP CO.,** 48 11th STREET, ELMIRA, N. Y.



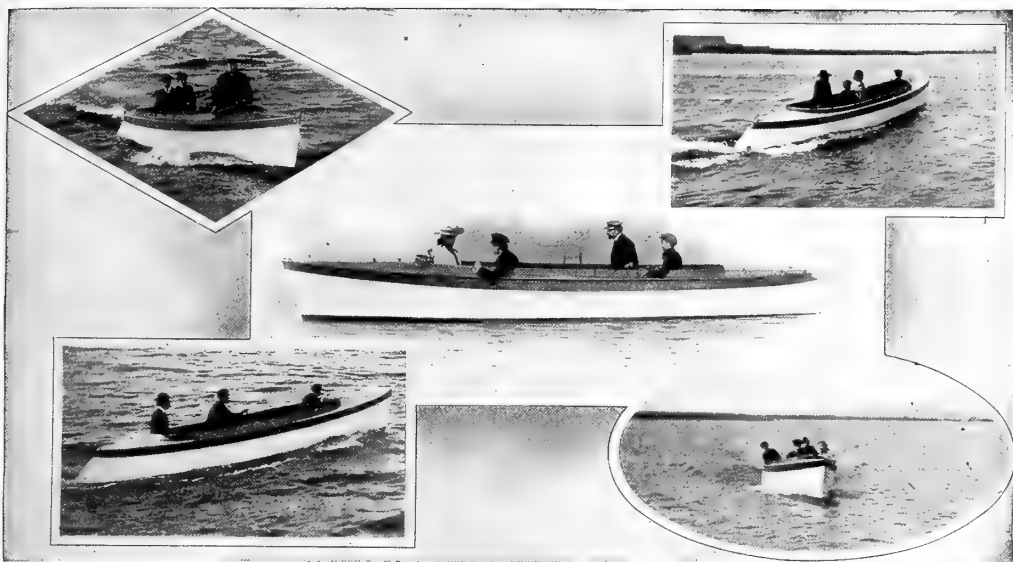
HURST POTATO & ORCHARD SPRAYER ON FREE TRIAL No money in advance—Pay when convenient. Sprays Everything—Trees; Potatoes, Truck, etc., 4 rows at a time—20 acres a day. **Doubles Your Crop**—extra yield one acre will pay it first season. A boy can operate it. **GUARANTEED FIVE YEARS. Wholesale Price** (where no agent). AGENTS WANTED. After trial, if you keep it—pay when you can. Special **FREE OFFER** for first one in each locality. "SPRAYING GUIDE" and full information **FREE. Write to-day. We pay freight.** **H. L. HURST MFG. CO.,** 70 North St., Canton, O.

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MAKE MONEY CANNING FRUIT for others. They'll pay high cash prices. Send for free, money-making catalog. Tells all about costs and profits made with our canning outfit. Send now. Begin to reap profits this season. **MODERN CANNER COMPANY** Dept. I Bridgeport, Alabama



Racine Boats

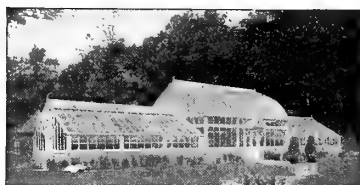
are built right, run right, priced right and are guaranteed to please. They are the craft of the people, by the people, and for the people—the pleasure mediums of the aquatic world.

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When writing for our large illustrated catalogue, enclose five cents to prepay postage

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conservatories or graperies—the time, because it takes time to construct and put up a house the way we thoroughly do it; and because you ought to get the full value of a long crop, from early fall to late spring—Carnations, roses, melons, tomatoes, etc., from October to June.

Send five cents in stamps for booklet, 'How to Get Started.'

HITCHINGS AND COMPANY
Greenhouse Designers and Builders
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A SUNDIAL PEDESTAL

Adds Character to Your Grounds

They are extremely beautiful and artistic. One like the illustration, the pedestal being 42 inches high, made of *real stone*, including solid cast bronze dial 11½ inches square, complete for any latitude, \$40.00. Freight charges guaranteed not to exceed \$3.00.

The *bronze dial* alone to suit your latitude, \$15.

We make special designs of stone Garden Furniture, Seats, Fountains, Pergolas, etc.

Write for our free book of "Sundial Information." Tells what you want to know. Write us to-day.

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THE GARDEN
MAGAZINE



PLANT GLADIOLI IN JUNE!

SPECIAL JUNE OFFER

One-half year, Garden Magazine	-	-	-	-	\$1.00
One dozen Groff's Hybrid Gladioli	-	-	-	-	1.00
One full 1-lb. can of Bonora, prepaid	-	-	-	-	.65
Special Price					\$2.65

NOW IS THE TIME to plant gladioli, that superb flower of easiest growth and endless shades and combinations of color, surpassed by no other blooms.

We have secured for you a strain of the very best quality of Groff's world famous hybrid

Gladioli. These will be shipped direct from the largest gladiolus farm in the world, that of Mr. Cowee of Berlin, N. Y. We guarantee the bulbs will be satisfactory. They will include some of the new violet and lilac shades of the Gold Medal and Silver Trophy strains.

We will begin your subscription with the great April Planting Number, which contains the most prac-

tical planting tables ever published, for planting *vegetables*, and *flowers*, and for *spraying* of all kinds.

With each subscription we will give free and post-paid, a regular 65 cent 1-lb. can of Bonora, the wonderful new plant food. This will make your plants and flowers grow and bloom as never before. It is odorless and can be used indoors or out. It is excellent for the lawn.



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Please send me THE GARDEN MAGAZINE for one-half year, 1 doz. Groff's Hybrid Gladioli (guaranteed), and a 1-lb. can of Bonora, all fully prepaid, as per your offer in..... I enclose one dollar.

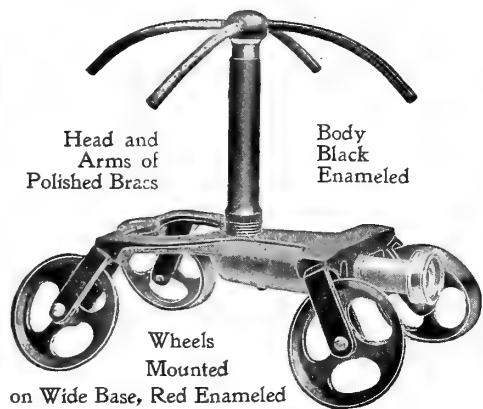
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Order this "June Combination" to-day. Simply mail this coupon with a single dollar bill.

The New Century Lawn Sprinkler

Revolves freely with any pressure. Equal spray over circle from three to fifty feet in diameter.



Head and Arms of Polished Brass

Body Black Enameled

Wheels Mounted

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SIMPLE AND DURABLE

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THE YOST ELECTRIC MFG. CO.,
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CHOICE DAHLIAS FOR JUNE PLANTING



Vacant spaces in the Garden can still be filled with Perennials from pots and with Annuals.

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Rife Automatic Hydraulic Ram
(Water Pumped by Water Power)
No Attention No Expense
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Kiln dried and pulverized. No weeds or bad odors. Helps nature hustle. For garden, lawn, trees, shrubs, fruits and house plants.
\$4.00 LARGE BARREL, Cash with Order. Delivered to your Freight Station.
Apply now.
The Pulverized Manure Co., 19 Union Stock Yards, Chicago.

molds was filled, a little at a time, the mortar being tamped solid over the netting with a small stick.

No care need be exercised in keeping the netting in the centre of space between the two molds, as its position is immaterial, and even were it against either side, the mortar would work around it so it would not show, but when the space is full, care should be taken that all ragged edges and ends of netting are beneath the top of the mortar surface.

After the mortar has slightly set, which will be in four or five hours, the inner mold is carefully withdrawn, one plank at a time, and the box left to set thoroughly, for about three days. It is important to withdraw the inner mold as soon as possible, as the planks of which it is made tend to swell, while the mortar contracts slightly and the bottom mortar will split if the mold is not withdrawn on time. The partially driven nails of outside mold are then pulled, and the mold taken from around the box, which is



Mold for two 5-foot boxes, showing inner mold and wire netting

troweled up smooth with very thin pure cement. Holes for drainage can be cut in bottom with a pocket knife, and after thoroughly wetting the box, a very thin pure cement wash is applied with a brush, and it is ready for use. The outer surface need not of necessity be troweled and cement-washed. It could be left rough and covered with small stone pebble dash, or be finished to match the house or wall as desired.

This gives the boxes the appearance of being a part of the porch, and they can be left in place all winter, after the plants are removed, without being the eyesore that wooden boxes are, under similar circumstances.

Boxes made as described hold moisture much better than wooden ones and the plants grow better in them.

For all ordinary requirements, the poultry-netting reinforcement is quite strong enough, but a very long box, practically unbreakable, can be made by using a welded fabric known as Pittsburg fence in place of the netting.

It is desirable, where several boxes are needed, to arrange molds so that more than one box can be made at a time, thereby

Pot-Grown Perennials

Just right for planting in May or June, and will flower the first season. We mention but few of a great variety to be found in our collection.

	Per doz.	Per 100.
Alyssum saxatile compactum	\$1.50	\$12.00
Anemones—named varieties	1.50	12.00
Campanulas—named varieties	1.25	10.00
Chrysanthemum—hardy, all colors	1.25	10.00
Double Pyrethrums—all colors	3.00	20.00
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Helianthus in variety	1.25	10.00
Lilium—auratum, album, rubrum, Batemanii, elegans, etc., etc.	1.50	12.00
Lobelia cardinalis	1.25	10.00
Lupinus—white and blue varieties	1.50	12.00
Phlox—all colors and shades	1.50	12.00
Stokesia cyanea	1.25	10.00
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MATERIAL AND PLANS FOR
GREENHOUSES
BEST GRADES REASONABLE PRICES
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32 pages, showing Ornamental Fences, Gates, Arches, Vine Trellis, Lawn Border, etc., will interest you. Address



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LARGE TREE MOVERS

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Choice Evergreens SPECIMEN TREES
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Also DECIDUOUS TREES and SHRUBS
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with Lemon Oil Insecticide, adding 30 parts water. No odor, no poison—advantages over Fish oil or Tobacco products. Used everywhere. If not sold by your seedsmen, write WEATHERBY BROS., Baltimore, Md., for full information.

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Exterminates field mice, house mice, and other rodents in houses, greenhouses, hotbeds, barns and stables. Package (containing enough Ubet Kill to kill 1,000 mice) 60 cents, carriage paid.
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The Kewanee System of Water Supply

Limited space makes it impossible to tell here in detail how the Kewanee System operates. Briefly, it includes the right kind of pumping equipment to suit the individual conditions of each customer. It includes also the results of over ten years experience in designing individual water supply plants and operating them. We also offer in the Kewanee System, the technical knowledge of a corps of trained engineers.

A main feature of the Kewanee System is the Kewanee Pneumatic Tank. With this tank the troubles, repairs, freeze-ups, leakages, etc. which go hand in hand with the use of elevated and attic tanks, are entirely avoided.

You need not use an attic tank which may leak and flood your house, or in which the water will become foul and stagnant; and which does not provide sufficient pressure for good service.

It is not necessary to have an exposed elevated tank, to freeze, flow over, leak or collapse.

By using a Kewanee Pneumatic Tank, your water will be delivered to all plumbing fixtures and hydrants by **air pressure**.

The tank is placed in the cellar or it may be buried in the **ground**. It is made of steel plates, securely riveted; and by means of a special process, it is made absolutely air tight. Pumping water

into this tank, creates the air pressure, which distributes the water.

We would like an opportunity to design a Kewanee System of Water Supply for **you**. We would like to show you just wherein it will be most economical, efficient and satisfactory. We would like to give you the benefit of our practical experience and technical knowledge in this line. We would make no charge for preliminary services and we would fully protect you with a guarantee of satisfactory results.

But first, we want to send you our sixty-four page illustrated Catalog No. 16, which is filled from cover to cover with valuable information on the subject of water supply. It shows how the Kewanee System has been adapted to buildings of various sizes from the smallest cottage to the largest institution, and small towns. It is fully illustrated.

If you need a water supply system now or expect to need one in the future, you should write for our catalog right away. Tell us what you will want supplied with water and we will send you our complete catalog and full explanation.

Kewanee Water Supply Company, Kewanee, Ill.
New York Chicago



Hoes

You can do *twice* the work with some hoes that you can with others.

Any boy that ever hoed a potato patch knows the difference. The *right kind* of a hoe is neither too large nor too small; nor too heavy nor too light. It is just the proper size and shape to do the kind of work it is intended for. Its quality is excellent and its hang is accurate.

Hoing becomes *agreeable work* when you have the hoe that fits your hands and the work you have to do. There are just such hoes made.

TRUE TEMPER

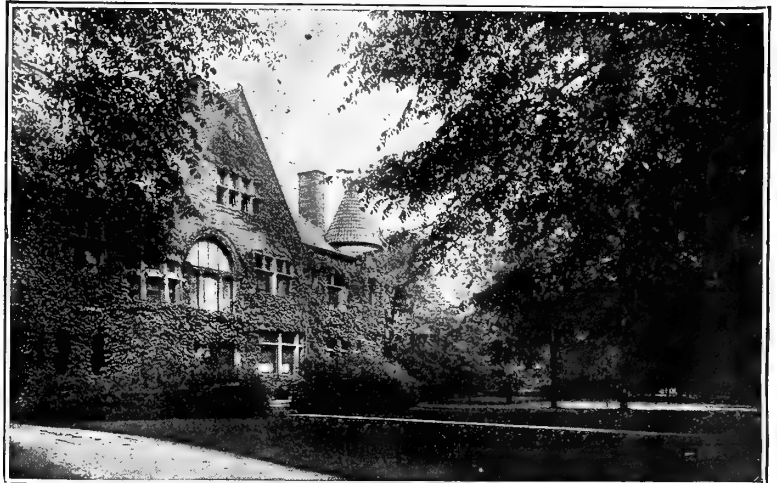
Hoes, like the Forks, Rakes, Potato Hooks and all other farm and garden hand-tools that bear the label are "*The best tools you have ever bought at the same prices you have always paid.*"

If they had not been tested for *quality and construction* by the most severe methods at the factory, they wouldn't be allowed to wear the label. Remember there's a tool for every kind of work.

And you'll save *time and money* by using the *right kind of a tool* every time.

Let us tell you more about that. Just ask on a postal card for our **free book**, "*Tools and Their Uses*," and it will be sent to you at once.

American Fork & Hoe Co.
433 Am. Trust Bldg., Cleveland, Ohio



Keep Your Drives Clean



Don't Dig Weeds

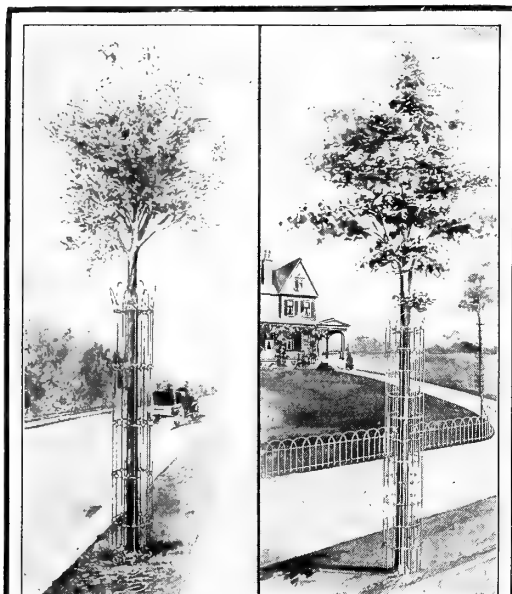
Kill them with **THISTLEINE**. Spray the walks, driveways and gutters with **THISTLEINE**. **ONE SPRAYING WILL KEEP THEM FREE FROM WEEDS AND GRASS THE ENTIRE SEASON.** Kills Dandelions, Burdock and Canada Thistles.

5-POUND CAN OF THISTLEINE will make sufficient solution **TO SPRAY 4,000 SQUARE FEET.** Price, \$2.00. If your dealer doesn't keep it, send money direct to

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White, Buff, Barred and Black Rocks; White, Golden, Silver and Buff Wyandottes; Brown, Buff and White Leghorns; Light Brahmas, Black Minorcas and Black Javas.

Hardy, prolific, farm bred, pure stock. For BIRDS (moderate prices) or "EGGS TO HATCH" at ten cents each, write for circular.

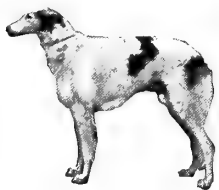
WALTER SHERMAN, - Meadowslope, NEWPORT, R. I.

RUSSIAN WOLFHOUNDS

Valley Farm Breeding Kennels
SIMSBURY, CONN.

Hunt Kennels, Gillette, Wyo.

The largest and most successful Breeders and Exhibitors of Russian Wolfhounds in the world. Stallion hounds at both kennels. Illustrated catalogue containing exclusive information, etc.



Sick Chickens

Keep your chickens in dry, comfortable quarters and they'll be comparatively safe against disease. If they do get sick, the right remedies quickly bring them about.

Madue Gape Cure is quick and sure; for severe cases use a Gape Worm Extractor. Different roup cures—all good. Lice Killers—easy to apply and do the work thoroughly. My Illustrated Poultry Supply Book tells about the various remedies, colony houses, the best foods and other helpful supplies. Write for it—free. Ask me to help you solve your problems. STOKES' SEED STORE, 219 Market St., Philadelphia
Walter P. Stokes, of the late firm of Johnson & Stokes

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Offered as companions. Not given to fighting or roaming—Best for children's pets.

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expediting the operation and concentrating the labor item.

For a 5-foot box, ten inches wide at bottom, twelve inches wide at top and eight inches high, the cost was:

2 ft. wire poultry netting 6 ft. wide at \$3.00 per 100 ft.....	\$0.06
1-12 bbl. cement at \$2.60.....	0.22
1-12 yard sand at \$1.60.....	0.14
1-4 day's time at \$1.50.....	0.38
	<hr/> \$0.80

The only tools used were wire cutters, hammer and trowel.

Alabama. T. H. & L. B. ALDRICH.

A Good Houseplant

THE Clivia is an evergreen, bulbous plant which is admirably adapted to house culture. It does not, as a rule, need repotting more often than once in two or three years. It may be done just after the plants



Clivia miniata, but known to the trade as Imantophyllum miniatum. It delights in a cool situation, but will not stand frost

have flowered (March to June), and before growth commences. Years when repotting is not done remove an inch or two of the top soil, replacing it with fresh soil. As the plants are so seldom repotted it is a decided advantage to add to each bushel of soil about one-half pint of bone meal and two quarts of finely-broken charcoal.

The Common Foxglove

THE foxglove (*Digitalis purpurea*) which is shown on this month's cover is most effective when grown in masses, backed by shrubbery. It is one of the most easily grown biennials. Seeds sown in July will bloom the following May or June. The plants produce many seeds which self-sow as soon as ripe and the young plants will bloom the following summer without further care. A 4-inch mulch of leaves from a hardwood tree will help to keep the plants in good condition during winter.

Magnificent Flower Show Within New York City Limits

One Hundred Thousand Peonies

Forty-Four Thousand Rhododendrons

IN BLOOM At Cottage Gardens, Queens, Long Island

June is the month to see Peonies and Rhododendrons in all their glory. We will have in bloom 100,000 Peonies in over 400 varieties, also 20,000 native and 24,000 hybrid Rhododendrons.

The public is cordially invited. Queens is reached by all Long Island electric and steam trains from Brooklyn, also Garden City and Hempstead trains from Long Island City. Call long distance Phone 530 Jamaica, or write and carriage will meet any train.

If you cannot come, the next best is to get a copy of The Nursery Book—Beautifully illustrated—beginning with things that will interest all lovers of Trees, Shrubs and Herbaceous Plants—just out. A post card to the following address will bring one to you FREE. Send for it if you want to know the truth about trees and shrubs.

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Give yourself the pleasure of gardening during winter without a greenhouse or even a cold frame. Supply your own table with a tasty delicious delicacy. Pure Culture Spawn makes "breeding to variety" possible.

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PURE CULTURE SPAWN CO., Cincinnati, Ohio.

DID YOU SEE IT?

In the April issue of this Magazine there appeared a very beautiful picture of a new rose in natural colors, being an exact reproduction of the cover of our 1907 Catalog. On the back were some very attractive offers of plants, seeds and bulbs. Look it up—while you are thinking of it—and send us at least a trial order. The Catalog is Free for the asking.

THE MCGREGOR BROS. CO., SPRINGFIELD, OHIO

Sharpen Your Lawn Mower—20 times for 25c.

EUREKA Sharpener

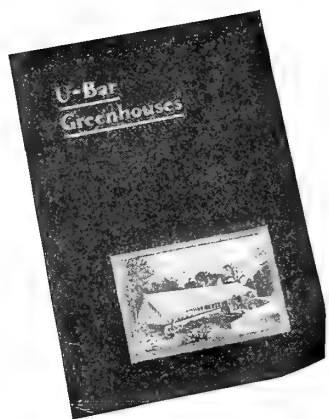
A new device to attach to the cutting blade of any mower, sharpens all blades to a keen, even, accurate edge in a few minutes. Anyone can attach it to cutting blade. (See illustration.) No filing, no work. Simply push the mower on sidewalks with Eureka Sharpener attached and blades sharpen automatically. Sold by all dealers, 25c, or sent prepaid on receipt of 30c, stamps or coin. Specify width of mower blade.
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Roses

Write to-day for our art booklet "How to Grow Roses" and our New Floral Guide—FREE.

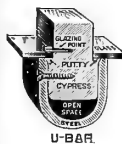
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The Greenhouse Question

And What Our Catalog Is



WE BELIEVE that a goodly number of readers are now planning for next fall to have a greenhouse "all their own" — not

necessarily an elaborate affair with numerous compartments, requiring a gardener, etc., but a compact, attractive, "right near the house" garden of glass. A place where you can while away many delightful hours, bringing their reward in unmatched flowers and adding those delicious "home grown" vegetables to your table.

For such as these we have prepared a catalog that shows forth in a really interesting way just what the U-Bar is, why it makes the lightest, cheeriest, most attractive and enduring house. We have illustrated it freely, and one of the best of printers has printed it, and now it's done in book form, ready for you, and mailed at your request. Send for it.

PIERSON U-BAR COMPANY,
Designers and Builders U-Bar
Greenhouses, Metropolitan Building,
4th Avenue and 23rd Street,
NEW YORK

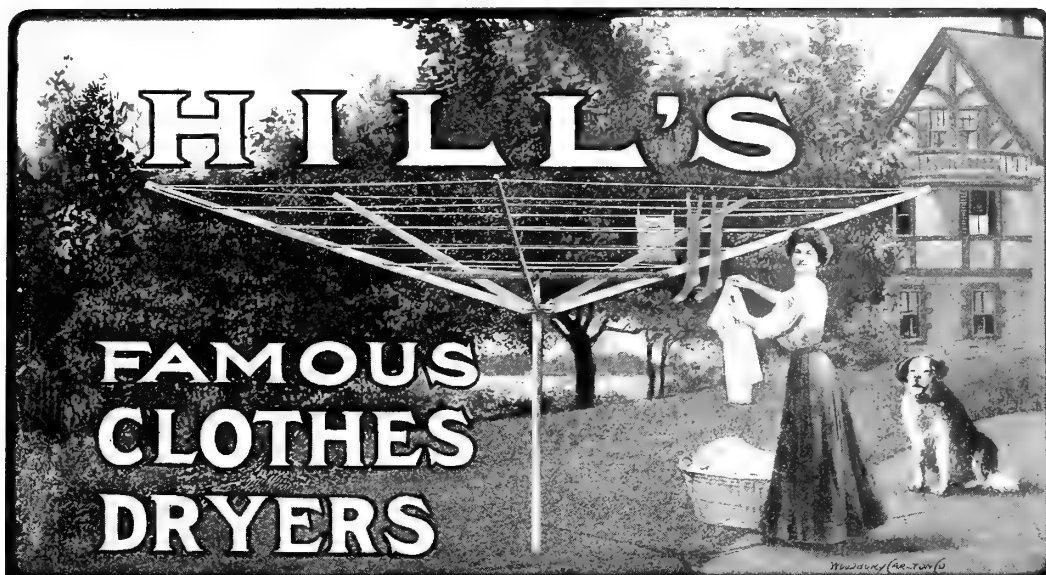
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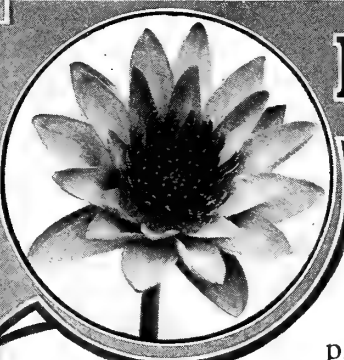
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Hardy and Tender

A collection unduplicatable and embracing every desirable variety known; as well as all other aquatic and semi-aquatic plants suitable for the planting of natural and artificial ponds.

All these are fully described in Dreer's Garden Book for 1907, which will be mailed free to all applicants who mention this publication. Also a special leaflet on Water Lilies free to those who request it.

Our Mid-Summer Catalogue, which is issued at the end of June, contains an up-to-date list of the best strawberry, celery and other plants for setting out this summer. Also a most complete list of seeds of hardy plants which should be sown in summer, including Canterbury Bells, Hollyhocks, Larkspurs, Columbines, Foxgloves, etc.

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HENRY A. DREER, Philadelphia

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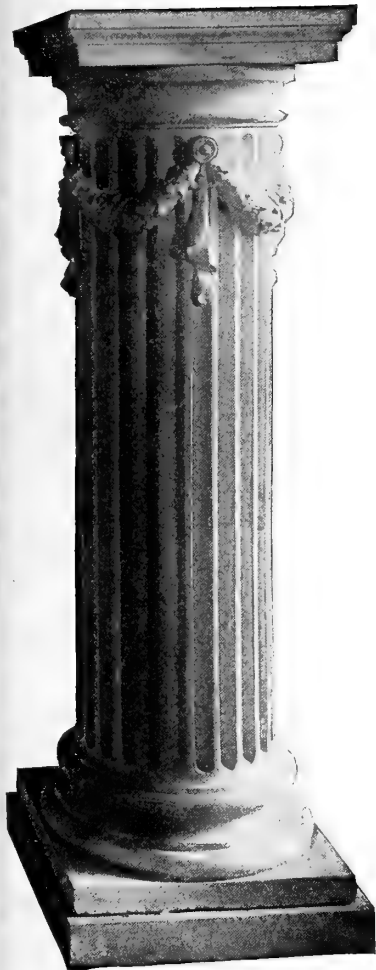
John F. Dwyer
President

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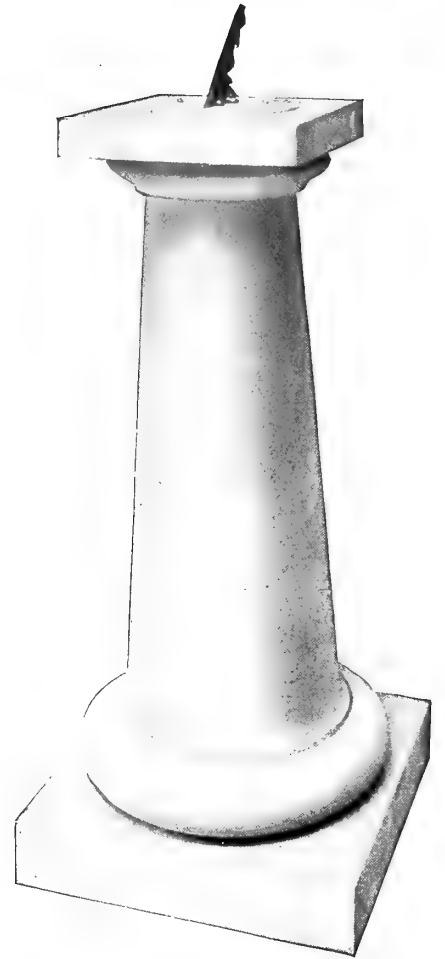
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July
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Vol. V. No. 6

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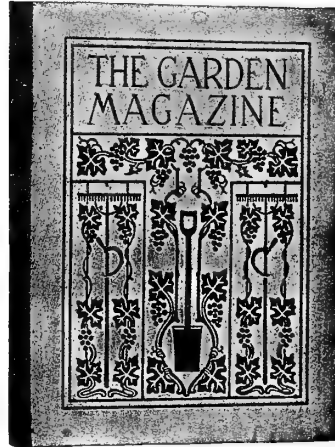
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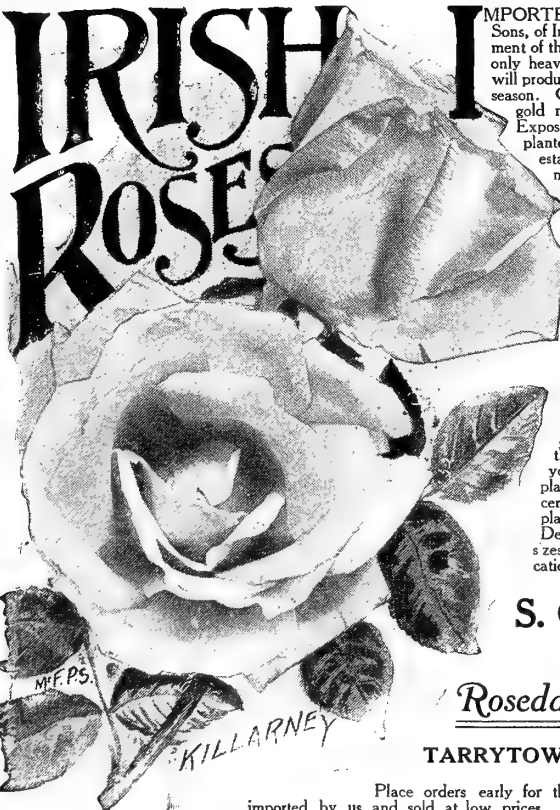
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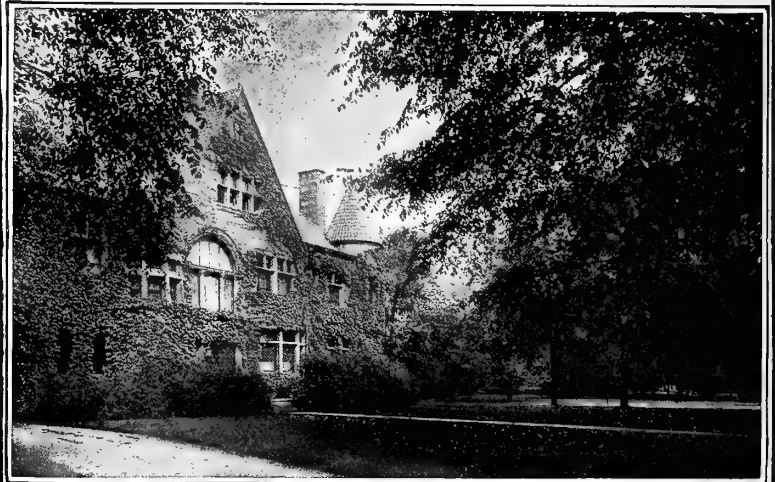
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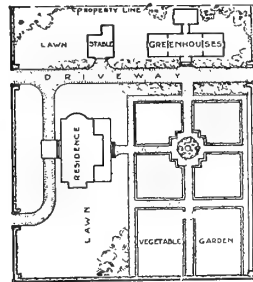
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A Chat on Planning

THERE'S a lot of mystery, wonderment about a greenhouse and the way it turns the seasons about and goes on doing things no matter how the mercury tumbles; and there are plenty of people nowadays taking the greenhouse as it should be, and personally doing things with it. It offers a pastime of unending interest and most delightful returns. Just at this time of the year many of you are thinking of building or are laying out the grounds; now, why don't you include the greenhouse in these preparations?

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it over with you, or would it be more to your convenience to drop in at our New York Designing and Sales Offices? **LORD & BURNHAM CO., NEW YORK OFFICES: 1133 Broadway, Cor. 26th St.; Boston Branch, 819 Tremont Building; Philadelphia Branch, 1235 Filbert St.**

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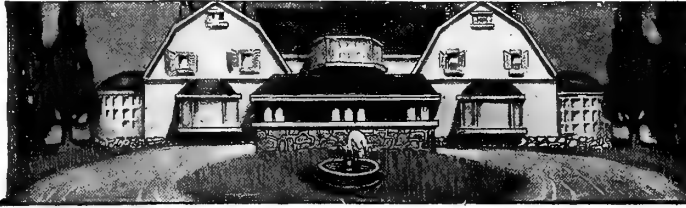
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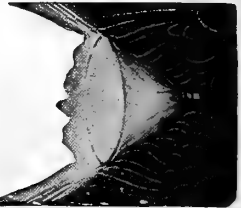
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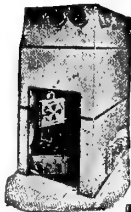
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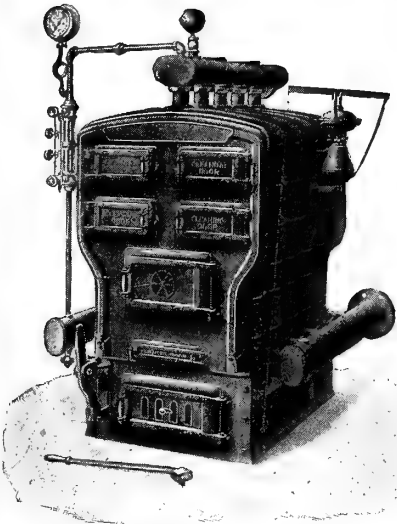
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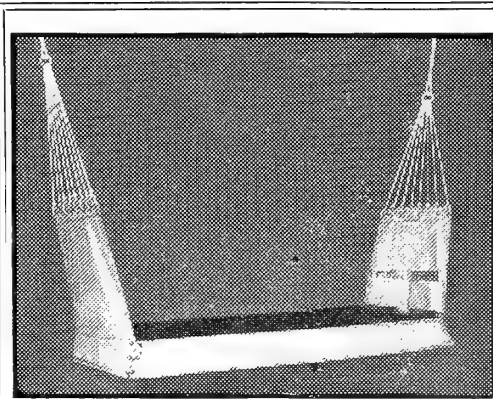
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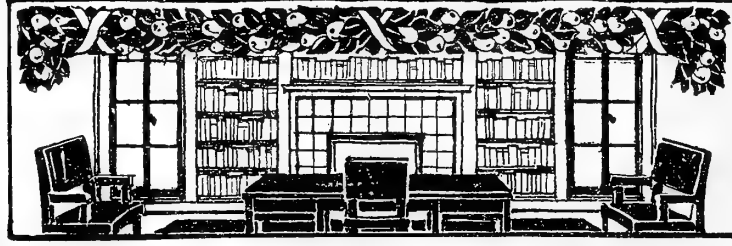
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"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra*

THE BOOK SENSIBLE

For some years we have been trying to secure a sensible book on getting the most from the body in the way of health and enjoyment of mind and spirit. Dr. Luther H. Gulick's "The Efficient Life," to our thinking, has more good common sense which the everyday reader can understand and put into practical use than has before been put between covers, because it squarely faces modern conditions, and every word is to the point. Here are the chapter heads:

Speed.	Fatigue.
Efficiency.	Sleep.
Life that is Worth While.	Stimulants and Other Whips.
States of Mind and States of Body.	The Bath—For Body and Soul.
Exercise—Its Use and Abuse.	Pain—The Danger Signal.
Meat, Drink, and the Table.	Vision.
The Business of Digestion.	Vitality—The Armor of Offence.
The Body Shows Character.	Growth in Rest.
	The Attack on Constipation.

Get it from your library, borrow it from a friend, buy it from your bookseller, or send us \$1.32 and we will send it postpaid.

THE CHANGING MAGAZINE

One is forever hearing some reader say *Somebody's Magazine* is not so good as it used to be. This in face of the fact that the periodical is better printed, more various and interesting in its contents, and made, you may be sure, at an infinitely greater cost. The fact probably is that the reader is so jaded that unless the magazine turns editorial flip-flaps every season he gets tired of it. In our own magazines we try to secure a happy medium.

Last month, for example, we devoted practically a whole issue of *The World's Work* to the great new South. In prosperity and in new possibilities here is a subject which may well fire the pen of the greatest student and writer. We hope that in getting away from the usual for a month we have accentuated the magazine's flexibility.

In *Country Life in America* we are arranging to add several new departments to the monthly range of subjects covered. There shall be no interest connected with country living (the sane country living, we mean,

not the flipperies) which shall not find full and entertaining treatment in *Country Life in America*. This magazine was the pioneer in the field in the United States. There are many others now, all of them cheaper in price. Our magazine must be better than ever to hold its place, and we believe we have the organization to keep it better.

THIS SPRING'S BOOKS

May we send you as a reader of *THE GARDEN MAGAZINE* any of these books on approval? The prices are for books postpaid.

The Privateers.	H. B. Marriott Watson.	\$1.50.
Bettina.	Eleanor Hoyt Brainerd.	\$1.25.
A Sovereign Remedy.	Flora Annie Steel.	\$1.50.
Soils.	S. W. Fletcher.	\$2.20.
Birds Every Child Should Know.	Neltje Blanchan.	\$1.32.
The Issue.	Edward Noble.	\$1.50.
My Life as an Indian.	J. W. Schultz.	\$1.65.
Friday the 13th.	Thos. W. Lawson.	\$1.50.
The Efficient Life.	Luther H. Gulick.	\$1.32.
The First Claim.	M. Hamilton.	\$1.50.
Fruit Recipes.	Riley M. Fletcher Berry.	\$1.65.
The Reptile Book.	Raymond L. Ditmars.	\$4.34.
An Experiment in Perfection.	Marion T. D. Barton.	\$1.50.
Carmichael.	Anison North.	\$1.50.
Farm Management.	F. W. Card.	\$2.20.
Under the Sun.	Perceval Landon.	\$5.12.
Wuthering Heights.	(Large Print Library). Emily Brontë.	\$1.00.
Nearest the Pole.	Robert E. Peary.	\$5.12.
Water Wonders Every Child Should Know.	Jean M. Thompson.	\$1.20.
Tin Enamelled Pottery.	Prof. Edwin A. Barber.	\$1.00.
Nimrod's Wife.	Grace Gallatin Seton.	\$1.92.
The Industrial Republic.	Upton Sinclair.	\$1.32.
Navigating the Air.	Aero Club of America.	\$1.65.
The Awakening of China.	Dr. W. A. P. Martin.	\$4.12.
The Diary of Delia.	Onoto Watanna.	\$1.34.
Salt Glazed Stoneware.	Prof. Edwin AtLee Barber.	\$1.00.

This month we add "Daffodils" to *The Garden Library*, \$1.20, postpaid, and "Mosses and Lichens" to *The Nature Library*, \$4.34 postpaid.

TO READERS IN CANADA

The Canadian Government has raised the price of postage on American periodicals from one to four cents a pound. Naturally, having accepted the subscriptions we will fulfill the obligation, but hereafter full foreign postage will have to be charged, which in the

case of *THE GARDEN MAGAZINE* is thirty-five cents a year. We regret having to do this.

STANDARD BOOKS

We are so fortunate as to have something more than fifty thousand people who buy books from us more or less regularly. As time goes on, we want these people, if we can serve them well, to look to us for good books, and we realize that this means that we must go into the business of furnishing the "standard" works, so-called. This is a new departure for us, and for years we have been trying to find the books which meet our four conditions:

I. The selection of the volumes to be beyond all question standard, and needed by every intelligent person as a companion in the home.

II. The text to be accurate and well edited by authorities which are unquestioned.

III. The *format* of the volumes to be correct. The type new, clear, and readable to prevent eye-strain, the plates new, the paper soft and opaque. The books to open flat on the reading table or in the hand (a difficult qualification to secure). The binding to be flexible, and finally the books to be beautiful in ornament and execution, and made of the best materials.

IV. The price to be reasonable, but not so cheap that any of the other qualifications must be slighted.

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The Garden Magazine

VOL. V—No. 6
PUBLISHED MONTHLY

JULY, 1907

{ ONE DOLLAR A YEAR
{ FIFTEEN CENTS A COPY



[For the purpose of reckoning dates, New York is generally taken as a standard. Allow six days' difference for every hundred miles of latitude.]

July Opportunities Worth \$200 or More

SOME editors are blind, unimaginative and self-centred. They assume that what they are interested in must be interesting to their readers. That is why we did not get more than a dozen articles in response to the fifty-two "Things We Wanted to Know" which we printed in November 1905, and January 1906, with an offer of \$5 for the best reply to each question.

Now we propose to offer prizes for what you are interested in. How do we know that? By saving all the letters that come to us from readers that tell what they are doing in July or wish to do then.

Another mistake we made was in urging brevity and offering a uniform check of \$5. There are few subjects that can be treated in 500 words with sufficient detail to be really useful. If you have had an experience of general interest and value it may require perhaps six photographs and 2,000 words to tell it properly and the account may be worth \$20 to \$25. We have no desire to buy twenty-five-dollar articles for \$5.

Therefore we offer a minimum prize of \$5 for every acceptable working out of any hint on this page and on other pages of this number.

There will be no "contest" about it, as we will gladly take two or more solutions of the same problem, if they are suitable for publication. And there will be no rules, conditions or "red tape" of any kind—no set date, word limit, typewritten restrictions or other conditions of servitude.

The object is to fill THE GARDEN MAGAZINE for July 1908 with personal experiences about things done or started by our readers in July 1907, instead of dosing them with a lot of uninteresting articles which are merely the working out of preconceived notions, such as crotchety, whimsical and book-mad

editors evolve in their remote dens from their inner consciousness.

IDEAS WORTH \$25 EACH

Did you ever start a fruit, vegetable or flower garden in July? (A very successful one was described in THE GARDEN MAGAZINE for July 1906, pages 330 and 331.)

How can a person who knows nothing about gardening and doesn't want to devote a lot of time to it get his place planned and planted in an attractive and permanent fashion for \$100? Do these "landscape departments" of the big nurseries furnish good plans cheaply or do they clutter up a place with all sorts of horticultural freaks?

The autumn-blooming bulbs ought to be ordered in July for August delivery. If you wait till September they may be out of stock or bloom in the bags while in transit. Who will plant all the crocuses, colchicums and sternbergias, that bloom outdoors between September and November and take accurate notes on dates of bloom, number and size of flowers?

Why not transform your garden into an outdoor living room and win that prize offered in connection with Mr. Saylor's article on "Garden Furniture" in the June number of THE GARDEN MAGAZINE?

Who will try all the different kinds of weed killers for which so much is claimed nowadays? Who will give us accurate statements of their relative efficiency and economy; which ones are dangerous, when, how, why, etc.?

Who can tell us in detail of a complete outfit that will positively vanquish every enemy of the home fruit, flower and vegetable garden. Outfit must not cost more than \$25 including apparatus, material, books, etc. Must be written from actual experience in the home garden.

BEGINNING A GARDEN AFTER JUNE 15TH

Five dollars for the best picture and data showing success with bedding plants set out after June 15th.

Do you know that portulacas refuse to germinate until June and that you can transplant them in full flower to fill gaps in your garden?

Five dollars for the best picture of a September flower bed from seed sown after June 15th. Give dates, number of flowers, size, etc.

Five dollars or more for the best account of white, or fragrant flowers sown in July to make the garden more enjoyable in the evening.

Five dollars for two photographs of an evergreen grown in a willow basket for planting in the hottest and driest summer

weather. Show before planting and result in September. [N. B.—The baskets do not have to be removed.]

Five dollars for a photograph and narrative of success with gladioli planted June 15.

Five dollars for the greatest growth made from a Kudzu vine planted after June 15th. It often grows forty or fifty feet a season and is the fastest growing vine in cultivation.

Five dollars for a photograph and narrative of success with Crimson Rambler rose or *Clematis paniculata* bought and planted after June 15th. Not left-overs from the local florist, but plants grown by nurseries in pots especially for people who have to begin their gardens in midsummer.

It is said that standard or tree roses in pots can be planted at any season without the slightest risk; also that better results can be obtained with them than with dormant plants. Ten dollars for proof of this.

INTIMATE QUESTIONS ABOUT HOME LIFE

Can you honestly take pride in what your children have accomplished in gardening or nature-study? Have you planned a practical garden for them?

Have you made any bird houses that really attract the birds to your garden and foil cats? Are they those absurd things made to resemble human dwellings, or are they founded on the needs of the birds? Are these dainty, new, folding opera glasses really strong enough for the use of a bird lover?

Have you ever imported toads into your garden for company and to destroy the insects, as Celia Thaxter did?

Is it possible for a woman to feel comfortable and look attractive while gardening? Has the subject of garden clothing advanced any since Noah's time?

What are the best possible arrangements for dining outdoors? Do you have lawn or garden picnics? Are you sure that there is no danger of ptomaine poisoning or other trouble from your refrigerator?

Can you really take pride in the way the utilities are treated in your backyard—garbage and other refuse? Have you a hygienic plan of keeping and hiding them which you believe hundreds of your fellow townsmen could take as a model? Is your lawn disfigured by clothes lines and clothes posts?

Have you a water supply system sufficient to protect your garden from drought and your house from fire? It is said that more crops are ruined from lack of water than from all other causes.

What idea received from THE GARDEN MAGAZINE has helped you most?

More prizes of a similar nature are offered on page 362



An artistic treatment of a porch. Brenda, a Lord Penzance hybrid sweet brier on a permanent, wooden lattice work



Chicken wire on a porch is convenient and cheap but not particularly original or artistic. Climbing Cecile Brunner

Five Months of Bloom from Climbing Roses—By W. McCollom, Long Island

THREE GROUPS OF PILLAR ROSES FOR VERANDA AND PERGOLA THAT WILL GIVE CONTINUOUS SUCCESSION OF BLOOM FROM JUNE TO OCTOBER—HOW THE TENDEREST ROSES MAY BE KEPT ALIVE FOR YEARS

AMONG the host of roses there are a score or so that rank among the showiest and most popular of summer flowering climbers, yet somehow the word "roses" does not conjure up these vines. Among them we get wide range of bright colors with pleasing fragrance, together with the fact that they are roses. There is a subtle charm in that alone, and when the ease of cultivation is also considered, it is some wonder that they are not more commonly esteemed.

In recent years, the introduction of many hybrid climbing roses has served to direct attention to the possibilities of this class of plants for pillars, and especially on verandas. Some of these newer kinds have special merit, but the older ones are by no means to be forgotten. We can now have climbing roses in flower continuously from June to October, inclusive.

There are three distinctly marked groups of climbing roses:

1. Multiflora, flowering in June.
2. Setigera, flowering in June.
3. Wichuraiana, flowering from July to September.

The last named group has become available only since 1893, and some of its more recent hybrids promise to extend the season

of bloom right up to frost. The hybridist has been very active in blending varieties of these three groups so that the lines of division are rapidly becoming less clearly marked.

Without a doubt, the popular Crimson Rambler, the best known variety of this earliest flowering group, is also the best dark red flowered climber, and gave a great impetus to pillar planting for flower effect. It comes into bloom in June but it is, unfortunately, very liable to mildew.

Very like it and flowering about ten days earlier, just when the rose bugs are abundant, is Philadelphia, but it is not so liable to mildew. So you may take your choice according to conditions. The best pink rose of this same type is Dorothy Perkins.

Pink Roamer contests the place of honor among the pink-flowered varieties, but the blossoms are small, though so very numerous that the plant in its season is a solid mass of bloom. Another drawback is that it is greatly relished by the rose bug, which seems to attack it with especial vigor. It flowers in early June. Other good pinks of the Rambler type are Dawson (double) and Wedding Bells (semi-double, pink with white centre).

The best white rose of this type is the

White Rambler (Thalia) and the best yellow is the Yellow Rambler (Aglia). Both flower at almost the same time as Crimson Rambler, possibly a few days later.

Helène is a deep-rose color, single and very fragrant. This last greatly resembles the type *Rosa multiflora*, which produces its profusion of pure white flowers in immense trusses about the middle of June.

The second group, or intermediate blooming climbing roses, which closely follow upon those of the early, or multiflowered group in July, are also derivatives from our beautiful native prairie rose (*Rosa setigera*). The type itself is one of the most satisfactory of all plants for covering rocks, fences or walls. It is very hardy, is not particular as to soil, and, as would naturally be expected of a native plant, it will thrive in situations where all others roses fail utterly.

Although these roses are easy to grow, too much care and attention cannot be given to the selection of a proper site, and to the preparation of the soil at the outset. These provided, other material factors can be afterward remedied to a certain extent. First of all stands location. If this is unfavorable all other factors count for naught. Sunshine is essential; exposure to the sun all day is not

absolutely necessary, but is better. The roses should be given protection from the prevailing summer winds of the locality, but this must be sufficiently remote to interfere in no way with a free supply of air.

Roses must have air and plenty of it. If the ground is slightly raised above the surroundings all the better; thorough drainage must be secured in some manner, as to plant roses in a cold, damp soil, or in a low spot where surface water settles is simply to sacrifice the plants. Under such conditions they will quickly succumb to mildew. Planting in a shady spot under the drip of trees will also result in mildew. On a cold soil (a stiff, clayey loam that retains moisture) I have found that ample drainage and consequent warming of the soil can be provided by about one foot of broken bricks, clam shells, coarse cinders, or in fact, anything of a hard nature that is large enough to allow the water to filter through. This material is put in the bottom of the trench, two or three feet down, and covered with something to prevent the soil clogging up the interspaces. Sphagnum moss answers admirably, but anything of a like nature will do.

Roses revel in deep, well-enriched soil and I have yet to hear of any one getting a bed too rich for roses. Thoroughly trench the soil three feet deep and add to every two cubic yards of earth one cubic yard of manure. Cow manure is the best, but any good farmyard manure will do. As the top, or surface, has most fertility, it is turned to the bottom in the trenching, which should be done, at the very least, six weeks before planting—ten weeks is better—to give the ground an opportunity to settle before planting.

Climbing roses do not need much pruning but one cannot afford to neglect them altogether. Merely remove the dead wood and the very weak shoots and cut back on the previous season's growth far enough to get a couple or three good strong breaks, but do not let the plant carry more wood than it can support. If a plant is in good health it needs very little pruning; but if it is not growing satisfactorily, and there is no question as to its having plenty of nourishment, prune it severely. In such a case, cut back far enough to produce strong, new growths, cutting right down to the ground even. Prune climbing roses in the early spring (late March or early April).

When growing well, the plants will send up several strong suckers simultaneously with the appearance of the flowers, which may be taken for renewal growths if it is not desired to let the plant climb to any great height; remove one or two of the oldest shoots to make room for the newcomers. If a greater height is wanted, these young canes must be cut out immediately, as nearly all the strength of the plant is directed toward their development.

There is just one caution to be given here: make sure that the plant is growing on its own roots before training up the new suckers, because with grafted plants the root suckers must be removed.

The rose is not a natural climber; it can ramble over low shrubs, large boulders and



The prairie rose (*Rosa setigera*), a tall-growing shrubby species which may be treated as a vine

such things, but when grown about a veranda pillar, it must be artificially supported by tying up occasionally as it grows. This is more satisfactory than ignoring it until the end of the growing season. It is then a hard job to straighten out the badly tangled or twisted shoots, and the wind is likely to break them when they are very long.

Never let one shoot grow upright for too long a period, or get very far ahead of the others. If you do, the strongest or leading shoot will receive the greatest quantity of the sap and the plant, by throwing its strength to the top, will soon become nude at the base.

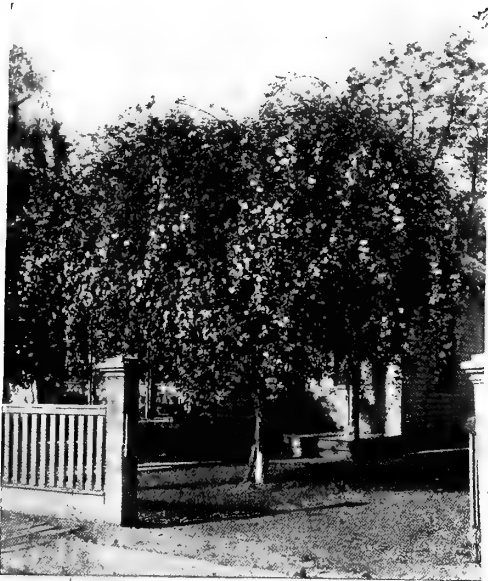
For training roses, I prefer to use staples, as the plants make but few branches and they are easily removed, which is a convenience in the case of tender roses requiring winter protection.

In the fall, give a mulch of six inches of good manure, which will not only serve as a winter protection but will also yield plant food in the early spring, when growth starts. In very dry locations summer mulching is also desirable.

Very tender roses trained on the outside of a veranda or building, and which are subjected to heavy drip in winter, need



The prairie rose is excellent when grown in masses. Has bright red hips which last until Christmas



A huge standard rose in a California yard. This bears thousands of flowers

special attention. They are best taken down, all the branches being tied together, and bent down to the ground and covered with five or six inches of earth; this, in turn, when slightly frozen, is covered with some loose stable litter, or leaves. Treated thus, it is surprising what very tender varieties may be grown in very exposed situations. For instance, I have had *Maréchal Niel* and *Reine Marie Henriette* growing on a veranda on Long Island. Injury from drip may also be prevented by wrapping the more hardy varieties in burlap, or very heavy paper.

Never prune in the fall, if the plants are to be covered, as sometimes the topmost eyes will push out into life and be injured by late frosts.

Feeding old established plants that have exhausted the soil can be accomplished in early spring, by spading under a dressing of four or five inches of manure, and after the buds burst and just before a rain, give a dressing of fertilizer in which bone is the principal ingredient. About the middle of May, start to give the plants regular weekly applications of liquid manure. Unfortunately, this treatment tends to bring the roots to the surface, which, of course, must be avoided unless one is anxious to water in dry weather. Retrenching the ground just outside the old trench lines is slower in giving results, but its effects are more lasting.

Transplanting may be done at almost any time, except during the period of actual growth (June and July) if the plants are severely pruned, for they will quickly start growth from the young eyes. Spring, however, is the best time, and the earlier the better, and even though planting under the most favorable conditions it is advisable to prune well.

A quick start counts for much in planting and it will help greatly to throw a handful of fertilizer in the ground near the roots, but not in actual contact. If growth does not start quickly, the wood hardens.

Young plants of roses can be raised by layering in early spring (April). Use flower-

ing wood and make a clean cut about half way through the shoot to be layered, just below an eye, and bend the shoot down to the ground, fastening it with pegs or stones. Place a handful of sharp sand around the cut and keep it well watered. It will quickly make roots and may be severed from the parent plant in about four to six weeks.

Roses, generally speaking, are not any more subject to insect attacks than are any other flowering shrubs. The worst pest is the rose beetle, which, however, also attacks other shrubs that flower about the same time. Fortunately, its season is short, and as most of the climbing roses flower later than the ordinary garden kinds, they escape untouched.

As a preventive on the earlier flowering kinds, I have tried everything I ever heard of as being good, arsenate of lead, Paris green, kerosene and tobacco preparations—all with



The Baltimore Belle, a prairie rose hybrid. An old-fashioned but popular variety

practically no success. Handpicking is the most effectual means of attack. It is not such an awful task as one may imagine, and one can usually get some of the small boys of the neighborhood to do the work at a small cost. Let each worker have a bucket with a little kerosene in the bottom. The advantage of this is that the females are destroyed and the intensity of next year's attack lessened. These insects do not chew like most other large insects but bore down into the very heart of the flower, where it is impossible to get any poison.

If any of the leaves become skeletonized, the rose slug is at work and will be found on the *under* side of the leaf, and the poisons (hellebore, or arsenate of lead or Paris green) must be applied there. Ivory soap (one bar to ten gallons) added to the two latter named will help them to adhere. Dust the plants with hellebore while the dew is still on them. Spray with Paris green one ounce to twelve gallons of water, or arsenate of lead one pound to ten gallons of water.

If the green fly, or aphid, is troublesome—some will always be found on the tip of the young growth—these can be destroyed with some of the tobacco preparations, kerosene emulsion or gishurst compound.

The same remedies are used against the leaf hopper, whose presence can be detected by yellowish blotches showing on the foliage, but the insect itself will be found only on the under side of the leaf.

One caution about using poisons of any kind on the plants, as it is not uncommon for children to eat rose petals (in fact, I have seen some grown up folks do it, too) very plain warnings of their presence should be given.

The San José scale will attack roses, and as it is a difficult pest to overcome, and the plant itself is almost sure to be very sickly before its presence is detected, the best course is usually to dig them up at once and burn them. If, however, they are worth the trouble of saving, spray in spring and fall with some of the standard preparations of soluble oil.

Mildew is the commonest trouble of climbing roses, and the powdery gray coating on the surface of the leaves is especially disfiguring to veranda plants. If not taken in hand as soon as it is seen, the affected leaves will drop from the plant, leaving bare, unsightly stems.

A good remedy is flowers of sulphur blown on the plant with a small bellows on a good bright day, but spraying with potassium sulphide (five ounces to ten gallons of water) is better, to my mind, because if windy the sulphur blows from the foliage. Spraying with kerosene emulsion will also control the mildew.

The single, rich pink flowers are produced in great numbers all at one time, so that the plants become veritable wreaths of bloom which last for about two weeks. As a trailing plant allowed to fall over a trellis or



The Crimson Rambler rose as a hedge. The most popular climbing red rose

clamber down the front of a steep bank, I do not know anything that is more pleasing than the prairie rose (*Rosa setigera*).

Even more free flowering is its variety tomentosa, with smaller flowers produced at the same time. From this prairie rose a number of the most popular and widely distributed climbing roses of this country have been derived and, indeed, one of the very best white roses of a free growing habit of any section is the famous Baltimore Bell. Its companions, Seven Sisters, Bright Crimson, Queen of the Prairies and Deep Crimson are equally well known.

Ever since its introduction in 1893, the memorial rose (*Rosa Wichuraiana*) has been most justly one of the most highly esteemed summer flowering shrubs of trailing habit. Its numerous flowers are small, about one-half inch in diameter, and the bright, glossy green foliage makes it a handsome plant for trellis use, even when it is out of flower. In the matter of hardiness, there are few plants that will excel the memorial rose, and where it becomes established it will self-sow in great profusion. It makes very long shoots and can easily be trained to cover the entire front of the piazza of an average suburban dwelling.

The leaves of this rose are almost evergreen, and this characteristic has been carried to some extent into its hybrids, but in the majority of cases, the hybrids do not carry their foliage all winter, but retain it until very late in December and for that reason alone merit some consideration, for they would be decorative plants even though they never flowered.

This group of climbing roses surpasses the other two in one great important quality. They do not make one burst of flower and then rest, but they continue producing their blossoms almost continuously from July until September or October, and in one or two instances (as is the case with *Débutante*) they will continue to flower until stopped by the frost.

As a white-flowered plant the species itself far surpasses any of the hybrids, and it can be used for such a multiplicity of purposes—as a ground cover, as a trailer, and as a pillar rose it is unsurpassed. If a pink-flowered form is preferred, we are fortunate in having it supplied by the variety carnea.

Almost immediately after the introduction of the memorial rose, many rose growers busied themselves in producing crosses between it and roses of the rambler type, principally the *Crimson Rambler* itself, and as a result we are enjoying to-day some remarkable accessions to the list of climbing roses.

In my opinion, without any exception, the very best single-flowered rose for showering, or fall training, is the *Jersey Beauty*, the blossoms of which are two to three inches across, creamy white in color, with a very prominent mass of pale yellow stamens, and a black disc in the centre. This variety has the peculiarity of closing its flowers at night time, opening them again the following morning. For a double rose of the same type, grow *Manda's Triumph*. The flowers

are sweetly scented, pointed in the bud and the blooming period extends over two months, from July to September.

The *Farquhar* is the best bright pink rose of this group. The color is wonderfully brilliant, being almost a cherry, and the flowers are produced in great clusters. Except in color, it is a counterpart of the *Triumph*.

The freest flowering roses of this type are *Débuntante* and *Lady Gay*, both a clear, light pink; the former having double flowers an inch and a half across, the latter (though flowering more profusely) has individual blooms smaller. For very deep pink flowers grow *Minnehaha*, while *Hiawatha* is the crimson.

As a foliage plant, *Evergreen Gem*, one of the early hybrids of this section (having *Rosa Wichuraiana* as one of its parents) is unique. Its flowers are buff white, single and very large, recalling those of the tender *Southern Cherokee* rose. The evergreen character of its foliage is more marked on light, sandy soils than it is on heavy soils, and north of New York the foliage, though partly persistent all winter, is not of the same type of evergreen as the holly, but is held better and retains a better color than that of the California privet. Finally, I commend *Gardenia* to your notice. The character of this flower is told by its name, and more than that I need hardly say.

Where it is possible to give special attention to the plants that are not absolutely hardy, there is abundant opportunity to greatly enhance the effect of the piazza during the season of rose bloom. These tender varieties must, of course, be taken down from the trellis or pillar and given protection over winter, in the way that has already been described. There are just a few of these tender roses which are worth all the effort that their cultivation entails.

Reine Marie Henriette (*Tea*) is one of the most brilliantly flowered, so-called red, but

really almost cherry-colored, roses of all the thousands that are in cultivation. It has not been popular as a greenhouse vine, but as a trellis rose, where it can be given the necessary protection, it far surpasses anything else in the family. Beginning to flower in June, it will continue to produce its gorgeous blossoms until the time of frost. It can be counted upon to attain a height of fifteen feet.

For pale pink, large-sized flowers, take *Climbing La France*, in every way like the popular dwarf variety of the same name, except in its habit of growth, and that (as is the case with all climbing forms of dwarf roses) it flowers a week or ten days later.

As a good, free-flowering, yellow rose, *Climbing Perle des Jardins* is my favorite, although there are plenty of other roses which will give richer color, as, for instance, *Rêve d'Or* and *Cloth of Gold*, typical old-fashioned roses.

In the South, the two banksia roses may be grown outdoors, but in the North they are generally available only in greenhouses. They are very free growing and produce trusses of flowers, which have a marked odor of violets, the individuals not being more than a half inch across. The foliage is shiny and of about the same size as that of the memorial rose, but of thinner texture. One variety is creamy yellow; the other, white.

Gloire de Dijon is perhaps the hardiest of the tender climbing roses and it does excellently, trained on a trellis, for a comparatively short time. It is strangely subject to what is called canker and is, therefore, considered a difficult rose to grow.

The best of all the tender climbing roses, however, for delicacy of color and perfection of form in the flower, is *Maréchal Niel*, the richest pure yellow of any flower of the family, the buds are pointed, about two to two and a half inches long, and true to its family characteristic as a noisette rose, the flowers are produced in clusters.



The Memorial rose (*Rosa Wichurata*) grown to hang over a wall. Makes a rapid growth

True and False Originality in Garden Design—By Wilhelm Miller, ^{New York}

HOW ONE WORD COVERS TWO IDEAS, ONE OF WHICH LEADS TO RIDICULOUS GARDENS, WHILE THE OTHER WILL ENABLE ANYONE TO PLAN A BEAUTIFUL GARDEN IF HE WILL ONLY BELIEVE AND FOLLOW

IT IS commonly said that imagination is the most precious quality in design of any kind, but I believe that there is a more fundamental consideration, and I am confident that most of us have a wrong conception of what imagination really is. The popular notion is that design is wholly a matter of taste; that there are no principles, laws or rules; that a successful garden cannot be planned in cold blood. It must be the result of sudden inspiration—of divine fire.

The thing these people are talking about is only fancy—a wild horse that leads us into all sorts of ridiculous situations. True imagination is a much soberer animal. The only leap it ever takes is when it sees some practical way of accomplishing a purpose that grows right out of the necessities of the case. The only true originality is that which makes a painstaking study of fitness.

A humdrum view of a lofty subject this may seem at first. Later, a sickening consciousness steals over one that the spectacular and irresponsible kind of imagination is a false god. Finally, the respect for the real thing so possesses one's whole being that such simple words as these of Charles Eliot become surcharged with an almost religious fervor: "Art out of doors must be founded in rationality, purpose, fitness."

As soon as one realizes what this means the desire to make a garden becomes a passion, and under those circumstances I do not see how anyone can make a poor one. Even if you do not agree with me, so far, you will, I am sure, concede that the eighteen pictures which accompany this article repre-

sent beautiful gardens; that they show originality in a high degree; and that they are remarkably varied. Yet they all illustrate the one idea of fitness. There is not one flight of fancy in the lot. I confess that when I first saw some of these gardens it seemed as if "a heaven-born inspiration had pierced the clouds and brought back a radiant gift the like of which no mortal eyes had seen as yet," but, in several cases, at least, I happen to know that the designers kept pretty close to earth.

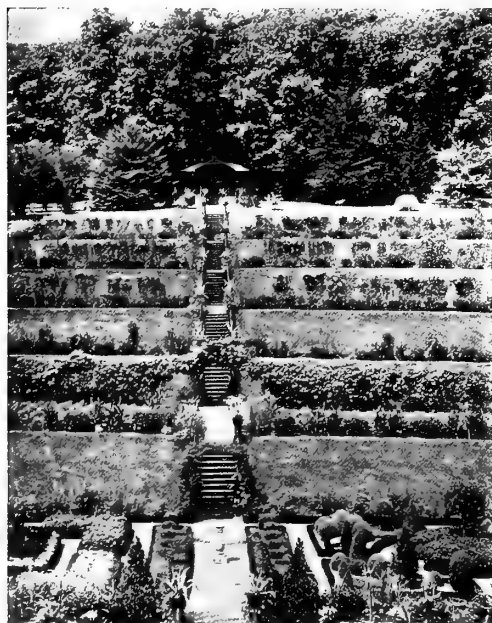
It is precisely because the only true originality is that which labors diligently under the laws of fitness, that I have selected examples which have been fully described in the public prints, so that anyone who likes to study the details of their working out may do so. And I shall try to point out mercilessly, but I hope with justice, just what false originality would do, and has done, in each case.

Let us start with the case that gives the most trouble of all—the formal garden. I used to think that formal gardening was wrong in itself. I would never read Blomfield and Thomas's unholy book, and when William Robinson in "The English Flower Garden" fulminated against these impious authors, I swelled with admiration at his noble wrath. Later I met a real architect who told me that the authors of "The Formal Garden in England" were custodians of one of the most precious truths that have come down to us through the ages. For a while I was greatly troubled, but now that I have had a peep behind the stage and seen the thunder machine do its worst I am no longer appalled.

The truth is that there is no important difference between the two schools at all. It all simmers down to a question of fitness, and both sides, in their calmer moods, admit that formal gardening is appropriate for the immediate environment of a great house while landscape gardening is appropriate for the rest of the grounds. The only things they quarrel about are names—not realities. For example, the architects want Art to rush down upon Nature and teach it its place—hence geometrical beds; the landscape men want Nature to rush up to the house and lay its imprint upon the work of man—hence shrubbery about the house and vines. In either case, you get the real thing that is desirable, viz., the transition between architecture and Nature.

Again, there is an everlasting rumpus about what to call the men who do these things. But there again, why fuss? Of course, you can't tell what a man is by what he calls himself, but a "landscape engineer" probably knows more about grading; a "landscape architect" about formal gardens; a "landscape gardener" about plants; and the "landscape designer" may be the broad man who can do all three kinds of work well.

Nevertheless, this controversy between the "two schools" will rage throughout coming centuries and each generation of onlookers will naturally suppose that vital truths of the universe are at stake. Book will be hurled against book, cries of "foul play" will hurtle through the air and the dead will lie in heaps. But it is all stage play. The actors have to make a living. A professional



1. Appropriate to a steep hillside near a large house. False originality creates terraces in flat surroundings



2. Appropriate to an estate where a transition is needed from art to nature (house to landscape)



3. Appropriate to a great estate if near the house but wholly shut in by trees

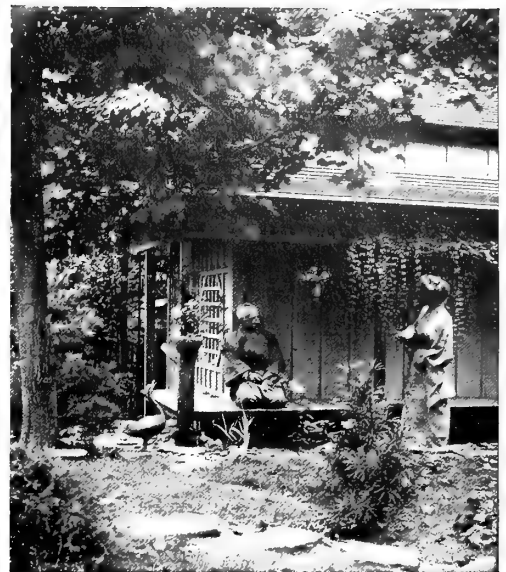
THREE FORMAL GARDENS THAT HAVE SOME EXCUSE FOR BEING



4. Appropriate to the Pacific coast because of its connection with Japan (Golden Gate Park, San Francisco)



5. Appropriate to a small city lot, if secluded, because it is a miniature form of gardening



6. Appropriate for Americans who have lived long in Japan. The late Admiral Bartlett's tea garden

THREE JAPANESE GARDENS THAT HAVE SOME JUSTIFICATION IN FITNESS

man may not advertise—save in one way viz, by writing, and the quickest way to attract attention is to start a controversy. The old fellows don't write—their time is too valuable. It is only the young fellows that need business who need to advertise.

I don't say that William Robinson is insincere. What he is fighting against is extravagance and display. What Blomfield and Thomas are fighting for is the preservation of a lot of charming features near the house that were swept away by the mistaken zeal of the first landscape gardeners: "forecourts, house-courts, base-courts, terraces, bowling greens, and walled gardens composed of 'knots,' parterres, pleaching, arbors, 'palisades' and hedges and peacocks parading the ivied walls."* Both sides want seclusion, repose, mingled light and shade, blending colors, sweet odors, the

* This sentence and the next are slightly altered from a passage in "Charles Eliot, Landscape Architect"—a lovable book which is perhaps the most important American work on landscape design.

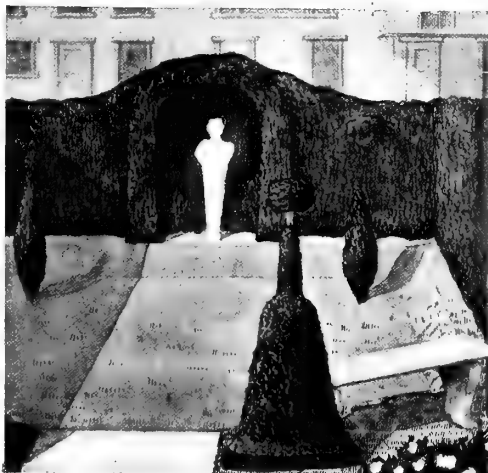
sound of running water, butterflies and birds and above all perfect fitness.

Three formal gardens that fit are shown at the head of this article. The first one is appropriate because the steep hillside near this great house had to be preserved in some way and terraces are natural to hill country. The dwarf conifers in the foreground are appropriate because the house is occupied in the winter and it is desirable that the surroundings of a house should be attractive every day of the year. False originality creates terraces at extravagant expense in flat lands, where the flatness could be relieved in better ways.

The second picture illustrates the principle that the greater the house the greater the need for formal gardening and also that a formal garden should be organically connected with the house. The connection is here indicated by the lions and by the path in the foreground. The whole garden is sunken so that it does not obtrude itself when one is contemplating the majestic view in the distance. The wall of earth in the middle dis-

tance shows where home grounds end and fields begin. False originality would fill this garden with marble seats and Italian well curbs, and either raise it so that passers-by might see or in a spirit of snobbishness build a high stone wall around the whole.

In the third picture we have an apparent exception, for the peerless Larz Anderson garden at Brookline is quite shut off by tree planting, because the house and garden represent two different styles of architecture. Nevertheless they are near together, organically connected by bowling alley and passageways. False originality would say: "I have money enough to create an environment. I can be a law unto myself." The true originality of the Anderson garden lies in the way in which it blends into nature instead of proudly vaunting its superiority to it. For as you approach the garden the eye is carried by easy transition from lawn to shrubbery and encircling trees, amid which one gets enticing glimpses of the pergola within. And as you stand at the entrance to the garden, on a commanding



7. Appropriate to smallest back yards of largest cities. Outdoor winter playground for children

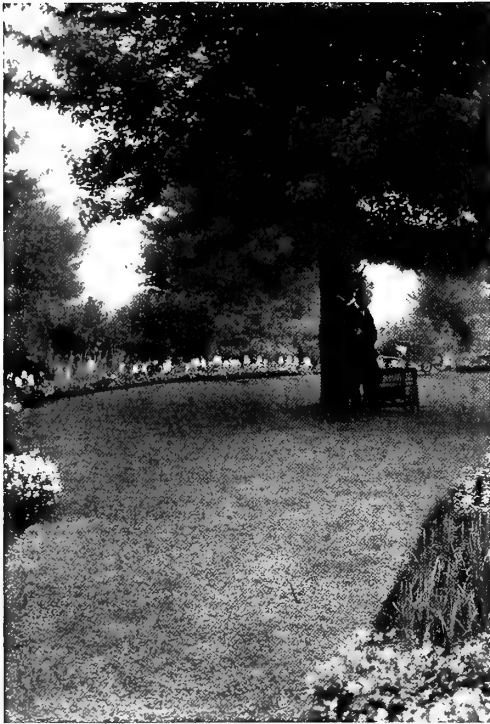


8. Appropriate wall garden for cities built on rolling lands. Shrubs and vines planted above the wall



9. Appropriate to a rose lover and to the plant itself. An example of a collector's garden

THREE CITY GARDENS THAT ARE ADAPTED TO THEIR ENVIRONMENT OR TO THE OWNER'S PERSONALITY



10. Seclusion obtained by enclosing a garden with trees instead of a snobbish, citified stone wall



11. A meadow or orchard for daffodils by the thousand. No care is required after planting



12. A Southern garden for March and April effect, in which Indian azaleas are naturally dominant

level, your glance travels from vine clad walls, down steep banks of shrubbery to the foliage of perennials, thence to the brilliant flowers in geometrical beds and finally to the central lawn—the natural resting spot from which the eye ascends by the same easy process.

Allied to the formal garden is the Japanese garden, for although the Japanese loudly protest that their gardening is the most

natural of all because it is the landscape in miniature, there is an impassable gulf between their conceptions of landscape art and ours. Theirs is essentially religious and symbolic. The Japanese do not want many flowers in their gardens; they think that great masses of color are vulgar; they care more for lines than for color and in their cut flowers particularly these lines have a semi-religious significance; their

simplicity is an extreme and affected simplicity; their hills, stepping stones, lanterns, dwarf conifers, temples and waterfalls are of definite relation to one another, or else they have something to do with ancestor worship.

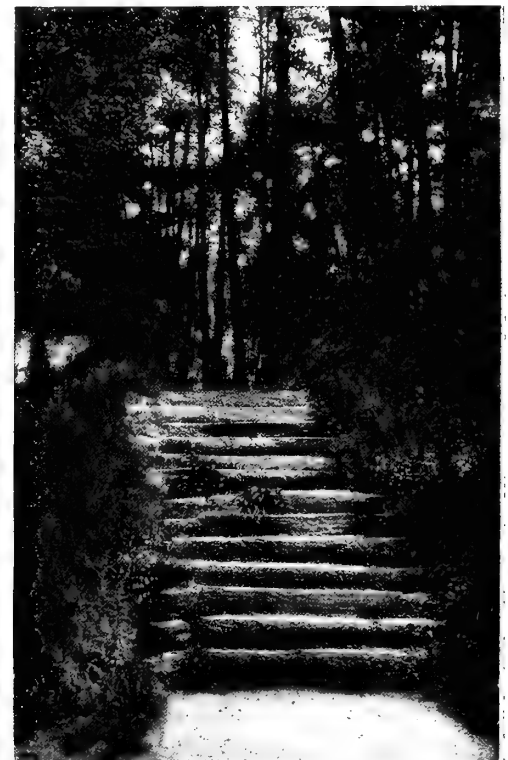
No genius can ever harmonize a Japanese garden with an American landscape. It should always be an isolated feature. False originality creates a very large Japanese garden, or puts it where all the world may



13. False originality drains wet swamps. True originality converts them into bog or water gardens



14. A nature-like water garden, irregular in outline, secluded, but sunny. On a wild garden estate



15. How an old quarry was turned into a beautiful rock garden. How different from a rockery

SIX GARDENS ON GREAT ESTATES THAT GROW OUT OF THEIR SOIL AND ENVIRONMENT

see it. True originality devises new ways of secluding it so that one's friends come upon it suddenly, as a pleasant surprise, or develops the nature-like type of Japanese garden, of which Miss Bartlett's garden is an example although Fig. 6 does not show its generous central lawn which distinguishes this type of Japanese gardening from the kind that is commonly described by travelers.

Everybody assumes, without thinking about it, that American home grounds must be bare and bleak all winter, yet there is not the slightest excuse for it. Fig. 7 shows a winter garden or outdoor playground for children that would utterly transform the hideous backyards of our greatest cities. Another way which is quicker and cheaper is to plant shrubs with brightly colored bark or bushes with red berries that remain attractive from October to March. Even where there is no land at all, young conifers in tubs and boxes are appropriate, though costly. False originality departs to Florida in November and tries to grow Northern plants in subtropical surroundings.

Another city problem that concerns every place which is not absolutely level is what to do with the irregularities left by street grading. Fig. 8 shows a solution that is truly original and American—simply vines and shrubs of arching habit planted in the soil above the wall. False originality has wasted thousands of dollars in manufacturing grassy terraces, difficult to mow and costly to repair, or in pompous retaining walls where none are necessary, or stone work to match the house. Here is a type of wall garden adapted to the hot American summers. The English wall garden, covered with perennial flowers, is not.

There are more mistakes made in arranging roses than any other plants. It is usually wrong to put roses in the front yard, either in beds near the house, or as borders for lawns or walks, because the rose bush is not a graceful bush and it has so many enemies that it must be covered more than half the time with unsightly powders or spraying material. Moreover, rose bushes have to

be heavily manured, or else put in winter overcoats of straw and neither thing is attractive. The rose belongs in a garden where its misfortunes can be hidden from the public gaze and its troubles more easily dealt with. It appeals to the collecting spirit because everybody wants many kinds of roses and only a few bushes of each. Therefore it demands formal treatment and Fig. 9, shows the right kind of rose garden—i. e., a simple design such as any amateur may work out. The wrong kind of formal garden is that which the newly rich affect—a big one composed of standard or tree roses, which do not like our climate.

Even the newly rich, I suppose, would admire the six great estate gardens pictured on the preceding page. In fact, they would probably exclaim, "Now that's what we want—something *different*." The heart is right, but the mind is wrong, because we all naturally jump to the conclusion that the "different" quality in Figs. 10 to 15 is due to bold flights of fancy instead of close study of the environment including the soil and its native vegetation.

For example, Fig. 10 has no connection with the soil or its vegetation but it is appropriate to its environment because it provides outdoor privacy and flowers near the country house and this privacy is attained by surrounding the garden with trees, informally arranged, so that one wanders into the woods and finds this precious retreat. False originality would have used a high wall, which might be necessary in a city but would be worse than useless in the country because the ideal is seclusion without exclusiveness. The stone wall is always in danger of suggesting the latter idea and therefore snobbishness.

Radically different is Professor Sargent's meadow filled with poet's narcissus, Fig. 11. This style of gardening produces more flowers for less money than any other, because the bulbs cost only \$5 to \$10 a thousand and require no care after planting. It is appropriate for meadows, orchards and other places where the grass is not cut with a lawn

mower. False originality in wild gardening is planting your lawn with left-over hyacinths and forced bulbs that will never look wild; or planting them in rows; or using kinds that cost \$40 a thousand just because they are the biggest daffodils, for these are too gardenesque—too obviously the products of man's breeding.

Fig. 12 shows the right kind of garden for a winter home in the South—something as different as possible from what you have in the North, especially broad-leaved evergreens such as camellias, Indian azaleas and *Magnolia grandiflora*. It is now the fashionable thing to have a place in the Carolinas or Georgia, near Camden, Aiken or Summerville, but why employ a Boston landscape gardener for such a place, especially if he has never seen camellias or Indian azaleas except in a greenhouse and the Cherokee rose only in pictures? Will he not plant lilacs, which will never thrive there, instead of crape myrtle and tea olive?

The next picture, Fig. 13, shows an original way of treating a wet spot. This is a bog garden, in which showy pitcher plants abound and where the cardinal flower might make great sheets of red. False originality would drain every swamp. True originality makes a pond for water lilies, puts in fish to eat mosquito wrigglers and solves two problems at once—health and beauty.

The water garden shown in Fig. 14 is a "made pond" but who would know it? Although trees hide it until you come near, they are far enough away from the water to give the lilies the full sunshine they demand. Though made of concrete, the edge of the basin is nowhere visible, being covered with grass. Instead of one square or circular expanse, it consists of an upper and lower pond with stepping stones across the neck, rampant varieties in one pond, rarer sorts in the other and the magic of running water between. False originality builds formal basins on hills, with high cement rims and water above the ground level, or tries to combine fountains with water lilies.

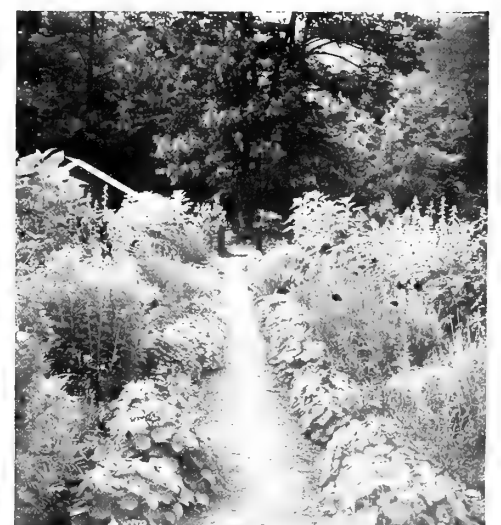
(Continued on page 356)



16. A border of hardy perennials in which three crops of flowers succeeded one another



17. Water gardening on natural lines. The water is usually higher and the margin does not show



18. A necessary straight walk enlivened by making it a garden of annuals

THREE SUBURBAN GARDENS WHICH INDICATE APPROPRIATE HOBBIES FOR BACK YARDS

Four Plans for a 50 x 100 ft. Lot—By F. C. Leible, ^{New York}

THIRD OF THE SERIES OF ARTICLES ON THE "CHEAPEST GARDENS FOR SMALLEST LOTS," WHICH GIVE FOUR SOLUTIONS FOR EVERY COMMON-SIZED LOT FROM 25 X 100 FT. UP TO 150 X 150 FT.

[EDITOR'S NOTE.—In February were published four plans for a 25 x 100 ft. lot; three for a 40 x 100 ft., and three for a 50 x 100 ft. The other sizes will be 75 x 100 ft., 100 x 100 ft., 50 x 125 ft., 50 x 150 ft., 75 x 150 ft., 100 x 150 ft. and 150 x 150 ft.]

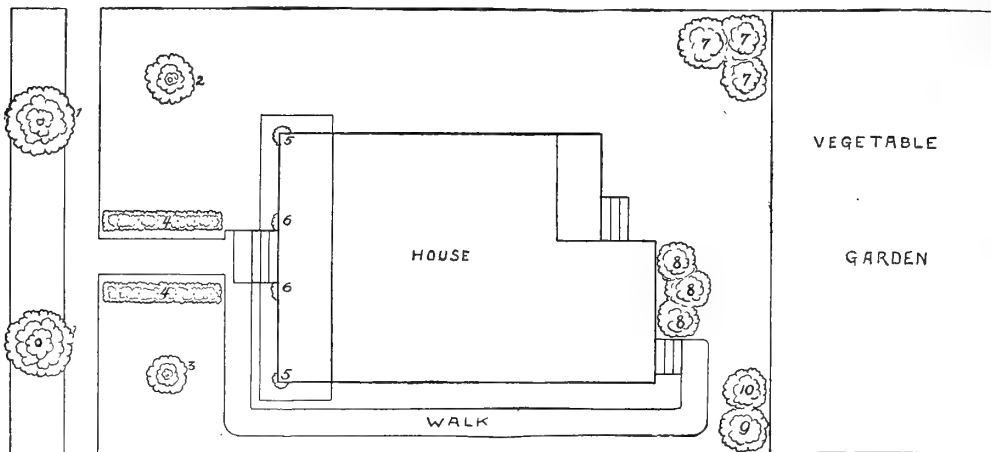
THE 50 x 100 ft. lot is a very common unit and a most objectionable one, as 125 feet is about the minimum depth for a lot that is fit for human beings to live upon. The 50 x 100 ft. lot is one of the common

fathers who do not see the necessity for alleys in clean, self-respecting communities.

Nevertheless, it is possible to have a small vegetable garden even on a 50 x 100 ft. lot, as shown in the first of the four plans,

of civic beauty, the best treatment for 50 x 100 ft. lots in closely built suburbs is a lawn surrounded by shrubbery—something like Plan 2.

You cannot do much for \$25—simply make a lawn, plant a few shrubs and hope for better times. Fifty dollars is about the minimum for which you can get a lot well furnished with shrubbery that will be attractive from April to October, with a touch of color in winter. The lowest sum for which a flower lover can plant the whole place with hardy perennials for the main feature is \$75. The least sum for which you can get something highly artistic and personal is \$100.



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|---------------------------------|---|-------------------------------|---|
| 1. American ash (2)* | <i>Fraxinus Americana</i> | 6. Crimson Rambler rose (2) | <i>Rosa multiflora</i> |
| 2. Alexandrian magnolia (1) | <i>Magnolia Soulangea</i> , var. <i>Alexandrina</i> | 7. Rugosa rose (3) | <i>Rosa rugosa</i> |
| 3. Blood-red Japanese maple (1) | <i>Acer palmatum</i> , var. <i>atrosanguineum</i> | 8. Japanese snowball (3) | <i>Viburnum tomentosum</i> , var. <i>plicatum</i> |
| 4. Japanese barberry (12) | <i>Berberis Thunbergii</i> | 9. Siberian dogwood (1) | <i>Cornus alba</i> , var. <i>Sibirica</i> |
| 5. Chinese wistarias (2) | <i>Wistaria Chinensis</i> | 10. Golden-leaved dogwood (1) | <i>Cornus alba</i> , var. <i>elegantissima</i> |

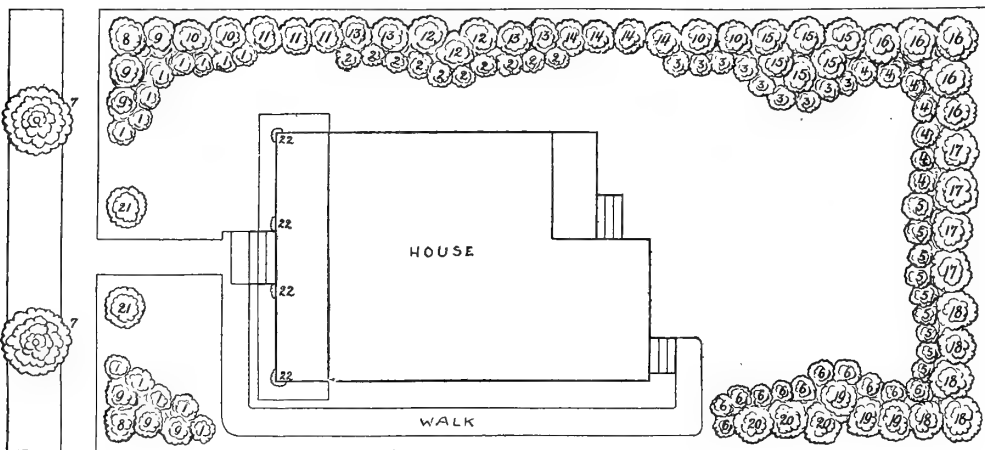
Price of plants, \$25.00

*The figures in parentheses indicate the numbers of plants which the plan calls for.

Plan 1. The cheapest solution for a 50x100 ft. lot—trees and shrubs costing \$25

sizes in the nearby suburbs of New York. It is, in fact, only two New York lots, as the miserable New York unit has spread like a contagion, owing to the greed of real estate dealers and the shortsightedness of city

but it will not be sufficient for all the family's needs so that it can hardly be justified on grounds of economy. I should not begrudge a vegetable garden to anyone who is homesick for one, but from the standpoint



- | | | | |
|----------------------------|--|-----------------------------------|---|
| 1. Rugosa rose (13) | <i>Rosa rugosa</i> | 13. Japanese bush clover (4) | <i>Lespedeza Sieboldi</i> |
| 2. Deutzias (10) | <i>Deutzia gracilis</i> | 14. Golden Bell (4) | <i>Forsythia suspensa</i> , var. <i>Fortunei</i> |
| 3. Waterer's spirea (9) | <i>Spiraea Bumalda</i> , var. <i>Anthony Waterer</i> | 15. Hardy hydrangea (6) | <i>Hydrangea paniculata</i> , var. <i>grandiflora</i> |
| 4. Mollis azalea (7) | <i>Azalea Sinensis</i> | 16. Smoke tree (5) | <i>Rhus Cotinus</i> |
| 5. Blue spirea | <i>Caryopteris Mastacanthus</i> | 17. Mock orange (4) | <i>Philadelphus coronarius</i> |
| 6. Eva Rathke weigela (11) | <i>Dierilla hybrida</i> , var. <i>Eva Rathke</i> | 18. Red Tartarian honeysuckle (5) | <i>Lonicera Tatarica</i> , var. <i>rubiflora</i> |
| 7. Button wood (2) | <i>Platanus occidentalis</i> | 19. Rose of Sharon, white (3) | <i>Hibiscus Syriacus</i> var. <i>Syringa Persica</i> |
| 8. Common barberry (2) | <i>Berberis vulgaris</i> | 20. Persian lilac (3) | <i>Berberis Aquifolium</i> |
| 9. Rose of Sharon, red (6) | <i>Chionanthus Virginica</i> | 21. Mahonia (2) | <i>Clematis paniculata</i> |
| 10. Fringe tree (4) | <i>Dierilla florida</i> | 22. Japanese virgin's bower (4) | |
| 11. Weigela (3) | <i>Calycanthus floridus</i> | | |
| 12. Carolina allspice (3) | | | |

Price of plants, \$50.00

Plan 2. Shrubbery for \$50 that will provide flowers almost every day from April to October

This scheme, I believe, is the best for the greatest number of people who own their homes, especially if they are commuters, because it is permanent and easily cared for.

You could plant the whole place, with the aid of a laborer, in one day. After that, it needs an average of not more than fifteen minutes' care a day. About the only care it needs is pruning and rearranging a few shrubs every spring or fall, in case some die and others grow too big.

The renter's objection to this plan is that he does not know how long he will stay. For him, annuals are cheaper, because they cost only five cents a package and flower the same year. Shrubs cost from thirty-five to fifty cents each and take about three years to reach full beauty, but they are cheaper in the end.

The mahonias at the entrance (marked 21) are broad-leaved evergreens of an architectural character and would perhaps look better near the house. They require shelter

from winter winds and sunshine or they will be badly faded.

PLAN 3. PERENNIALS FOR \$75

This plan is for a lover of hardy flowers. There will be something in bloom almost every day from April to October. The garden will require an hour's care every day on the average. Some people may not care to have small evergreens in their border of perennials and would prefer a solid background of shrubbery. The hydrangeas in the front yard will make two very showy masses—perhaps too showy. The important thing is to realize that border planting is better than scattering things about. Another principle is that an undulating front is better for a hardy garden than a straight line, unless the border is in a formal situation, e. g., when it lines a straight walk.

If you can afford \$75, you can have several evergreens. Dwarf conifers of globular or pyramidal shape are appropriate for the front of the house because their formal lines harmonize with those of architecture. They give a certain stateliness and dignity to formal surroundings that informal plants cannot possibly give.

PLAN 4. YEAR-ROUND ATTRACTIONS, \$100

This plan will make a man's home grounds attractive every day of the winter, when most yards are bare and unsightly. This result is accomplished by using red berries that last all winter, shrubs with brightly-colored bark and the evergreens of two kinds—broad-leaved and narrow-leaved.

Of broad-leaved evergreens there are thirteen plants—seven English ivy, four Japanese holly and two pyramidal boxwood. The English ivy covers the sheltered wall of the house. North of Philadelphia this is not sufficiently hardy and tall growing, and should be replaced by the climbing euonymus (*E. radicans*), which will grow up to the second story in a climate where English ivy can be used only as a ground cover.

Of the narrow-leaved evergreens, or conifers, there are nine specimens representing five species. Some help to make the entrance attractive and others are to furnish a background for the red berries and shrubs with brightly colored bark.

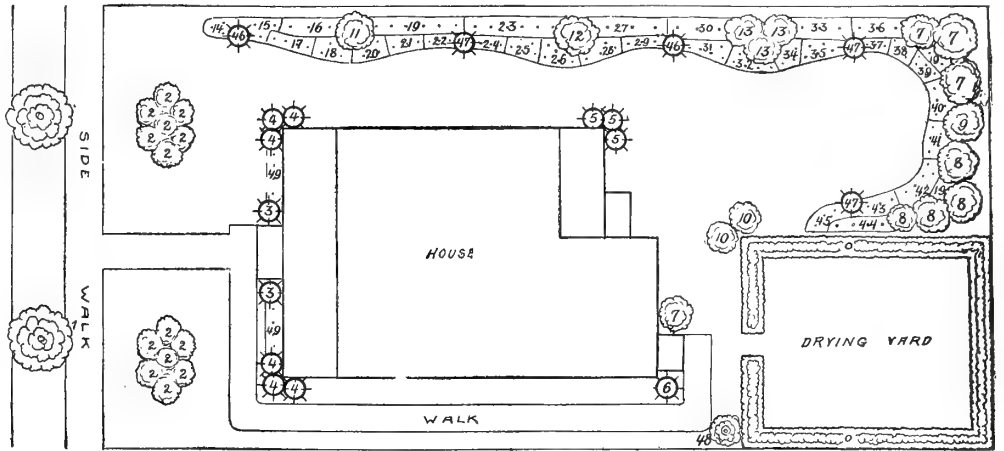
The Japanese barberry is massed at the corners in the front yard where its red berries will be enjoyed by passersby from October to March. The autumn colors of the foliage are also very brilliant. This bush grows only four feet high, but is prickly enough to keep anyone from trying to cut across the corners of the lot. It has the extraordinary merit of being well furnished with foliage right down to the ground, while the common barberry is bare at the base.

The common barberry has the advantage over the Japanese in having its berries borne in clusters, while those of the Japanese are scattered singly along the branches. There are five of these common barberries in the background (No. 20, in Plan 4) where they will make a warm spot of color all winter. If your dining room happens to be on the other side of the house, you could make these

change places with the group of golden bells (No. 16), as it is very pleasant to see something warm against the snow.

There are also nine shrubs in the back yard that will be a brilliant red all winter.

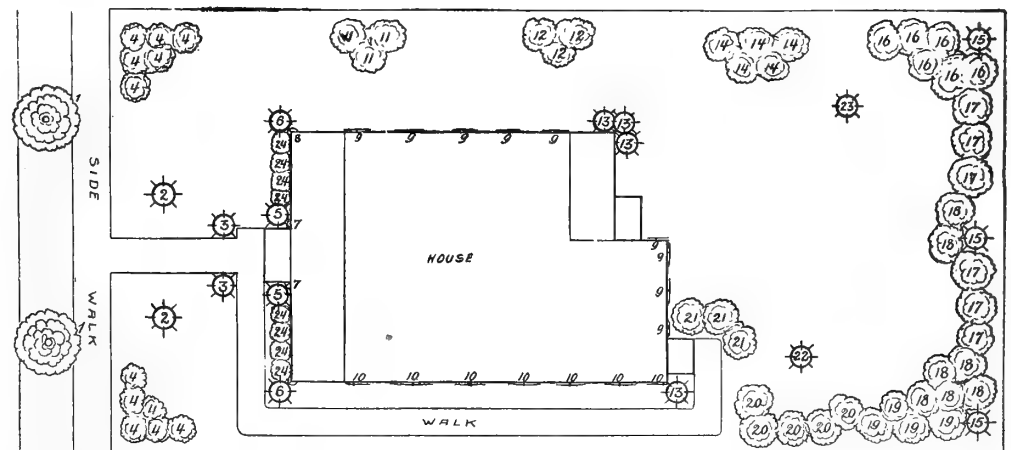
These are the Siberian and American red-osier dogwoods. The brightest color is always located in the year-old wood and therefore it is best to cut these shrubs right down to the ground every third year.



- | | | | |
|-------------------------------|---|--------------------------------|--|
| 0. California privet (100) | <i>Ligustrum ovalifolium</i> | 25. Columbine (4) | <i>Aquilegia vulgaris</i> |
| 1. American elm (2) | <i>Ulmus Americana</i> | 26. Foxglove (5) | <i>Digitalis purpurea</i> , var. <i>gloxiniiflora</i> |
| 2. Hardy hydrangea (14) | <i>Hydrangea paniculata</i> , var. <i>grandiflora</i> | 27. Double sunflower (3) | <i>Helianthus multiflorus</i> , var. <i>flore-pleno</i> |
| 3. English yew (2) | <i>Taxus baccata</i> , var. <i>erecta</i> | 28. Rosy milfoil (4) | <i>Achillea millefolium</i> , var. <i>roseum</i> |
| 4. Globe arborvitae (6) | <i>Thuja occidentalis</i> , var. <i>globosa</i> | 29. Blue Japanese iris (3) | <i>Iris laevigata</i> |
| 5. Azalea (3) | <i>Azalea Indica</i> , var. <i>amena</i> | 30. Snakeroot (3) | <i>Cimicifuga racemosa</i> |
| 6. Siberian arborvitae (1) | <i>Thuja occidentalis</i> , var. <i>Wareana</i> | 31. Phlox, Eclairer (5) | <i>Phlox paniculata</i> , var. <i>Hemerocallis julia</i> |
| 7. Mock orange (4) | <i>Philadelphus grandiflorus</i> | 32. Orange day lily (5) | <i>Aster Nova-Angliae</i> |
| 8. Rose of Sharon (4) | <i>Hibiscus Syriacus</i> | 33. New England aster (3) | <i>Gaillardia aristata</i> , var. <i>grandiflora</i> |
| 9. Golden bell (1) | <i>Forsythia suspensa</i> , var. <i>Fortunei</i> | 34. Blanket flower (4) | <i>Phlox paniculata</i> , var. <i>Helanium autumnale</i> |
| 10. White kerrias (2) | <i>Rhodotypos kerrioides</i> | 35. Phlox, Marie Stuart (4) | <i>Dictamnus alba</i> |
| 11. Japanese snowball (1) | <i>Viburnum tomentosum</i> , var. <i>plicatum</i> | 36. Sneezewort (3) | <i>Clematis heracleifolia</i> , var. <i>Davidiana</i> |
| 12. Storax (1) | <i>Styrax Japonica</i> | 37. Gasplant (3) | <i>Delphinium jormosum</i> and <i>D. hybridum</i> |
| 13. Persian lilac (3) | <i>Syringa Persica</i> | 38. David's clematis (4) | <i>Chrysanthemum Indicum</i> |
| 14. Plantain lily (3) | <i>Funkia lancifolia</i> , var. <i>variegata</i> | 39. Larkspur (5) | <i>Iris laevigata</i> , var. <i>Lysimachia clethroides</i> |
| 15. Tickseed (3) | <i>Coreopsis lanceolata</i> | 40. Pompon chrysanthemum (4) | <i>Rudbeckia speciosa</i> |
| 16. Crimson eye (3) | <i>Hibiscus Moscheutos</i> , var. <i>Crimson Eye</i> | 41. Japanese iris, Eclipse (5) | <i>Liatris pycnostachya</i> |
| 17. Speedwell (4) | <i>Veronica longifolia</i> , var. <i>subsessilis</i> | 42. Loose-strife (7) | <i>Gypsophilla paniculata</i> |
| 18. Horsemint (3) | <i>Monarda didyma</i> | 43. Cone flower (4) | <i>Taxus baccata</i> , var. <i>fastigiata</i> |
| 19. Hollyhock (9) | <i>Althaea rosea</i> | 44. Gay feather (3) | <i>Juniperus communis</i> , var. <i>Hibernica</i> |
| 20. Bleeding heart (3) | <i>Dicentra spectabilis</i> | 45. Baby's breath (3) | <i>Betula alba</i> |
| 21. Shasta daisy (3) | <i>Chrysanthemum Leucanthemum</i> | 46. Irish yew (2) | <i>Peonia officinalis</i> |
| 22. German iris, Gracchus (6) | <i>Iris Germanica</i> , var. <i>Boltonia latisquama</i> | 47. Irish juniper (3) | |
| 23. False chamomile (6) | <i>Achillea Ptarmica</i> , var. <i>flore-pleno</i> | 48. White birch (1) | |
| 24. The Pearl achillea (3) | | 49. Peony (8) | |

Price of plants, \$75.00

Plan 3. For a flower lover. Hardy borders that will bloom from April to October



- | | | | |
|-----------------------------|--|---------------------------|---|
| 1. Pin oak (2) | <i>Quercus palustris</i> | 13. Japanese holly (4) | <i>Ilex crenata</i> |
| 2. Colorado blue spruce (2) | <i>Picea pungens</i> , var. <i>glauca</i> | 14. Black alder (5) | <i>Ilex verticillata</i> |
| 3. Irish yew (2) | <i>Taxus baccata</i> , var. <i>fastigiata</i> | 15. American arborvitae | <i>Thuja occidentalis</i> |
| 4. Japanese barberry (12) | <i>Berberis Thunbergii</i> | 16. Golden bell (6) | <i>Forsythia suspensa</i> |
| 5. Pyramidal box (2) | <i>Buxus sempervirens</i> | 17. Siberian dogwood (6) | <i>Cornus alba</i> , var. <i>Sibirica</i> |
| 6. Globe arborvitae | <i>Thuja occidentalis</i> , var. <i>globosa</i> | 18. Globe flower (7) | <i>Kerria Japonica</i> |
| 7. Crimson Rambler rose (2) | <i>Rosa multiflora</i> | 19. Rose of Sharon (4) | <i>Hibiscus Syriacus</i> |
| 8. Akebia (2) | <i>Akebia quinata</i> | 20. Common barberry (5) | <i>Berberis vulgaris</i> |
| 9. Japan ivy (9) | <i>Ampelopsis tricuspidata</i> | 21. California privet (3) | <i>Ligustrum ovalifolium</i> |
| 10. English ivy (7) | <i>Hedera Helix</i> | 22. Austrian pine (1) | <i>Pinus Laricina</i> , var. <i>Austriaca</i> |
| 11. Red-osier dogwood (3) | <i>Cornus stolonijera</i> | 23. Oriental spruce (1) | <i>Picea orientalis</i> |
| 12. Chinese golden bell (3) | <i>Forsythia suspensa</i> , var. <i>Fortunei</i> | 24. Indian currant (8) | <i>Symphoricarpos vulgaris</i> |

Price of plants, \$100.00

Plan 4. Year-round attractions for \$100. Is particularly strong in winter features

A City Roof Garden for \$9.00—By Jacolyn Manning, ^{Wisconsin}

THE TRUE STORY OF A HOME ROOF GARDEN THAT HAS BEEN A SUCCESS FOR THREE YEARS, TOGETHER WITH AN INDUCEMENT FOR OTHERS TO GO AND DO LIKEWISE

[EDITOR'S NOTE.—We offer twenty-five and ten dollars for the best two roof-garden articles written as a result of reading this. They must be illustrated and by amateurs.]

OUR roof garden, whose third summer is now in the past, has been an all-the-season joy. It has saved us from the fiery furnace of the August sunshine.

Our residence is a second-story flat in a brick block. The front windows open on a noisy, dusty thoroughfare. The most inviting room in the flat is in the rear, crossing its entire width, and opening by three large windows on a tin roof, the extension to the store below.

This roof slopes slightly to the west. The brick walls that surround it, have one break, toward the sunset and the beautiful Chippewa River.

During the first summer the sun's rays seemed to gather malevolent heat each succeeding hour of the afternoon, until the roof quivered, and the atmosphere of the sitting room became unendurable.

The only palliative I found, was to flood the roof with water at intervals, but the steam from the hot tin merely gave us change in discomforts.

The following spring the deep windows and roof were utilized early to start seedlings. They grew like "Mister Finney's turnip," and "did no harm" though it was a little trouble to draw in or cover the boxes each night. By the first of May there were twenty-three flats filled with thrifty young annuals.

We had consulted a roofer concerning the next step. He said that a platform, on proper stringers, could be covered with boxes of earth and do no damage to the roof.

This platform when made was 6 x 12 ft. with uprights at the corners to which I

nailed chicken wire for vines on three sides.

At the shoe store I found stout wood cases of a uniform size, 4 x 2 x 1½ ft.

A local expressman agreed to fill these boxes with good garden earth, for a small sum; and becoming interested he was better than his word for he hauled muck from a nearby swamp, and adding sand and barnyard earth, mixed a compost which has proved fertile.

The boxes were placed one at each end of the platform, and three along the distal border. Boxes and platform were painted dark green.

Sweet peas and corn were planted along the back row (having in mind a Greek peanut vender who made himself a tolerably shady and green retreat, on a barren and ugly corner on Ogden Avenue Boulevard, Chicago, by growing corn around his portable popcorn and peanut stand. To the credit of the Douglas Park policeman, be it said, he was left undisturbed in this pathetic substitute for the vine and fig tree of his native land.)

Impatient for immediate beauty, I brought home budded clumps of marsh-marigolds from the Trout Brook and filled the right hand box. The sun brought out the blossoms rapidly, and the box, kept soaking wet, was a mass of gold and green for three weeks. These were replaced by well grown dwarf nasturtiums which maintained a succession of flowers in that box till frost.

The left-hand box was planted with cosmos

seedlings and morning glories which ran a race for the top of the wire. The cosmos plants were thinned as they grew till only three were left. Their last blossoms were gathered in November, weeks after frost cut down all the green of neighborhood gardens.

Sweet peas, pansies, mignonette, forget-me-nots, all grew and blossomed freely, and were gathered and loved.

The most heated August afternoon wafted a cool fragrance through the open windows, and frequent rains lessened somewhat the task of watering thoroughly each box every day.

When the harvest moon soared high, I found my roof a garden of enchantment, and left it reluctantly only when the light ceased from silvering each shining leaf.

Of course, the spring-grown annuals exceeded our possible space, and were given away by dozens to friends with "really" gardens.

I bought, for color, one salvia, two scarlet geraniums and two scarlet verbenas: explaining to the German florist, who insisted on giving prices by the dozen, that only a few for a roof-garden were needed. "Ha!" said he, "a roof-garden. You are quite like city folks! Well, there is one good, the dogs will not walk over it."

The second summer, a cucumber barrel, and various boxes were added. "You never come in without half a bushel of dirt!" was a neighbor's comment on the basket filled with leaf mold and fern roots that always accompanied a return from the woods.

An old iron sink waked up one morning to find itself ennobled to the production of mint. The sink proved itself superior to the wooden cases, in that it does not leak water nor earth, and the old drain is sufficient to keep the ground sweet.

The third summer (1905) we had one very successful bed of china asters, raised from seed and showing profuse, many-colored, chrysanthemum-like blooms.

The bird visitors were frequent. One of the ever-present English sparrows was seen one day despatching a wasp, from the colony under the eaves. Robins listened vainly for earth worms. Screeching, inquisitive jays, with a lovely blue, lit up the wire now and then. One humming bird has been seen—by two witnesses—and the kingfishers fly by, springing their rattle on their way to the river.

I have had periods of thinking our plant opportunities very limited. The vines especially have never made the sturdy growth of those rooted in old Mother Earth, yet they have added shade, fragrance and beauty.

I have grown and trained over the window frames with varying success, wild cucumber, flowering beans, Chinese yam or



A bare, unsightly place which radiated so much heat as to make the adjoining rooms unendurable

cinnamon vine, morning glory, canary bird flower, *Cobæa scandens* and Japanese hop, the last named by all odds the prettiest.

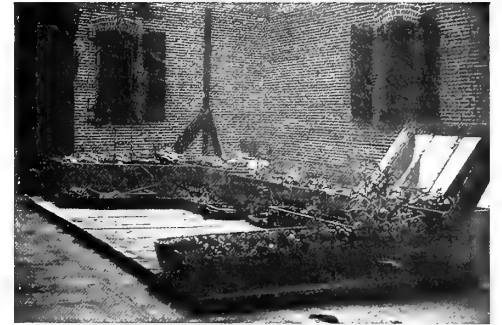
In the July *Outlook*, Hans Christian Andersen tells us that a box of earth on the roof between two houses, was his mother's garden; there she raised kitchen greens and flowering plants. This goes to prove that there is nothing new under the sun. It is said that the little "Japs" have been growing flowers on their concave roofs since time began, or rather since their Tartar tents gained permanent coverings. *Iris tectorum* is so called because it is grown on their roofs to safeguard their homes from evil spirits.

But with the scrub-woman, a chronic

5 x 20 ft. He decided to utilize this space for a garden, as he could not grow any plants in the house because of the illuminating gas.

A number of wooden boxes were made in various sizes from three to eight feet long, one foot wide and eight inches deep. An iron railing enclosed the garden, and the view from the street was shut off by training vines over the framework. The boxes are arranged on both sides, allowing a narrow walk in the centre. In one corner, a bench was placed with an awning overhead, where the greater part of the day is spent watching and caring for the plants.

A hose connection in this roof garden



A 6 x 12 ft. platform was built to protect the roof. On it were placed the boxes in which the plants (mostly annuals) were grown

THE TABULATED RESULTS

COMMON NAME	BOTANICAL NAME	NO. OF PLANTS	WHEN AND WHERE STARTED	SEASON OF BLOOM	COST (cents)	SUCCESS OR FAILURE
African marigold	<i>Tagetes erecta</i>	4	Apr. 10th, house	Aug. 1st to frost	5	Many flowers.
Canary bird vine	<i>Tropæolum peregrinum</i>	4	Apr. 9th, house	Aug., Sept.	5	Plants died.
Candytuft	<i>Iberis amara</i>	clump	Apr. 10th, house	June to frost	5	Many flowers.
China aster	<i>Callistephus hortensis</i>	15	Apr. 10th, house	Aug. 1st to frost	10	Many flowers.
Cinnamon vine	<i>Dioscorea diuvaricata</i>	2	May 15th, roof	No flowers	20	Beautiful foliage.
Cobæa	<i>Cobæa scandens</i>	2	Apr. 9th, house	No flowers	25	Plants died.
Corn	<i>Zea Mays</i>	12	Apr. 28th, roof			Too crowded discarded Aug. 1st.
Cosmos	<i>Cosmos bipinnatus</i>	3	Apr. 9th, house	Oct. 1st, Nov. 7th	10	Many flowers.
Japanese hop	<i>Humulus Japonicus</i>	3	Apr. 10th, house		5	Very decorative.
Mignonette	<i>Reseda odorata</i>	25	May 25th, roof	July 1st, to frost	5	Too crowded never thrifty.
Morning glory	<i>Ipomæa purpurea</i>	100	Apr. 4th, roof	All summer	5	Decided success.
Nasturtium, climb.	<i>Tropæolum majus</i>	100	Apr. 4th, roof	July 5th, to frost	10	Many flowers.
Nasturtium, dwarf	<i>Tropæolum minor</i>	100	Mar. 14th	June 8th to frost	10	Decided success.
Petunia	<i>Petunia hybrida</i>	50	Apr. 4th, house	June 15th to frost	10	Better var. failure.
Poppy	<i>Papaver somniferum</i>		May 1st, roof	No flowers	10	Plants died.
Sweet alyssum	<i>Alyssum maritimum</i>	clump	Apr. 10th, house	June to frost	5	Many flowers.
Sweet Pea	<i>Lathyrus odoratus</i>	200	Mar. 14th, house	All summer	25	Flowered earlier than in gardens.
Zinnia	<i>Zinnia elegans</i>	12	Apr. 10th, house	July 30th to frost	10	Very satisfactory.
					\$1.65	

objector, I can say, "I have never did it that way before."

EXPENSES OF ROOF GARDEN

Packing cases (five)	\$.50
Earth	1.00
Green paint (1 quart)	.60
Platform, 6 x 12 ft.	3.00
Chicken wire, 25 ft.	.60
Seeds and bulbs	1.65
Plants from greenhouse	1.15

Total expenses for three years' maintenance \$8.50

The following were given to us: Forget-me-not, tradescantia, mint, dill, flowering beans and wild cucumbers.

From the woods we brought cowslips, ferns, violets and golden saxifrage.

A Retired Gardener's Hobby

THERE is a second-story roof garden not far from the centre of the city of New York, whose wealth of plants would excite the envy of any lover of flowers. The owner is a man eighty-seven years of age and was formerly engaged in growing flowers commercially; and when late in life he retired to city apartments to spend the rest of his days quietly, he felt that he could not spend his time more pleasantly than by cultivating a few of his favorites. In the rear of his apartments is a narrow roof about

provides for plenty of water. A good syringing is necessary every day which controls the red spider and by an occasional use of flowers of sulphur, the gardener is able to

keep his plants free from the aphides and other insects. During the winter, the plants are sent to a nearby greenhouse where they are cared for. They are brought back to the roof as soon as spring opens.

The view of the garden from below presents a mass of Japanese morning glories covering the iron railing. Growing in the same box are some roses, asters and gladiolus. Two or three varieties of the gladiolus fringe other boxes in which more roses are growing. The other boxes contain chrysanthemums, begonias, dahlias, pelargoniums, heliotropes, verbenas, lantanas, Easter lilies, feverfew, fuchsias and a few tomatoes which were mixed in with the morning glory seed.

A good succession of bloom was obtained from some boxes by planting them in the earliest spring with pansies and English daisies; for summer bloom these were succeeded by geraniums, English ivy, coleus, cannas, and lobelias. These gave a continuous bloom until frost.

A jessamine vine (*Jasminum nudiflorum*) clambers up the side of the house and a clematis covers part of the railing. Here and there are pots of the Boston fern and palms.

Pennsylvania. R. R. RAYMOTH.



Many kinds of plants were grown on this roof. The shade they cast materially lessened the heat in the rooms on this side of the house

A New Gardening Hobby for Americans—By Henry Maxwell, ^{Conn-}ecticut

THREE WONDERFUL DISCOVERIES THAT ENABLE US TO TRANSFORM BAD-SMELLING, UNHEALTHFUL, MOSQUITO-INFESTED BOGS INTO GLORIOUS GARDENS FILLED WITH ORCHIDS, INSECT-CATCHING PLANTS, AND OTHER INTERESTING FLOWERS

BOG GARDENING is a familiar phrase in England that suggests only delightful possibilities, but in America it may sound ridiculous enough. Yet this article will describe six new kinds of gardens that can be made at small expense out of unhealthful, disagreeable or worthless bits of lowland which are now merely breeding places for mosquitoes.

Two of these gardens will contain fascinating orchids and insectivorous plants that cannot be grown in any other way; one will contain thousands upon thousands of cardinal flowers and fringed gentians in unbroken sheets; another will have some of the most gorgeous flowers in the world, such as Japanese iris: one will appeal to the collector and suburban hobby-rider; and the last will be a very cheap and wholly American garden such as any rural community can afford to have, instead of reducing the countryside to an ugly monotony by filling low areas in the crusade against mosquitoes.

All this has been made possible by three great discoveries, the most electrifying of which is that malarial fever is spread only by mosquitoes of the genus *Anopheles*, which can be destroyed by oil sprays and by draining the marshes. The world has been entirely mistaken all these centuries in supposing that it is bad air or an exhalation from swamps which causes chills and fever. Moreover, it is only at night that the malarial mosquitoes are active. Thus, swamps have

been robbed of their terrors, and bog gardens can no longer be considered unhealthful.

Another revolutionary discovery was made by Dr. George V. Moore, who has shown that the bad-looking and bad-smelling "scum" of stagnant water can be destroyed with marvelous ease and cheapness by the use of copper sulphate. City reservoirs of drinking water can be cleaned simply by trailing a bag of copper sulphate behind a rowboat; lakes can be cleaned without killing the fish, and bulletins of the United States Department of Agriculture tell just how to do it. Exit the bad smell.

The third discovery was made by the new science, ecology, which studies plants outdoors in their life relations to one another, instead of merely describing species or cutting up plants and studying them under a microscope. Ecology has shown that there are two totally different kinds of bog, each with wonderful peculiarities and possibilities. The more exciting kind is the sphagnum bog, because it is the only place in which we may grow pitcher plants and other weirdly beautiful insect-catchers, as well as the *Arethusa*, *Calypso* and other elusive orchids. The less exciting kind is the common muck swamp which can be glorified by great colonies of cardinal flower, fringed gentian, forget-me-nots, bee balm, purple loose strife and *Lilium superbum*.

"The sphagnum bog," says an American enthusiast, "is the cleanest and healthiest

kind of wet place there is, for it is a singular fact that its waters contain *no bacteria*. Not only is there a complete absence of the ordinary organisms of decay, but the waters are strongly antiseptic. This explains why oak and other trees that have fallen into such bogs have been preserved for many centuries. It also explains why sphagnum bogs furnish the best peat for burning and for horticultural purposes, because the best peat—true peat—is soil in which the plant forms are still clearly visible, whereas in muck the germs of decay have destroyed all trace of vegetable structure. (Unluckily, most people do not understand this obvious and all-important distinction. Muck is cheap; good fibrous peat costs money.) Swamp peat, when burned, yields a great deal of ash; sphagnum peat, very little.

"Another astonishing fact about a sphagnum bog is that it is poor in plant food, while the common swamp is rich. Both kinds have luxuriant vegetation, and the ordinary muck swamp, when drained and sweetened by the use of lime, becomes good land for leafy crops, such as celery and lettuce, which need plenty of nitrogen. But the sphagnum bog is very poor in nitrogen, and that is why the pitcher plants, Venus's flytrap, sundew, and butterwort have to get their nitrogen in the form of proteids, by capturing insects.

"This poverty in nitrogen also explains why nobody ever succeeds in growing most of our hardy native orchids. The bog-loving



For the orchid bog garden—the *Pogonia*. Will grow only in sphagnum



For the insectivorous bog garden—a sundew. (*Drosera rotundifolia*)



The turtle-head (*Chelone glabra*), a white autumn wildflower. Much more splendid is the bright rosy *Chelone Lyoni*, which is hardy if covered in winter

members of the orchid and heath families are now known to be 'partial saprophytes.' They are not downright parasites, like the mistletoe and dodder, which get all their nourishment from living organism and often cause the death of their hosts, but they are more nearly comparable to mushrooms and the Indian pipe, which feed on decaying organic matter."

I. AN ORCHID BOG GARDEN

There are thousands of these sphagnum bogs in the United States which are worthless to the farmer, and in New England, especially, they can often be bought as parts of ten-dollar-an-acre farms that are just the thing for summer homes. I know of one Bostonian who is planning to buy one and grow all the hardy native orchids mentioned in THE GARDEN MAGAZINE for August, 1906, on pages 13 to 15. The showiest of all hardy orchids is *Cypripedium spectabile*, which is often found in sphagnum bogs.

II. AN INSECTIVOROUS BOG GARDEN

The other great specialty which one may cultivate in a sphagnum bog is the insect-catching plants. Of these the most wonderful is Venus's flytrap (*Dionaea muscipula*). Although this grows wild only in North Carolina, it is hardy at Philadelphia and I believe it would be hardy in a New England sphagnum bog, for Mr. Manning finds that the Southern pitcher plant (*Sarracenia flava*), the showiest of the whole genus, multiplies under such conditions. However it is most satisfactory as a pot plant and is too small for mass effects, and so are sundews. I know where I can buy six kinds of hardy pitcher plants (the showiest of which is *Sarracenia flava*), and several kinds of sundews and butterworts—all at an average rate of \$1.50 for ten. Some day I intend to follow Mr. Manning's example, buy a farm with a sphagnum bog on it, get Darwin's book on Insectivorous Plants and go in for these wonders of the vegetable kingdom. Among

the many other treasures that will grow in Mr. Manning's bog garden are the exquisite twin flower *Linnaea borealis*, the dainty mealy-flowered primrose (*Primula farinosa*) and a whole section of the lovely heath family, including Andromeda, swamp huckleberry, marsh rosemary and *Kalmia glauca*.

The only thing you have to do to such a bog garden is to set the plants and kill the poison sumach if there is any.

III. A SPECTACULAR BOG GARDEN

Coming now to the ordinary muck swamp or meadow, we find that great floral spectacles can be produced at trifling expense by naturalizing the showiest American wildflowers that delight in wet ground. Our loveliest blue wildflower, the fringed gentian, is now being grown by thousands at Tuxedo, New York, by Mr. Thomas Murray, to whom THE GARDEN MAGAZINE awarded a medal in December, 1905, for his discovery of the secret of fringed gentian culture.

Our very best red wildflower, the cardinal flower, has two kinks in its cultivation (which are straightened out in THE GARDEN MAGAZINE for May, 1905, on page 187 and April, 1906, on page 180), but it can be cheaply



For the collector's bog garden in which "one of everything" is the idea. Japan iris (*I. laevigata*). Over a hundred varieties of this gorgeous nine-inch flower

raised from seed. Mr. Murray estimates the cost of raising a million cardinal flowers about \$300 for actual labor. These can be easily transplanted from seed-bed to flats and thence to the open ground.

Bee balm (*Monarda didyma*) is a coarser flower than the cardinal, but a brighter and more effective red in distant masses, and it multiplies with ridiculous ease—almost as fast as mint. I wish I had a piece of wet woods which I could drain by simple ditching. By letting the ditch meander a little, I could make a brook out of it, and line a mile of it with bee balm and forget-me-nots at a cost of fifty dollars. (I should get the *Myosotis palustris*, var. *semperflorens*, which is said to bloom all summer.)

The brightest yellow flowers of early April are marsh marigolds (*Caltha palustris*). I know a man who offers to collect 10,000 for \$70, but a fair price for clumps is \$20 for 100.

The hundreds of thousands of commuters who daily cross the Hackensack marshes to New York all know the marshmallow (*Hibiscus Moscheutos*) which glorifies the meadows in August. It has pink flowers four or five inches across. The white variety is kept by nurserymen, also a variety called Crimson Eye.

The most gorgeous purple flower of July and August is the spiked, or purple, loosestrife (*Lythrum Salicaria*), which improves wonderfully in cultivation. In the great marshes opposite New York it grows only two or three feet but at Barrytown, N. Y., it attains eleven or twelve, and has countless spikes of small flowers. This plant is a great favorite of Mr. John Burroughs. Its season of bloom is extraordinarily long. A hundred clumps of it cost about \$10.

The crowning glory of such a garden would be the American Turk's cap lily (*Lilium superbum*), a stately species with whorled leaves, which attains eight feet and bears dozens of scarlet-orange flowers. This is



For the American bog garden—cattail



Arrowhead, a typical bog plant which we ignore, but which Europeans buy from nurserymen

the costliest item—\$55 for a 1,000 bulbs—but it is worth it. *Lilium Canadense* is another charmer.

IV. A HARDY EXOTIC BOG GARDEN

Of course, for an "iris crank," a bog garden is little short of Paradise. The

largest of all irises, the Japanese, demands drainage in New England, and many people complain that young plants of it will not stand "wet feet." But I have seen plenty of 9-inch Japanese iris flowers in mean, nasty wet clay. There are a dozen other species of iris that are worth growing in boggy places. The largest yellow flower you can get for the bog garden is *Iris Pseudacorus* and it is a good one. German irises are also strongly recommended by the English bog gardeners, but I should consider them too gardenesque for a wild spot.

Among foliage plants for such a garden the three grandest types are the following:

The giant reed (*Arundo Donax*) is sometimes recommended as the cheapest and best tall permanent grass for the bog garden, but it often winter kills in wet places. Ravenna grass (*Erianthus Ravenneæ*) is supposed to be a lover of wet ground, but I have unfavorable accounts of it from New England. Perhaps the safest would be eulalia.

The famous Gunnera I have never seen, except in pictures of streamside gardens, but I believe it has the biggest leaves of anything that grows out of the ground. Imagine a specimen fifteen feet in diameter, eight feet high and with leaves four feet across! Unfortunately, Gunneras are South American plants, and therefore tender. They are quite hardy in England if a layer of dry leaves be placed among the stems during severe cold spells and the Gunnera leaves bent down. In early spring, also, the young growths have to be protected by canvas-shading, or matting. It is considered hardy at Rutherford, N. J. Five-year-old plants cost \$3.00.

The umbelliferous type of vegetation should be represented by some sort of giant fennel, e. g., *Ferula*. All one has to do to this is to keep it from going to seed, for these splendid things are weedy. *Heracleum lanatum* is satisfactory at Philadelphia and does not self sow too much.

V. THE CHEAPEST AMERICAN BOG GARDEN

The cheapest kind of bog garden is one composed of the plants that grow wild in the greatest quantity in your vicinity. The public always wants to keep the forest portion of a city park in its original wildness and the same spirit, I hope, will assert itself strongly in every locality where a crusade against mosquitoes is going on. For the wet woods and meadows have a flora of their own which is well worth preserving. Spring beauties by the million carpet the wet woods near my home; Canada lilies, with their spotted red or yellow bells glow everywhere among the shadows; and in September there are sheets of blue lobelias. Everybody knows and loves these flowers, but we need to change our viewpoint about the commoner and humbler flowers.

For instance, who loves skunk cabbage? Only bees and artists and Thoreau. The farmer thinks only of its coarse, summer foliage and rank odor. Yet it is malodorous only when bruised, the coloring of its hoods is unsurpassed and it is undoubtedly the first wildflower of the year, preceding the hepatica by a month or more. Moreover, it is actual-



One of the best blue flowers of autumn. Save it when you drain a swamp (*Lobelia syphilitica*)

ly cultivated for its beauty in countries where it is not common. Thirty-seven cents apiece is the catalogue price in England. We shall never be cultured until we can appreciate the beauty of common, homely, every-day things.

A farming community has the right to banish skunk cabbage from its village park, if it wants to, but the day will come when every city will have a bit of wet woods for



The brilliant red Indian paint brush, one of many flowers that will not grow in ordinary gardens, but should in a bog garden.



Hardhack or steeple bush (*Spiraea tomentosa*). Deep pink or purple flowers in July or August.

the enjoyment of the people, and there will be thousands who will hail the mottled hoods of this strangely beautiful plant as the first sign of returning spring.

On a great estate near Philadelphia is a two-acre bog garden where skunk cabbage is appreciated, especially for its foliage effect before the trees leaf out. New England asters were planted among them to hide the cabbage leaves during their period of coarseness.

All the common ferns that like wet places, whether in shade or sunshine, and all the familiar wildflowers of the swamp (arrow-head, sweet flag, turtlehead, and others here pictured) are regularly cultivated and sold by nurserymen, although it must be confessed that their chief demand comes from Europe.

Other native perennials of this kind worth saving are the swamp calla (*Calla palustris*); turtlehead (*Chelone Lyoni*); golden club (*Orontium aquaticum*); buck bean (*Menyanthes trifoliata*); dark green bulrush (*Scirpus atrovirens*); grass of Parnassus (*Parnassia Caroliniana*), deer grass, shooting star, swamp violet and adder's tongue.

Among the best native shrubs for bog gardens are: wild rosemary (*Andromeda polifolia*); white azalea (*Azalea viscosa*); dwarf cassandra (Cassandra); button-bush (*Cephalanthus occidentalis*); high-bush huckleberry (*Gaylussacia frondosa*); black alder (*Ilex verticillata*); sheep laurel (*Kalmia angustifolia*); swamp laurel (*Kalmia glauca*); Labrador tea (*Ledum latifolium*); long-stalked winter-berry (*Nemopanthes Canadensis*); red choke-berry (*Pyrus arbutifolius*); rhodora (*Azalea Canadensis*); deer-berry (*Vaccinium stamineum*); high-bush blueberry (*Vaccinium corymbosum*). Mr. F. W. Barclay also recommends *Itea Virginica*, and common elder.

VI. THE COLLECTOR'S BOG GARDEN

Do you like to grow "one of everything" in a small space in your backyard, discarding the things you do not like and propagating the things that take your fancy? Bog gardening makes a good backyard hobby, for suburbs or country. It can be incidental to a water-lily basin or a rockery. I do not know of any in America. Use the overflow from a yard fountain or any place that is constantly wet. This is the most practical kind of bog garden for the greatest number, for anyone who is sure of having plenty of water may get some muck and sphagnum and grow insectivorous plants and orchids.

There seems to be nothing about bog gardening in American horticultural literature. The best directions that I know of for making a bog garden are those in William Robinson's "English Flower Garden" (Chapter XXI., 8th edition). The passage is too long to be quoted here, but I will gladly copy it entire for anyone who is seriously considering making a bog garden, and will also tell where rare bog plants may be secured.

[THE GARDEN MAGAZINE will be glad to send a liberal check for a good illustrated account of any American bog garden made as a result of the above suggestions. EDITOR.]



For the hardy exotic bog garden—the best yellow flag *Iris Pseudacorus*. Also shows a favorite way of growing bog plants, i. e., on the margin of a water-lily pond



For the spectacular bog garden—the American Turk's-cap lily (*Lilium superbum*)



The backyard in the beginning was of the average type—given up to posts and cans. A few vines and flowers soon redeemed it.

An Outdoor Living Room for \$50—By William Macomber, Buffalo, New York

HOW A PATENT ATTORNEY UTILIZED HIS INVENTIVE ABILITY IN TRANSFORMING A 35 X 75 FT. PATCH OF CLAY INTO LAWN AND FLOWERS, AND BUILT A REALLY PRACTICAL SUMMER HOUSE

GIVEN a yard 35 x 75 ft., clay that would make a poor quality of brick, a background of fences in three stages of dilapidation. The problem: Make this plot both beautiful and useful.

Soil had to be made. This was purely a question of coal-ashes, manure and labor, and plenty of all three. A background for the color effect was necessary. Various plans were discussed and abandoned; the one selected was a seven-foot wire mesh fence covered with perennial vines, and roses. Small effort persuaded the owners of adjoining property to pay half the cost of the fence. We put it up—11-foot cedar posts taper-sawed, 3 feet in the ground, about 8 feet apart, 6-inch base boards to keep out weeds, and green paint. Cost, our share, about \$20. The yard being a rectangle, to employ straight lines would only accentuate its harshness, gracefully curved lines exclusively gave rest and repose, and the massing of plants added to this effect.

All borders were edged with sweet alyssum (Carpet of Snow), the most satisfactory edging, because it serves the double purpose of marking the border and a foil for all colors.

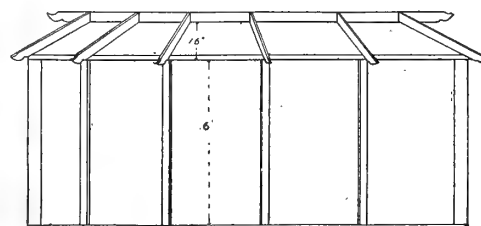
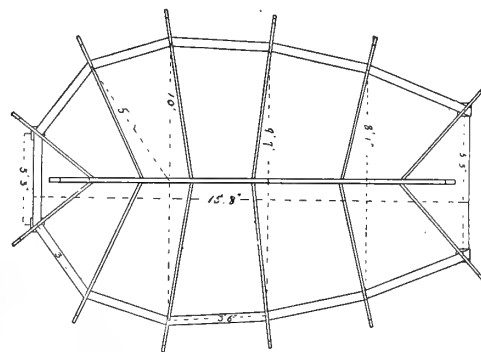
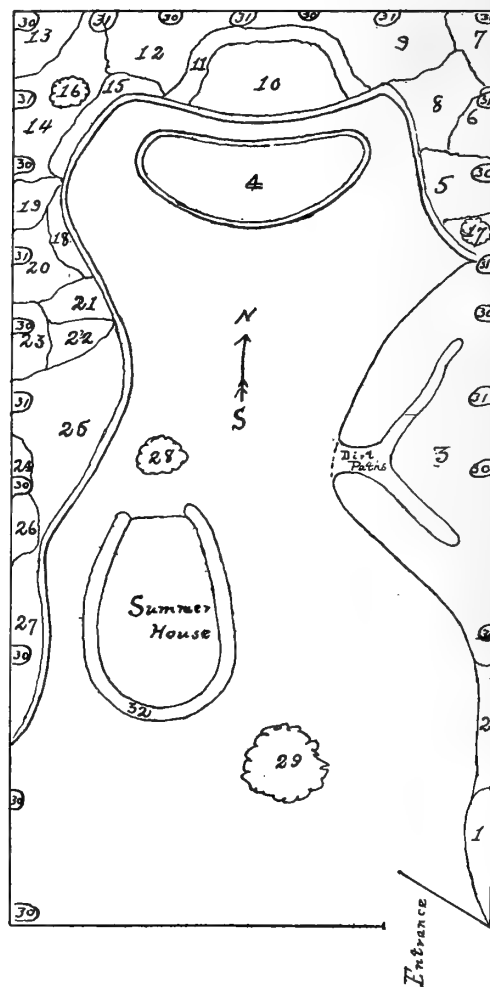
The fences were covered by three excellent

temporary climbers: wild cucumber (*Echinocystis lobata*), the fastest grower and least desirable; *Cobæa scandens*, slowest grower and most desirable; Japanese hop, the most satisfactory of all. For this climate (Buffalo) there is but one permanent vine for a background—Japanese clematis (*Clematis paniculata*). Our original scheme called for rambler roses alternating with clematis; but it was a failure; rambler roses are not dense enough for that purpose.

Of course there are many little things not mentioned—annuals that “tuck in” anywhere—which are absolutely necessary to keep the color effect continuous. We cannot recommend too strongly solid beds of China asters in selected colors. We separate the

purples and blues from the pinks and reds. Beware of massing conflicting colors.

There was a wealth of bloom all through



The summer house proved an attraction for our neighbors. Tea was served on the lawn and we practically lived outdoors

The home-made horse-shoe-shaped summer house 10 x 16 feet is built of cedar posts and hemlock points. It cost \$22.00

No straight lines or sharp angles were permitted in the garden, because all around was angular. For references see text on the next page:

the season from the borders in which grew the plants given in the following list; the numbers refer to the plan on the opposite page.

1. Golden Glow (*Rudbeckia laciniata* var. *fl. pl.*) and single hollyhocks (*Althaea rosea*).

2. Tom Thumb nasturtium (*Tropaeolum minus*, var.) and the following named varieties of sweet pea (*Lathyrus odoratus*) which are kept separate for convenience of picking in solid colors: Hon. Mrs. E. Kenyon, deep cream; Janet Scott, soft clear pink; King Edward VII; rich, deep red; Lady Griselda Hamilton, light lavender; Lottie Eckford, white, shaded and edged with lavender; Lord Rosebery, rose-carmine, with vines of deeper rose; Aurora, salmon pink stripes on silver-white; Blanche Ferry, pink standard with white wings; Coccinea, bright cherry red; Countess of Lathom, creamy pink; Dainty, silver-white, with pink edges; Dorothy Eckford, pure white; Duke of Westminster, claret red; Lovely, soft pink with white edge; Miss Wilmott, rich orange pink; Mrs. Walter Wright, deep mauve; Navy blue, violet-purple; Othello, deep brownish maroon; Prima Donna, blush-pink; Prince of Wales, deep rose; Venus, salmon-buff; Countess Spencer, rosy pink; Helen Pierce, white mottled with bright blue.

3. Vegetables—radishes, lettuce, parsley, beans, etc.

4. Late branching red and pink China asters (*Callistephus hortensis*) arranged by colors from front to back as follows: shell pink, rose pink, carmine, crimson.

5. Lupine (*Lupinus polyphyllus*), Japanese anemone (*A. Japonica* and its var. *alba*), Adam's needle (*Yucca filamentosa*), red-hot poker plant (*Kniphofia aloides* var. *nobilis*), gas plant (*Dictamnus albus*).

6. False chamomile (*Boltonia latisquama*).

7. Sunflowers (*Helianthus annuus*, var. *globosus fistulosus*) which did not bloom.

8. Foxglove (*Digitalis purpurea*).

9. Petunia (*P. hybrida*) and snapdragon (*Antirrhinum majus*) in variety.

10. Boule de Feu, Coccinea, and Independence phlox (*Phlox paniculata*, var.).

11. Sweet William (*Dianthus barbatus*) mixed colors.

12. Verbena (*V. hybrida*) and salpiglossis (*S. sinuata*) colors mixed.

13. Showy larkspur (*Delphinium formosum*).

14. Blue Danube Japanese iris (*Iris laevigata*, known in the trade as *I. Kämpferi*) and yellow day lily (*Hemerocallis aurantiaca*).

15. Bonfire scarlet sage (*Salvia splendens*, var.).

16. White lilac (*Syringa vulgaris*, var. *alba*).

17. Mock orange (*Philadelphus coronarius*).

18. Polyanthus (*Primula polyantha*).

19. Sweet woodruff (*Asperula odorata*).

20. Oriental poppy (*Papaver orientalis*), two forms.

21. Drummond's phlox (*Phlox Drummondii*), mixed colors.

22. Sweet-scented tobacco (*Nicotiana alata* also known as *N. affinis*), flowers white, fragrant at night. Sander's tobacco (*N. Sanderæ*), flowers pink.



Looking toward the house. The wild cucumber in flower on the summer house

23. Halberd-leaved rose-mallow (*Hibiscus militaris*).

24. Yellow day lily (*Hemerocallis fulva*).

25. The China aster (*Callistephus hortensis*) arranged by colors from front to back as follows—lavender, blue, deep blue, and white.

26. Peony (*Paeonia officinalis*).

27. Yellow columbine (*Aquilegia chrysantha*).

28. Japanese lilac (*Syringa Japonica*).

29. Sugar maple (*Acer saccharum*).

30. Japanese virgin's bower (*Clematis paniculata*).

31. Crimson Rambler rose (*Rosa multiflora*, var.).

32. California poppy (*Eschscholzia Californica*).

The first year's development gave the yard beauty; but we found to our surprise, there was no adequate way to enjoy it. We could walk around the garden, admire the flowers, and then go back into the house. We could not use the beauty that had been produced.

HOW THE SUMMER-HOUSE WAS BUILT

We must have a summer house. So we went peering into other yards about the city. True, we found "pergolas" and "arbors," all either expensive or ugly, not one useful. Our friend, the architect, could not get our view point. He could design a building, or a pergola, neither of which we wanted. So we worked out the design shown on the opposite page.



The view from the house after the improvement. Compare with the first picture on opposite page

It is, substantially, horse-shoe-shaped. There are four cedar posts, two at each end, large, square-sawed, 10 ft. long, 3 ft., 6 in. in the ground. The intervening posts of 3 x 4 hemlock complete the outline. The floor is No. 2 matched, laid on 2 x 4 hemlock running crosswise, spiked to the posts and supported centrally by short posts set with their tops even with the joists. The gable is 2 x 4 pine, dressed; plates the same; and the rafters 1 x 4 pine, dressed. The entire wire covering is the same as the fences. Paint dark green. Cost, about \$22.

THE SUMMER-HOUSE FURNISHINGS

The heavy end posts, deep in the ground and braced by the flooring, support two hammocks side by side. Easy chairs, old rugs that we leave out in all weathers, and a table, make up the furnishings. Here we live; the house is merely a place in which to eat and sleep.

As the photographs show, the principal vines this first year were cucumber and cobœa. Another year permanent vines—akebia, honeysuckle, bittersweet, grape, Dutchman's pipe, scarlet trumpet, and actinidia, which are already planted, will give a permanent covering. Any bare spots that occur will be covered by the Japanese hop.

PROFIT AS WELL

A word for the vegetables, since the idea was usefulness as well as beauty. The bed on the right gave us plenty of radishes, lettuce, parsley, beans, chard, carrots, onions, squash, tomatoes, parsnips and salsify. This is "intensive farming."

What did it cost? In addition to what I have stated, \$7 for seeds and plants, \$4 for manure, and a dollar for various bug-poisons.

As to profits? First, I came out from a hard winter's work like an onion sprouted in the cellar. I took a ten-day vacation, built the summer house and planted the garden. All the help I hired was a man half a day digging post holes. In building the summer-house I built myself over.

Second, the vegetable garden paid for all seeds and plants, both vegetables and flowers, and more; and gave us *fresh* vegetables.

Third, the summer house gave us a vacation, the same which, due to pressure of business, we would not have had otherwise.

Fourth, the summer house and garden combined have given pleasure to our friends. They drop in for tea, for a visit, and just to see the garden. In no way could we have done so much for our friends with so little outlay.

Fifth—and the best thing of all—rest, daily rest.

Much as we need vacations, we need a daily rest more—an hour when we let go and forget. The garden gave the atmosphere, the summer house the place.

Two much-neglected human desires were satisfied—the desire to create and the desire for recreation. From year to year we shall re-create, improve, beautify; and each pleasant day, from May to November, we may have an hour's vacation, and recreation.



The Californian's Reminder

JULY is the month in which lawns feel the effect of constant drought. The blue grass is growing in a climate different to its native home, Kentucky, where it has underground running stems. In California these are not formed to any extent and for that reason it is difficult to keep blue grass lawns in good condition, especially in southern California.

If the lawn looks gray after it has been mowed, thoroughly rake it with a sharp steel garden rake, the object being to get rid of the dead grass in the lawn. This is not easy to do, but there will be a vast improvement in the appearance of the lawn. A dressing of fertilizer given at the same time will help improve the lawn. One made of eight parts of stable manure (thoroughly rotted), one part hardwood ashes, and fifty pounds of untreated bone will be effective. These must be thoroughly mixed together, because if much of the bone meal, or wood ashes should be dropped on the lawn in one place the grass would be killed. Spread the fertilizer over the lawn, one-quarter of an inch thick and wash it in with water. One cubic yard (which is equal to one wagon load) is enough for a piece of ground forty feet square. The following day rake off the coarse material left from the manure. An improvement in the lawn will be noticed a few days after the fertilizer has been used. Some bur clover will come up owing to the fact that the manure contains the seed, but this is not an objectionable weed as it can be easily eradicated.

SWEET PEAS FOR WINTER BLOOM

Sow seeds of sweet pea toward the end of the month, for winter flowers. Spade a good dressing of well-decomposed manure into the ground in the early part of the month, and about four or five days before sowing the ground should be forked and irrigated. Sow the seeds two inches deep, and after covering them with the soil, spread a light mulch of old manure over the bed. For pink and white flowers, plant the variety Earliest-of-All, which attains a height of three feet; and for a white variety, sow Earliest White, which will bloom in sixty days from the date of sowing.

Santa Barbara, Cal. W. H. MORSE.

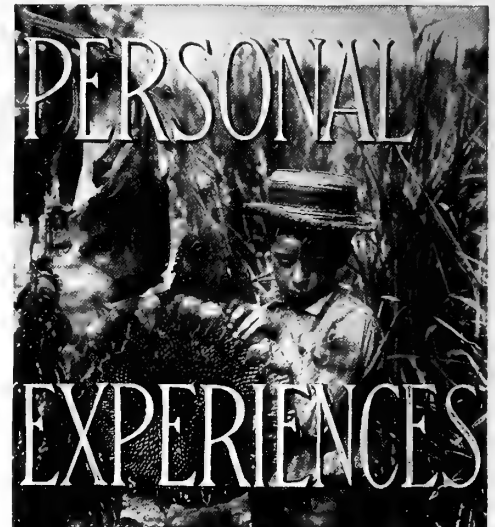
TREE AND VEGETABLE SEEDS

Seeds of native, Australian and South African trees and shrubs, or those from climates similar to that of California, may be sown during the next three months. Make

first sowing of stocks and pansy seeds. Watch the chrysanthemums for suckers and unnecessary side shoots. Begin the annual rest of your rose bushes by withholding all water from them, watering to be resumed when pruned, about November 1st.

The following may be planted during this month: Beans, beets, cabbage (late), cauliflower, lettuce, peas, radishes, potatoes, spinach and turnips. Radish and spinach may be planted in this climate every month in the year. To have these vegetables crisp and to prevent the radishes from having a strong taste, the water supply must be unstinted.

Los Angeles. ERNEST BRAUNTON



Ridding Land of Gophers and Moles

TO RID my lawn and garden of the gophers I flooded their runs with water but the soil was so sandy that the water immediately drained away and so had no effect on them.

Then it occurred to me to try acetylene gas, so procuring a small handful of the crystals of calcium carbide, from which the gas is made with the addition of water, I dropped them down one of the holes that seemed newly made and free from loose earth. Then, having ready a piece of sod, I quickly emptied a pail of water down upon the carbide, and stopped the hole with the sod, setting it in firmly with my heel. The steam-like vapors soon appeared issuing from other openings, which were closed immediately in like manner.

The experiment proved a success and I find it never fails to kill or drive away the rodents. The calcium as used in automobile lighting outfits is in lumps of one-quarter to one-half of an inch in diameter. I use eight to twelve of these lumps to a hole as the occasion seems to demand. It is cheap (costing about ten cents a time) and effectual and I have observed no injurious effect upon either blue grass or white clover. So far I had no occasion to use it upon any other grasses but I feel sure no damage can be done by a reasonable use of the gas.

California. J. D. CUNNINGHAM.

Ask the Home-Maker



About Shredded Wheat

She will say: "A Shredded Wheat Biscuit, heated in an oven and eaten with hot milk every morning, keeps the children healthy and strong and supplies me with all the energy needed for a day's work."

Ask the Chef:

He will say that he can make hundreds of wholesome, nourishing and appetizing "dishes" out of Shredded Wheat.

You do not have to be a chef to enjoy Shredded Wheat Biscuit. It is ready-cooked, ready-to-serve. Delicious for breakfast or for any meal in combination with fruits, creamed meats or vegetables. Contains all the muscle-making, brain-building elements in the whole wheat grain, made digestible by steam-cooking, shredding and baking.

An ideal summer food—not so heating as corn or oats; contains more nutriment and is more easily digested.

A breakfast of SHREDDED WHEAT BISCUIT will supply the energy for the work or play. TRISCUIT is the same as the biscuit except that it is compressed into a wafer. It is used as a Toast with butter, cheese or marmalades. It is an ideal food for flat-dwellers, light housekeepers, campers, for picnics, for excursions on land or at sea.

The Natural Food Co., Niagara Falls, N. Y.

THE REASON WHY



The enlarged diagram above tells the story.

If you examine it you will notice that it is composed of five different layers.

In fact, Amatite is made on a different principle from any other roofing. Instead of a smooth skin coating *made to receive a coat of paint*, Amatite has a rough surface of small particles of hard silicious rock such as seen in quartz or other hard stone when examined under a microscope.

This mineral surface is chosen for its weather-resisting qualities, and does away *absolutely* with *painting* and *coating*.

Underneath the mineral surface are

alternate layers of long-fibre, wool-stock felt of the best grade, and between each sheet and under the mineral surface on the top is a layer of a specially prepared Coal Tar Pitch, *the greatest waterproofing material known*.

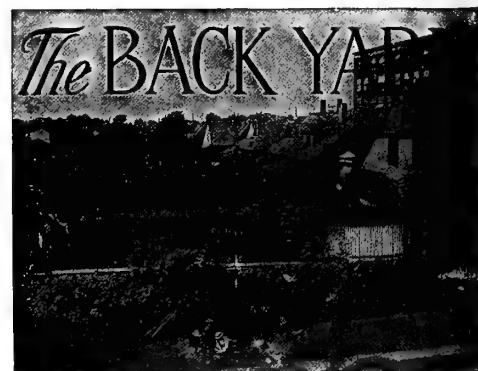
This short description will give you some idea of how carefully Amatite is constructed and what effective protection it will give against weather of all kinds.

FREE SAMPLE

The best proof, however, is to see a Sample, which we will send to any one free upon receipt of name and address. Write to nearest office.

Barrett Manufacturing Co.

New York Chicago Cleveland Allegheny Kansas City
 St. Louis Boston Minneapolis Philadelphia
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A Densely Shaded Garden

MY CITY lot of 80 x 120 ft., is shadowed on the east, north and west by a high overhanging hedge designed to shut off from view the neighbors' premises. This mixed hedge of lilac, syringa, young elms and maples, supports tangled masses of wild grape and woodbine (Ampelopsis), and I consider it much more handsome than one consisting of only a single variety of hedge-plant. Its natural and unstudied appearance appeals to the imagination and calls to mind the draped banks of a river. But—this hedge restricts my gardening operations very materially. Only the middle part of the back of the lot can be used for such flowers as require sunlight and air for their full development, and this includes practically everything I grow.

The flower border along the hedge on the east facing the piazza where the family spends nearly all the summer hours was a continual eyesore. I had given up the struggle trying to make anything grow there, and while awaiting my convenience to sod it over, it has grown to weeds, which thrive abundantly. On June 20th of last year I thought out a new and daring plan, one involving the risk of considerable loss. I spaded the ground and set the bed with white, and pink Canterbury bells, white fox-glove, Shasta daisy, and pink cosmos *all in full bloom*. Yes, cosmos in bloom in June. These plants were growing in the back garden in rows. I took up each plant with a spading fork with whatever soil adhered to the roots and set them in the newly dug earth without watering as we had had a shower the previous night. That border presented a lightning transformation scene, as magical in effect as Jonah's Gourd. The plants never wilted in the slightest degree but kept on growing and blooming even better than those left undisturbed. Having attained their full vigor in the open sunlight, the plants now had a store of vitality to draw upon, and the partial shade was just right to keep the blossoms at their best, as they lasted longer in better condition than others that grew in full sunlight. I had tried these varieties in that bed other years, but had always started them early in the spring. They had pined and dwindled along, furnishing a dismal sight all summer.

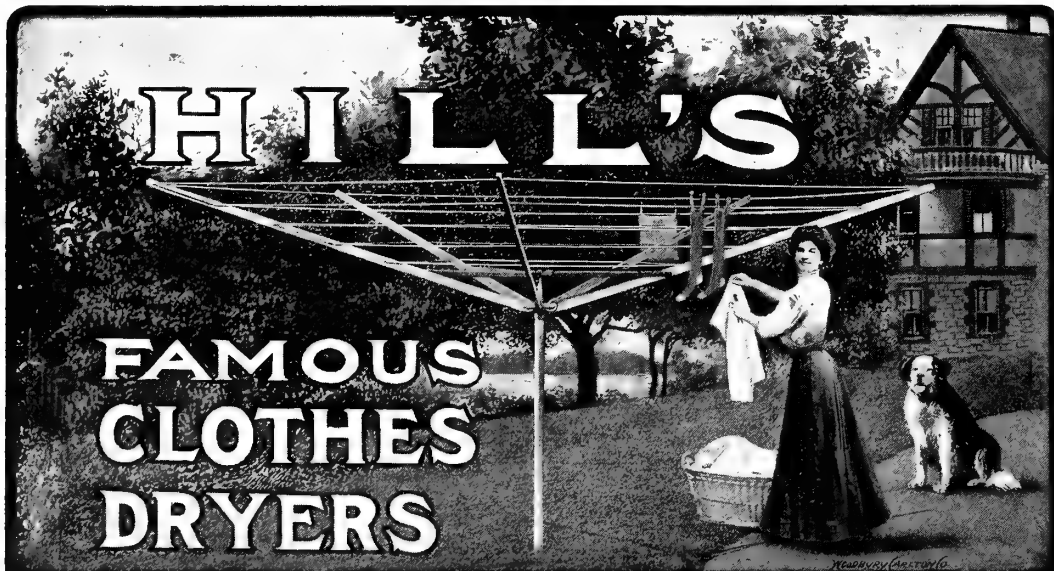
On this discovery of the adaptability of these plants I set out all those remaining in the rows among the perennials whose season of bloom was past or had not yet

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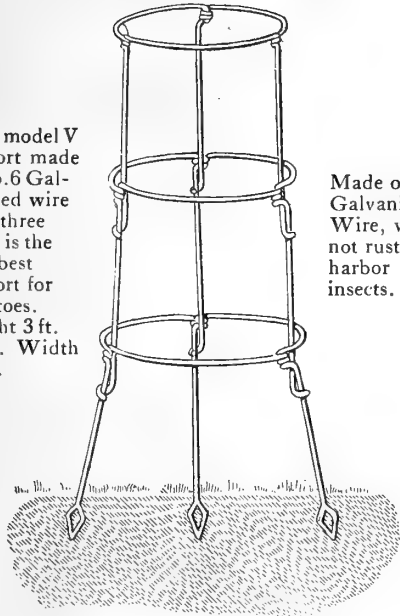
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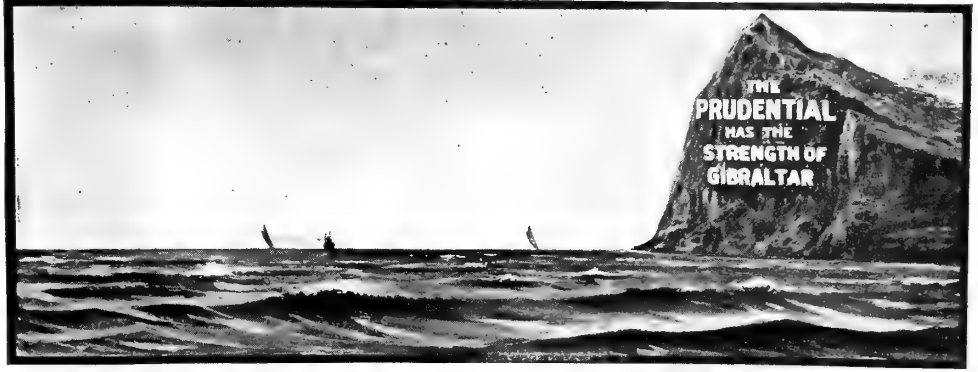
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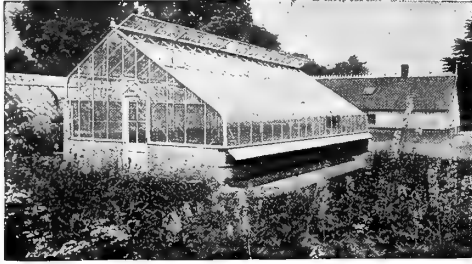
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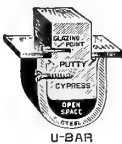


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come. Iris, bridal wreath, weigela, peony and others were once again covered with bloom, the foliage of the perennials furnishing an ideal background for such newcomers as the Canterbury bell, and foxglove have no foliage to speak of. The feathery dark green of the cosmos screened the coarse-growing hollyhock with wonderful effect, and could be used to hide the shortcomings of the sweet pea vines but I have cut mine down to about eighteen inches of the ground to induce new growth for fall flowering.

The Canterbury bell bloomed in the eastern border till August 10th; foxglove and Shasta daisy till July 20th; and the cosmos after blooming profusely till August 15th is out of bloom at this writing, August 24th, but is covered with fresh buds ready for fall duty. As the foxglove and Canterbury bells are true biennials, blooming but once, I pulled them up leaving the ground free for further experiments with other plants coming into bloom at that time. The Shasta daisies were taken up, divided and replaced in the back garden to gain strength and vigor for next year's work. They commenced bearing their second crop of flowers on August 17th, one plant that happened to be left in the border blooming on the same day with those that had been taken back to the original bed. With the above-named flowers the experiment has gone far enough to prove that the method of transplanting in full bloom is a complete success. As regards the following plants more time must be allowed before deciding fully. As they came into bloom I began experimenting with the pentstemon, vinca, aster, dahlia and gladiolus. Of these the aster—and the commonest type at that—suffered most. It was the only plant that needed shading from the sun which is at its hottest for the hour or more each day it visits this particular border. Pentstemon, a little-known flower like a glorified snapdragon in aspect, and *Vinca rosea*, and its variety *alba*, from seed planted in shallow cigar boxes in the house February 17th, transplanted to open ground May 19th, bloomed August 1st.

The pentstemons moved while in full bloom have done better than those left undisturbed and have not suffered from a tiny white worm that preys on the tender shoots. I scattered wood ashes over those not moved which seems to check the deprivations of the worm somewhat.

The dahlia drooped for a day or two then raised its head and went on perfecting its blossoms and sending out fresh buds. It requires more care than anything else I have moved on account of the heavy, brittle stalks but the roots seem to stand any amount of abuse. One dahlia that I had discarded after lifting, I found, a few days later, alive and so evidently determined to keep on living that I set it up with half its tubers exposed to light and air yet it goes on blooming with the best of them.

The last flower I experimented with is the perennial phlox, which stands removal in full bloom with just as good grace as the first four I tried. The phlox were young plants that I bought last fall and divided so that there were one, two or three heads of bloom

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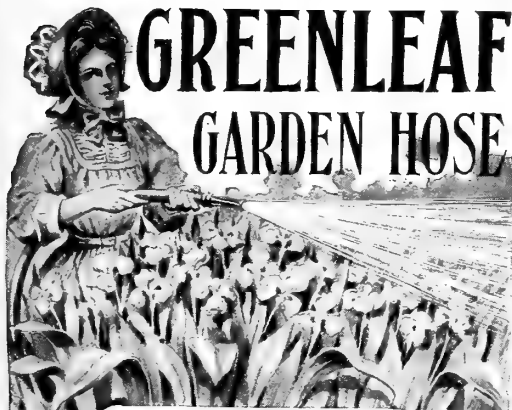
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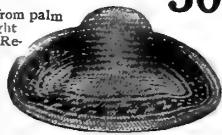
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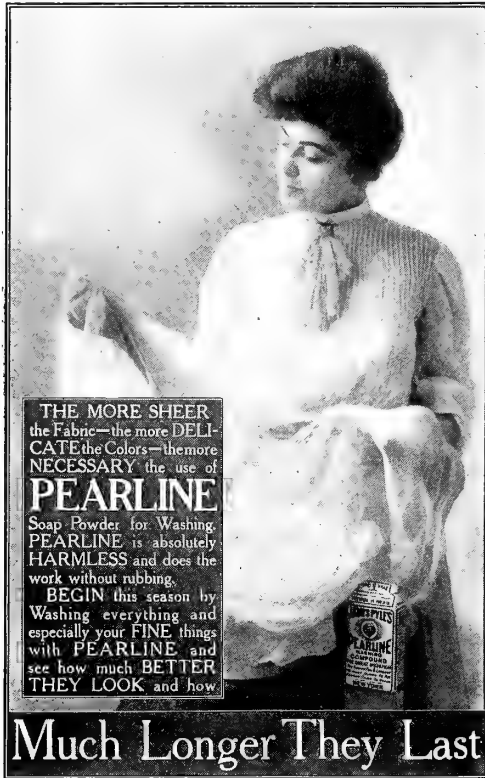
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from each stool. In the case of older and well established clumps this treatment might not prove successful. I experimented only with plants easily reached and handled. In the case of the dahlia, gladiolus and perennial phlox it will be interesting to note how this treatment affects the future life of the roots.

For early spring blooming the Holland bulbs do well in my eastern border as the foliage of the hedge does not come out in time to shade them. After the bulbs are done blooming and while the foliage is ripening, forget-me-not, English daisy, pansy and columbine, all of which can be moved in full bloom, fill out the time till the Canterbury bells come on, and all along throughout the season, potted lilies, tuberose and similar plants are sunk in the border when ready to bloom, having been grown to that point in the full sun. In this way I enjoy a continual round of ever-changing flowers in the obdurate eastern border. The forget-me-not, English daisy and columbine can be taken back to the open garden after flowering to gain strength and vigor for next year's work. That will be the best time, also, for division of the roots, of course, saving only the best strains of each variety. One incidental advantage of all this transplanting is the deep stirring of the soil which will do away in a great measure with the use of that implement of hideous memory—the hoe!

In the July, 1906, number of THE GARDEN MAGAZINE I find this: "Cosmos always wants to grow too high and bloom too late. It may be twenty years yet before we shall have dwarf, July-blooming varieties." In view of this it may be well to relate how I came by June-blooming cosmos of three feet and less in height. I had grown cosmos since its first introduction and would barely get sight of the first small blossom of greenish white or faded-out pink before the snows smothered the plants. The previous fall I saw a beautiful bunch of cosmos, each blossom about four inches across, of a very lively tint of primrose pink. I secured the address of the grower, a lady who knew nothing about the plant but that it had been blooming all summer. I engaged seed of the growing plants, which I sowed on February 17th of the following year in a cigar box in the house. The young plants were transplanted to another box five inches in depth April 5th; they were set in the open ground May 30th, the plants being then about two feet tall. They bloomed June 12th but the blossoms were not as large as those of the parent plants, probably because these were exhausted from blooming before my seed was saved. I had noticed last year that cosmos even such as I then grew had one recommendation. It would—contrary to popular opinion—transplant so readily that I considered it unkillable. I pulled up some plants during the hottest weather of last August, and two days later found them still alive though lying in the sun with exposed roots. For an experiment I planted them again and they went on growing as if nothing had happened. It was this experience with cosmos that suggested the fitting out of my eastern border.

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True and False Originality in Garden Design

(Continued from page 337.)

The only "unique" garden among these great estates is shown in Fig. 15 and even there it grows out of the necessities of the case, for something had to be done with this abandoned quarry and why not grow rock-loving flowers? It is unique only because people do not commonly own quarries. There is something vastly more important than the unique, viz., the typical. This garden is typical because rocks suggest rock gardening, and because its surroundings are wild, and the picture shows how both ideas are allowed to grow right out of the soil and develop themselves to the fullest. False originality would "grade up" the old quarry and make a carriage turn with a mound of cobblestones in the centre covered by nasturtiums, or else a "rockery" made out of artificial stone in an attempt to grow all the rare flowers of the Alps.

Even in the city and suburban backyard there is a chance for fitness. Here there is no room to create a broad country-like view, but even in a 25 x 35 ft. backyard the main principle of landscape gardening applies—the open lawn with massed planting at the sides. False originality scatters plants about, or puts them in rows, or makes flower beds in the middle of the grass. And the application of the law of fitness to the backyard is this: Let your backyard express your own personality—not a vain imitation of another's, as carpet bedding is. If you enjoy pets and animals and only do gardening from a sense of duty, then don't have a garden—simply have a lawn. But go in for something! Have a hobby. Every man of us ought to be compelled by law to have one for his own health and peace of mind.

And if you are interested in gardening remember that all the ridiculous things folks do in gardening are the results of fancy—not imagination—which manifests itself in three ways:

1. In straining after the unique instead of the typical; which results in strange, eccentric things.
2. In desiring complexity of design instead of simplicity; which results in elaborate carpet bedding instead of borders of hardy flowers.
3. In desiring display instead of privacy; which results in pretentious formal gardens instead of gardens that have the atmosphere of peace and of affectionate home life.

The reader who desires further particulars about the eighteen gardens here pictured will find them in the back numbers of *Country Life in America* and of *THE GARDEN MAGAZINE*, files of which are perhaps accessible in your public library. If not, perhaps back numbers may be secured. Fig. 1, etc., refer to illustrations in the present article. Other numbers refer to volume and page. C. L.=*Country Life in America*. G. M.=*GARDEN MAGAZINE*.

- (1) C. L., 5: 408, Mar., 1904—(2) C. L., 9: 45, Nov., 1905—(3) C. L., 7: 485, Mar., 1905—(4) C. L., 2: 101, Mar., 1903—(5) C. L., 2: 98, July, 1902—(6) C. L., 7: 493, Mar., 1905—(7) G. M., 2: 271, Jan., 1906—(8) C. L., 9: 528, Mar., 1906—(9) C. L., 12: 43, May, 1907—(10) C. L., 7: 480, Mar., 1905—(11) C. L., 3: 204, Mar., 1903—(12) C. L., 7: 474, Mar., 1905—(13) C. L., 4: 339, Sep. 1903—(14) C. L., 7: 470, Mar., 1905—(15) C. L., 4: 341, Sep., 1903—(16) G. M., 3: 145, Apr., 1906—(17) C. L., 4: 276, Aug., 1903—(18) G. M., 5: 147, Apr., 1907.

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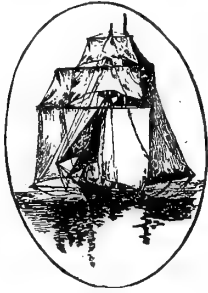
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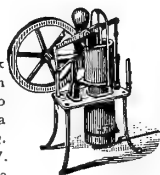
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The Hot-Air Pump Always Ready

Green Lima Beans

THE lima bean which remains green in the dried state, is a much desired article in the seed trade, and for ten years or more I have been trying to establish a strain of the large lima bean which would retain the green coloring in the dried bean. This color is not only desirable in the dried bean but if a variety of this character could be established, the young beans as gathered and shelled in the green state would be more uniform in color and more attractive in appearance.

Any one who has grown many lima beans is familiar with the fact that in gathering the green beans, or beans in the fresh state, during the summer months, in all the large varieties there will be a greater or less percentage of beans which are almost pure white in color and which detract from the general appearance of the dish when served on the table. In my own garden it is my practice to discard all these white beans when shelling the beans from the pod for use, in this way securing an even color and I think a more tender and better flavored bean.

In my efforts to secure a variety which will have uniformly green seed, I have procured stock at different times from growers who have selected the greenest seed for a number of years. This has been done by several market gardeners in the trucking sections of Southern New Jersey, but as soon as I attempt to grow these selected strains on a commercial scale, the character of the seed rapidly deteriorates and although these green-seeded limas are offered by a number of seedsmen, I do not think that any of them can be depended upon to come uniformly true to the green colored beans.

Challenger or Dreer's Lima bean, which is also known as the Potato Lima has a distinctly greenish tinge in the dry bean, but I do not consider it a good variety for table use in the green state, for while the beans are plump and easily shelled they have a dry and somewhat mealy character when cooked which is not nearly as good as the flavor of the large, flat lima. The Mastodon Lima comes very uniformly with the green color. Penn. E. D. DARLINGTON.

Tallest Hollies in the North

TO THE EDITOR:

In "All the Hollies Worth Growing," in the December, 1906, GARDEN MAGAZINE you state that the tallest trees of American holly you know of in the North are at Mt. Kisco, N. Y., and about ten feet high. There is a very good specimen at Perth Amboy, N. J. (two blocks from the Tottenville ferry and just off Smith Street), which is fully thirty feet high and twelve feet in diameter.

I have to-day (April 28th) seen near Hammel's Station, Rockaway Beach several good trees, some of them growing wild, and a few with large clusters of perfectly bright and plump berries.

Several of these trees, along the Boulevard at Rockaway within 300 feet of the ocean, are at least thirty feet high. Long Island. LYMAN J. FISHER.

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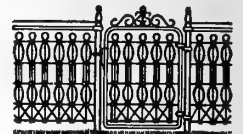
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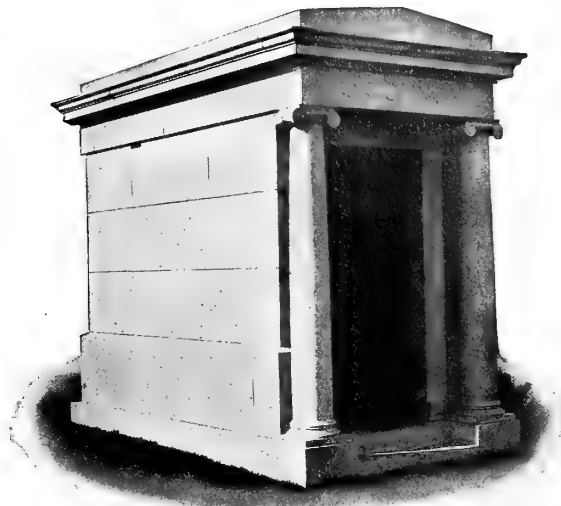
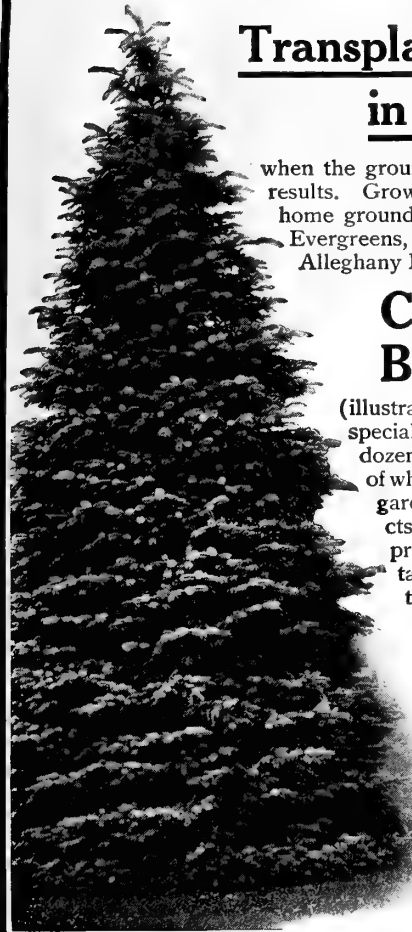
(illustrated herewith) is one of our specialties. 2 to 3 ft., \$2 each, \$20 a dozen. Boxwood, hedges and trees of which dignified our grandmothers' gardens, is another. 1 to 2 ft., 25 cts. each, \$2.50 a dozen. Our low prices are solely due to our advantages in growing. Our stock has the quality for which you pay more elsewhere.

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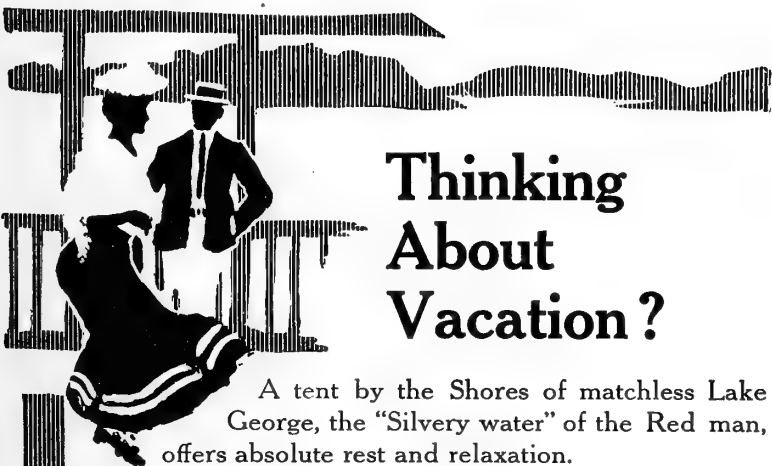
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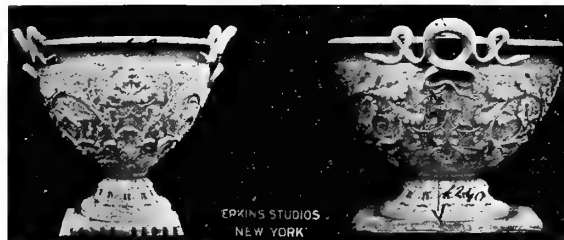
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Important Announcement

WE ARE sorry that the letter from the Southerner which we published in the May number aroused sectional feeling and it is a pleasure to have it made so perfectly clear that the author of that article was a pessimist; our kind friends in the South have supplied us with an abundance of names of amateurs who are interested in home gardening, and a dozen or more very promising articles are being prepared at the time of this writing.

We take great pleasure in announcing that Mr. P. J. Berckmans of Augusta, Ga., the leading horticulturist of the South and the Dean of American Pomology, has nearly finished writing a thorough study on trees and shrubs from the Southern point of view which we hope to be able to publish serially in THE GARDEN MAGAZINE.

The various chapters are of absorbing practical interest and make an important contribution to American horticulture, for Mr. Berckmans was the first to introduce from China, Japan, and elsewhere many of the most important fruit trees and ornamental plants that have contributed greatly to the wealth and beauty of the Southern States.

At our special request, Mr. Berckmans has furnished photographs of the original type specimens of these introductions wherever possible, and has told in a most delightful way the circumstances under which each one was introduced.

The Fruit Garden in July.

AFTER the "June drop" thin all the tree fruits that have set thickly. You will not lose a pound of fruit by the process, and you will get larger, higher-colored, and better-flavored specimens.

Examine the under sides of grape leaves for mildew. If there is any, dust them with dry sulphur, on a still, warm day.

Behead your raspberry and blackberry canes. Use pruning shears or sickle. Cut back to three feet, and they will make compact bushes that need little tying.

Did you have enough strawberries this year? No? Then start a new bed right now. You can save a year by layering runners in small pots, before July 15th. After that you must buy potted plants for fall setting, and they cost ten cents each.

Do you know this trick about cultivating strawberries? Always run your wheel hoe through each row the same way. Reverse tillage uproots runners.

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MARY'S GARDEN AND HOW IT GREW by Frances Duncan. A practical treatise on making a flower garden, told in the form of a story in a way to interest young people and help them to lay out and tend a garden. Illustrated, \$1.25. Postpaid by the Century Co., Union Square, New York.



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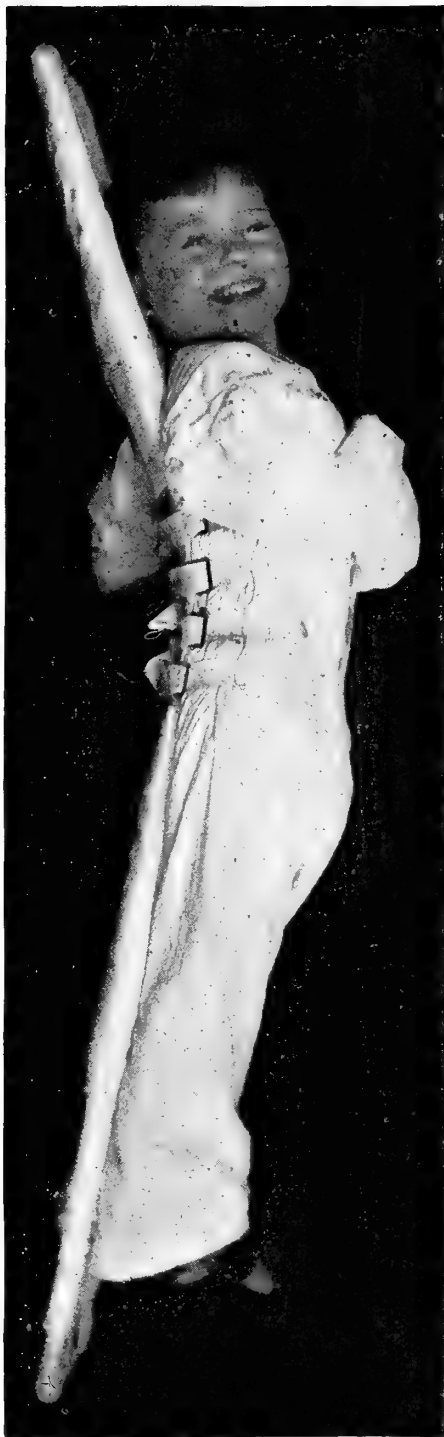
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Smiling Joe

You saw him last summer. He runs around now just like other children. And the Hospital at the Seashore for which he pleaded, to save others from being crippled for life by tuberculosis of the bones and glands, is assured.

But the Battle is Still On

with the dark, crowded tenements which manufacture crippled children and break down their parents. Our twenty-five visitors, trained in the school of loving service daily carry relief, wise counsel, and courage into the darkest homes. Would you not like to have a part, real and personal, in this work, by sending a gift to carry it on? If desired, we will gladly write just how and for whom it is used.

Last Summer

friends all over the Union, from Alaska, and Canada, helped us give Fresh-Air Outings to 23,051 women and children. Our Sea-side home,

Beautiful Sea Breeze

with its cool shade, good food, clean sand, ocean bathing, is ready to welcome 25,000 this summer.

How Many Will You Send?

- 25 cents gives a mother or child one glorious day of freedom, sweet cool air, good food and fun in the sand and surf.
 - \$1.00 lets a little family enjoy it all together.
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 - 25.00 sends a car-load of careworn people off for the day and brings them back with new courage.
 - 50.00 names a room for the season.
 - 125.00 gives a happy excursion to 500 mothers and children.
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Our work can be seen on many of the finest estates in the country. Send for our booklet, "The Care of Trees." It will interest you.

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The Book of 100 Houses

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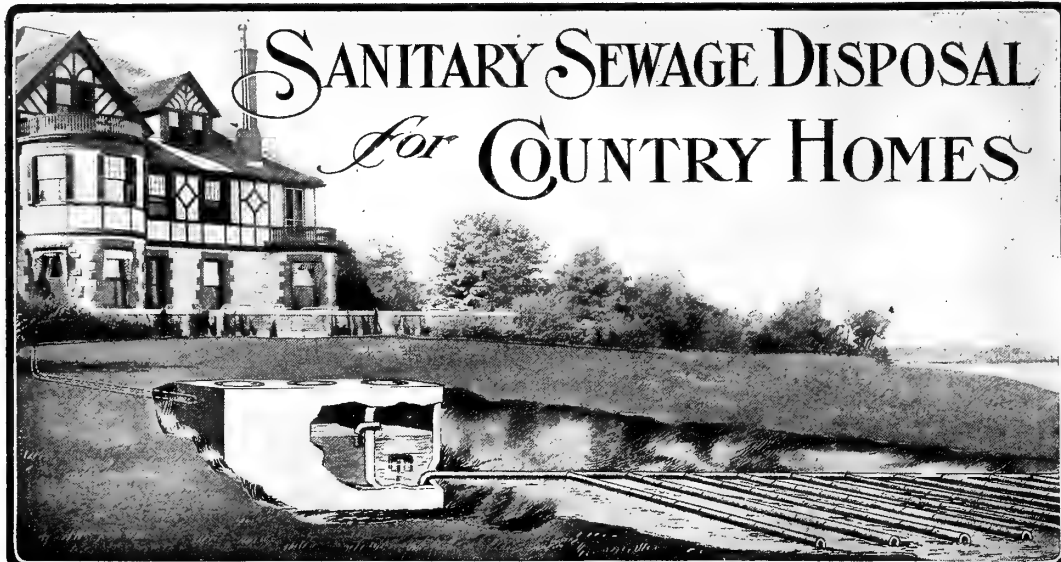
This book contains photographic views of over 100 houses of all kinds (from the smallest camps and bungalows to the largest residences) in all parts of the country, that have been stained with

Cabot's Shingle Stains

They are designed by leading architects and are full of ideas and suggestions of interest and value to those who contemplate building.

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SANITARY SEWAGE DISPOSAL for COUNTRY HOMES

The Hygienic System disposes of the Sewage from Country Homes in a sanitary manner without attention or expense.

It entirely eliminates the use of dangerous Cesspools which are breeders of disease and a continual expense and annoyance.

You cannot afford to take your chances with cesspools.

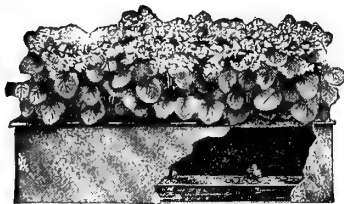
Write for our Catalogue D, which explains the System.

HYGIENIC SUBURBAN SEWAGE CO.

St. James Building, 1133 Broadway, N. Y. City.

Phone 3022 Madison Square.

The Illinois Self-Watering Flower Boxes



Require attention only twice a month. Made of heavy Galvanized Iron. Last for years—are Inexpensive. Made for Porches, Windows, Hanging Baskets, etc. Send for Full Details and Price List.

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The Anglais Table Decoration for Arranging Cut Flowers

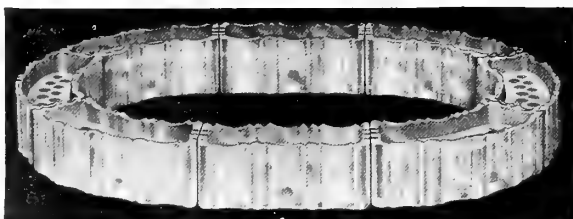
Naturally the ANGLAIS TABLE DECORATION will be at once appreciated by lovers of flowers. The ANGLAIS TABLE DECORATION is made up of two low Colonial glass vases, one crescent and one rectangular in form, each containing a JAPANA CUT FLOWER HOLDER ready for use. (See Note.)

It takes 6 Cres. to make a circle. 6 Cres. and 2, 4, 6 or 8 RECT. to make an oblong according to the size desired.

The Effects Possible are Limited Only by the Possessor

NOTE—The JAPANA is a solid piece of glass full of holes allowing a perfect circulation for the water and holding the flowers in their natural position (the Japanese idea of beauty). Being of glass the JAPANA does not show when in water and flowers last much longer.

Just the thing for a Wedding Gift.



6 Cres. 2 Rect. with Japana \$6.00. AN OVAL ARRANGEMENT



Centre Piece in Use.

Low Vase with "Japana" complete - - - - \$1.00

"Anglais" units with Japana complete, each - - - - 75c.

Sent upon receipt of price. Circular on application.

M. V. GARNSEY

129 Waiola Ave.,

LaGrange, Ill.

More Prizes for July Efforts

FIVE dollars or more is offered for the best article suggested by each and every paragraph under the above caption. Same conditions as those mentioned in the "Gardener's Reminder," page 329:

A good way to pay for the photographic outfit you want is to take pictures for THE GARDEN MAGAZINE—not miscellaneous pictures, but illustrations of ideas mentioned on this page.

The cheapest way to raise perennials is from seed. Every garden ought to have a small outdoor seedbed. By the middle of July the annuals will be out of it and then you can sow perennials. Better results will be had if they are started in a coldframe because a more uniform moisture can be maintained in the soil.

Everyone ought to have one favorite perennial which he raises in quantity for massing or cutting.

What is backward in your garden? Dig in wood ashes or sheep manure around any annuals or other plants that look weak. Nitrate of soda will "tone up" the laggards in five to seven days.

You cannot get a full crop of strawberries next spring by planting field runners in July, but you can if you plant pot-grown strawberries in July or August. Five dollars for an amateur's story of success with full record of yield, size of berries, photograph, etc.

Five dollars for the best personal experience by an amateur with celery plants bought and set in July.

Order now, your mushroom spawn for the autumn crop. Five dollars for the best record with Alaska, Bohemia, Columbia or any new American variety.

The very best Shirley poppies of the year are those secured in September from seed sown July 15th. Mr. W. N. Craig astonishes the New England gardeners with the quality of his September poppies. Five dollars for photograph, measurements and reasons.

The very best sweet peas of the year are secured in October from July-sown seed. Mr. James Wood of Mt. Kisco, N. Y., vouches for this statement.

Five dollars for a photograph and narrative of success with July-sown pansies costing fifty cents a packet or more.

The same for cyclamen, mignonette and hollyhock. The costlier the seed, the more to the point.

Five dollars for the best facts and figures on summer painting of greenhouses.

Five dollars for the best photograph of roses obtained next Christmas from dormant plants started in July.

Ten dollars for the best illustrated article telling just how an amateur who has a greenhouse costing less than \$3,000 should sterilize and sub-irrigate his soil. Must give close estimate of cost.

Five dollars for the best account of success with retarded lilies-of-the-valley, spirea, azaleas, lilacs or lilies ordered in July.

Important Things to Do in Late June and July

YOU will not get a good second crop of roses from your hybrid perpetuals unless you cut them back July 5th or as soon as they go out of bloom. Cut back the weak ones severely; the strong ones only a few joints.

Have you ever succeeded in maintaining fertility in your vegetable garden, without commercial fertilizers, simply by using crimson clover? If you have twice as much room as you really need you can easily accomplish this by keeping one-half in clover this year and the other the next. Mr. George T. Powell uses crimson clover in a rather small home garden. As fast as his crops mature he sows crimson clover on every foot of ground that is not needed for a second crop. It adds humus and nitrogen and prevents washing away of soil. Get a pound of seed and try it. It will cost only fifteen cents.

Lettuce seed does not germinate well in hot weather. Sprout it indoors and water the rows before sowing. Select a moist, shaded spot.

Lima beans waste a lot of time and strength unless you help them get started up the poles.

Melons. Apply tobacco dust freely around the plants, cultivate well and dig in a little bonemeal.

Radishes. Toward the end of July sow seeds of the winter type.

Squashes. Use tobacco dust freely for bugs and beetles. Cover the joints of the plants with fresh soil.

To have currants in August, cover a few bushes with muslin or burlap in July before the fruit begins to color.

After the "June drop" thin out apples, pears, plums and peaches by one-half or two-thirds in order to get larger and better flavored fruits.

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Practical and Complete

THESE volumes will cover every important department of fruit, vegetable and flower gardening from the home point of view. Not a scientific treatise, but written in a lively, attractive style. Beautifully illustrated.

NOW READY

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- Vol V.—**Daffodils and How to Grow Them.** By A. M. Kirby. All that is really worth while about these most popular of spring bulbs, written from the standpoint of American conditions. Illustrated from photographs. \$1.21 postpaid.

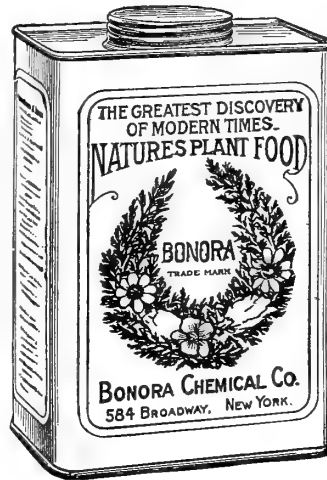
READY IN FALL

- Vol. IV.—**Vines and How to Grow Them.** By William McCollom. Dealing with these delightful climbing and trailing plants for the adornment of trellis, pillar and wall, with suggestive directions. Illustrated from photographs.
- Vol VI.—**The Water Garden.** By Henri Hus and Henry S. Conard. All about water lilies and other aquatics for indoor and for outdoor cultivation. Illustrated from photographs.
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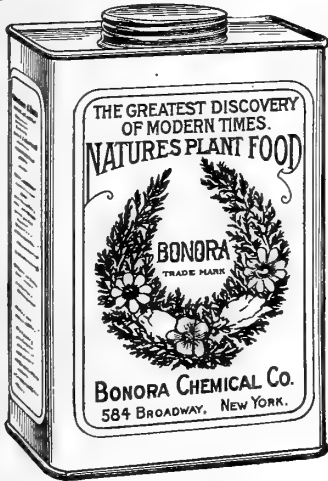


No discovery ever made is so important to growers of flowers, vegetables, shrubbery, rose bushes, vines and lawns. "BONORA" produces a magical growth. Vegetable growers develop nearly everything raised in the garden to abnormal size, and do it in ten days to three weeks less time. All plants and grasses are made to grow as if in the tropics. Flowers are made to bloom so profusely, and to grow to such sizes as to be taken for new varieties. "BONORA" is used by the leading horticulturists and vegetable growers throughout the country. It will make your lawns look like velvet. Highly endorsed by Luther Burbank, Eben Rexford and many others. The cheapest fertilizer in existence for all plant life. Every particle is soluble and available.

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A Full Pound Can of BONORA

Enough to make 28 gallons

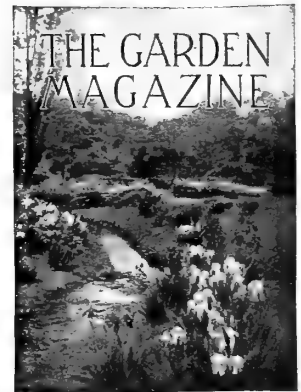
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April and October Double Planting Numbers.

A Series of Articles on each of the following Subjects:

- (1) **The Best Plants for Special Uses.** A series of great importance to the amateur, discussing plants from the standpoint of their actual places in the garden, not from a botanical point of view.
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Name.....

Address.....

HAVE BETTER PLANTS

If you have a garden, a lawn, a window box or any potted plants, you will find this splendid plant-food of great use. It produces almost wonderful results.

Bonora Chemical Company, 584 Broadway, N. Y.
Gentlemen: I take the liberty of telling you of my success in growing melons and tomatoes with "BONORA." I was fully three weeks behind my neighbors in planting both, and I was using both tomatoes and melons three days ahead of them. I think "BONORA" is a great thing for vegetables and intend to use it extensively next season.
Very truly yours, L. MAHL.
P.S.—It was Mr. Duff, gardener at the United States Capitol, Washington, D. C., who recommended "BONORA" to me.



IMPLEMENTS

For any information concerning the purchase or use of any garden or farm implement, etc., address READERS' SERVICE, THE GARDEN MAGAZINE, Nos. 133-137 East Sixteenth Street, New York City

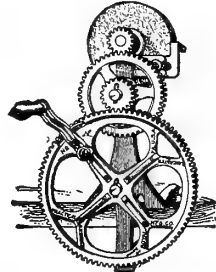


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Sharp Implements and Tools will Save Half Your Troubles.

Let us tell you how to settle the dull tool and dull knife business. You want to know about this little convenient grinder that will screw on to any table or bench. It will pay for itself over and over again in time saved, to say nothing of your daily satisfaction.

It sharpens implements, tools, knives, scissors, 10 times as fast as the ordinary grindstone. It doesn't take the temper out either, and any one can use it.



Hold the tool or knife on the wheel lightly, turn and it will be sharp in one minute. Nothing to get out of order, no water necessary, no chain to buckle or belt to break.

A NECESSITY IN THE HOME.

Our Free Booklet, Practical Talks on Practical Grinders, will explain why. A big help to every gardener and housekeeper. Send postal now.

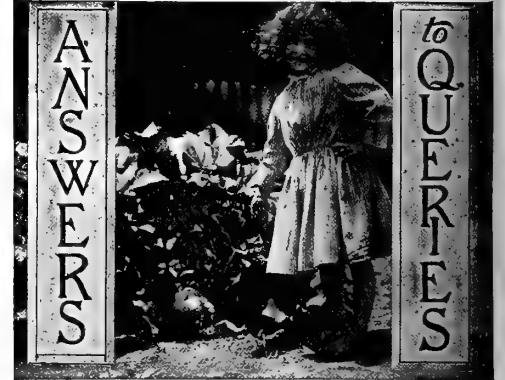
Royal Mfg. Co., 132 East Walnut Street, Lancaster, Pa.

Cut back young blackberry canes after fruiting to three feet, and laterals also if they get too long. Use a sickle. Cut back raspberries to two and a half feet.

Look sharp for the last brood of currant worms, and apply hellebore as soon as the worms appear. Use hellebore this time, instead of Paris green, because there is no danger in using it even if the currants are ripe.

You can easily tell whether the San José scale is spreading in your neighborhood by the characteristic purplish discoloration that it makes at this time of the year upon green twigs, leaves and young fruit. The time when the young scales move about is very short. They begin to appear during the latter part of June. This pest probably never can be exterminated in this country, but it can be kept in check by spraying every week with whale-oil soap solution, or twice a year with a soluble oil.

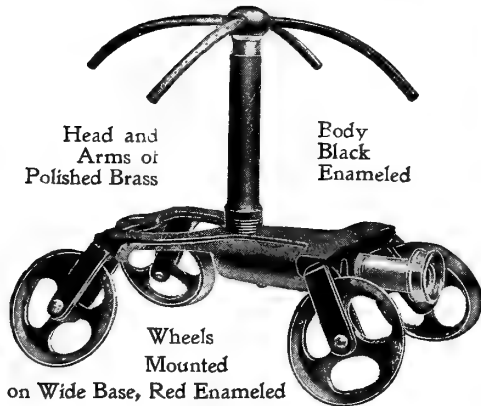
Grapes ought to be sprayed three times during July with a combination of Bordeaux mixture and Paris green. In fact, grapes ought to be sprayed every ten days from April to August.



[Editor's Note:—Subscribers asking for information or advice on gardening matters should be careful to give their full names and addresses when writing. Frequently letters that should have received prompt attention, if the advice was to have been of any service to the inquirer, have remained unanswered owing to the impossibility of communicating with the writers. Seeming inattention is not due to lack of courtesy, but to our total inability to do what we should have liked.]

The New Century Lawn Sprinkler

Revolves freely with any pressure. Equal spray over circle from three to fifty feet in diameter.



Head and Arms of Polished Brass

Body Black Enameled

Wheels Mounted

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ELIMINATING GARLIC FROM LAWNS

D. P., Penn.—There is no very satisfactory way of exterminating wild garlic in a lawn except by digging. If the lawn is very badly infested it will be necessary to spade it up and allow the soil to lie exposed for some time—two weeks—and it may be necessary to work the soil over a number of times, removing as much of the garlic as possible and allowing that remaining to become thoroughly dried out and killed from exposure. W. B. B.

FILLING IN ABOUT TREES

A. J. R., Wis.—Hardwood trees such as oak and hickory will stand much longer without any apparent injury from filling around and above their roots than will the maple. I have known hickories to stand for ten years without any signs of injury with three feet of light, sandy soil filled above their roots. One foot of filling will affect hardwood trees but very slightly, if at all. In the case of four feet of filling make a hole around the tree eight to ten feet in diameter and brick or stone it up around the outside. This will give an opportunity for a large amount of aeration. This treatment has given satisfaction in many cases under my own observation. J. D.

EXTERMINATING MOLES

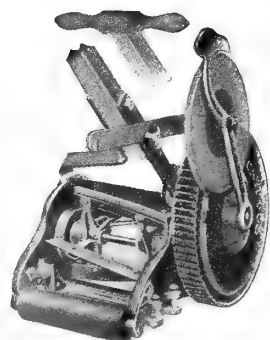
E. L. B., Cal.—Traps are undoubtedly the most effective method of attacking moles, and the reason that they often fail is that it is a difficult matter to set them properly—to set them so that the run is clear and the trap not laden up with earth. If properly set, traps cannot fail to be effective. It is sometimes found possible to take moles by poisoning them. They seem to be especially fond of apples, and these poisoned with strychnine or arsenic will usually have the result of clearing out the moles. Of course, you should remember that the mole does not eat vegetable matter except as an incidental, but it seems to be especially fond of the apple. Many farmers consider that the presence of moles indicate that a pasture needs plowing and cultivating; the same thing is undoubtedly true of a garden. A really well-conditioned, well-cultivated soil is not the most congenial medium for the mole. It usually prefers to run in a loosely conditioned soil that is in need of lightening.

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COUNTRY LIFE
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THE WORLD'S WORK
FARMING



THE GARDEN
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COUNTRY LIFE
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THE WORLD'S WORK
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THE GARDEN
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Decorative Sculptors
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NEVER SLIP HEDGE SHEARS
 (Patented)

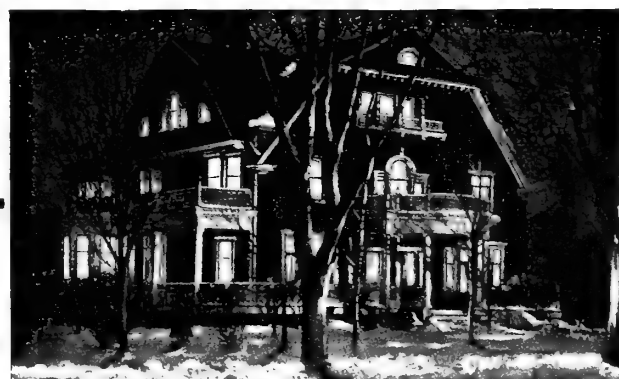
Those Teeth prevent slipping, leave the hedge cleanly cut and sharpen the blades.

Three Sizes

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The feature of this shear is the serrated edge running along the entire length of one blade. These serrations allow the blade to firmly grip the object while the other blade shears it off **without slipping**. This permits clean strokes without one-half the fatiguing effort that is usual, and leaves the hedge in excellent condition. Slipping causes the twigs to be torn or broken instead of sheared. It also **dulls the shears**. The serrations are sloped toward the point, so that the cutting blade is sharpened by each stroke, thus making the shear **absolutely self-sharpening**. The blades are hand forged and polished. Handles 12 inches long, made of hard wood and well tilted up to save the hands of the user from scratches by contact with the hedge. **Express prepaid** to all points east of the Rocky Mountains at the prices given above. Order NOW or write for circular.

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The Sunlight Gas Machine Co., 53 Warren St., New York

Grow Mushrooms that Grow

Mushroom culture has all the attractiveness of the flower garden combined with the satisfaction and financial returns of truck gardening. The home grower and the commercial producer alike secure large results from our spawn.

Pure Culture Spawn makes it possible now, for the first time in the history of this industry —

For the novice to secure good results with ordinary care and attention to his work —

For growers everywhere to have mushrooms of definite selected species, uniform in color, size and quality —

Because every brick is inoculated direct from test-tube cultures.

We are pioneers in applying the principle of selection to spawn growing, and originators of pure and superior varieties of cultivated mushrooms.

Note Our Improved Varieties

Agaricus campestris.

BOHEMIA: Large well shaped buttons, excellent flavor, a good shipper and heavy producer

DELAWARE: Buff brown, superior flavor, one of our most desirable. Record 23 oz.

COLUMBIA: Almost pure white, large velvety cap, firm texture and fine flavor. Very productive.

WHITE PACIFIC: Milky white, above medium size, symmetrical and very firm. Stands up well in shipping.

ALASKA: Smooth white cap, medium size, good producer.

Agaricus villaticus.

GALLOWAY: Large mushroom, almost white, firm flesh, thick tapering stem and good flavor. Forms very large, regular buttons, a good cropper. This form requires less moisture in the bed than *Agaricus Campestris*.

Agaricus fabaceus.

This is a new species especially suited for high temperature.

ALMOND: A firm white mushroom, above medium size. Thrives in a temperature between 56° and 80° F. Has unique flavor similar to that of the almond, hence the name. Ranks with Eureka in productiveness. Spawn ready July 15, 1907.

Agaricus arvensis.

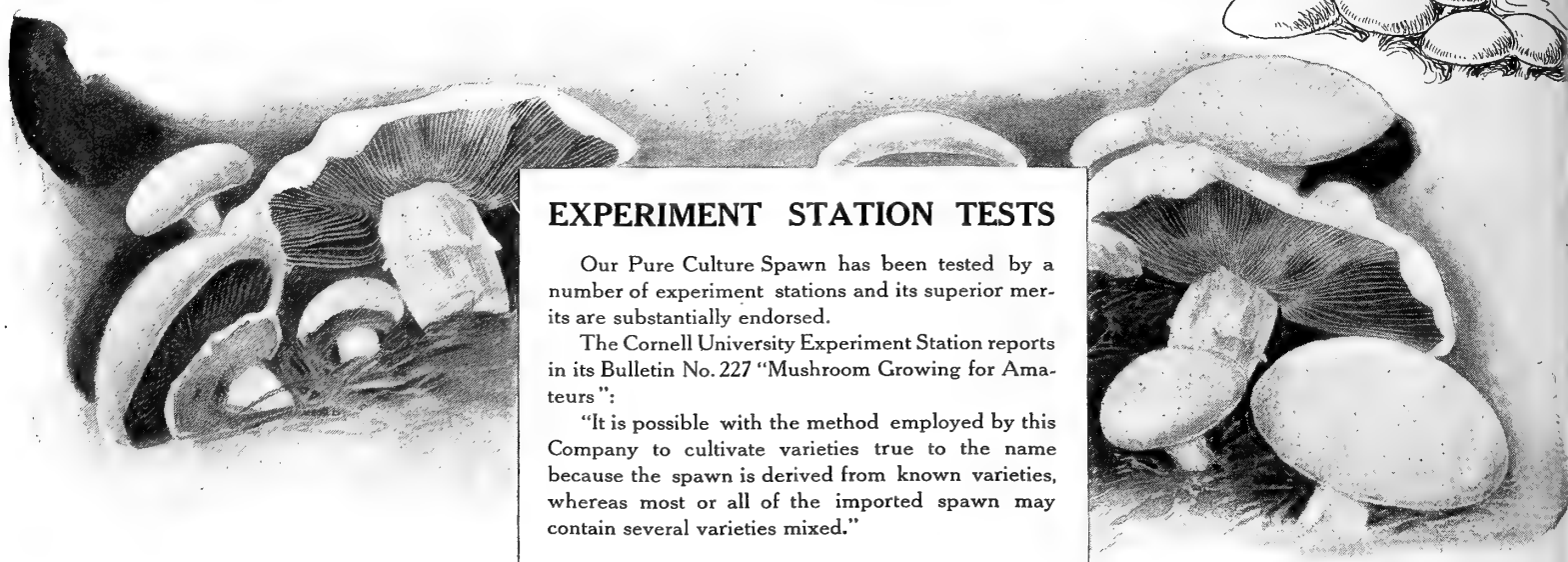
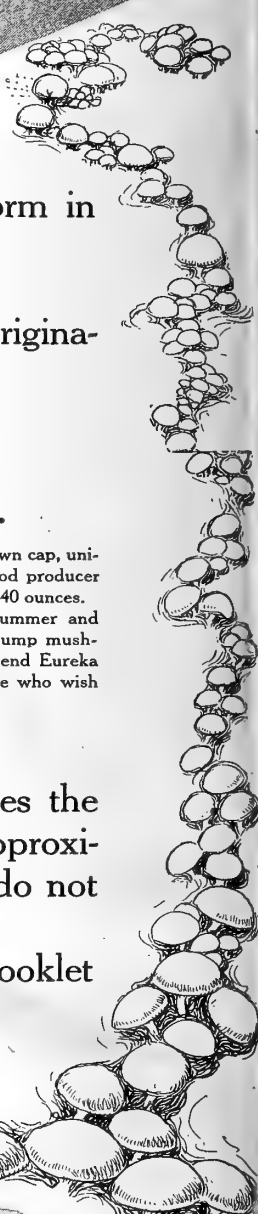
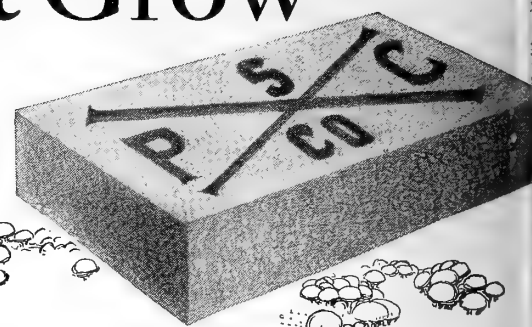
EUREKA: This variety has a smooth brown cap, uniform in size, shape and color. A good producer and excellent shipper. Record 32 to 40 ounces.

This is a hardy form, good for summer and winter planting. It produces fine plump mushrooms at 70 degrees. We recommend Eureka as best for the amateur and for those who wish to grow mushrooms in the open.

Pure Culture Spawn comes in bricks of especially prepared compost that gives the greatest amount of active spawn per cubic inch of brick. These bricks weigh approximately 1½ pounds and will seed 12 square feet of beds. They are clean and do not contain a surplus of loam.

We endeavor to fill all orders on the day received. Write to us for our new booklet "Mushroom Spawn and Guide to Mushroom Culture." The fourth edition has just been printed.

Pure Culture Spawn Co., Cincinnati, Ohio.



EXPERIMENT STATION TESTS

Our Pure Culture Spawn has been tested by a number of experiment stations and its superior merits are substantially endorsed.

The Cornell University Experiment Station reports in its Bulletin No. 227 "Mushroom Growing for Amateurs":

"It is possible with the method employed by this Company to cultivate varieties true to the name because the spawn is derived from known varieties, whereas most or all of the imported spawn may contain several varieties mixed."





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