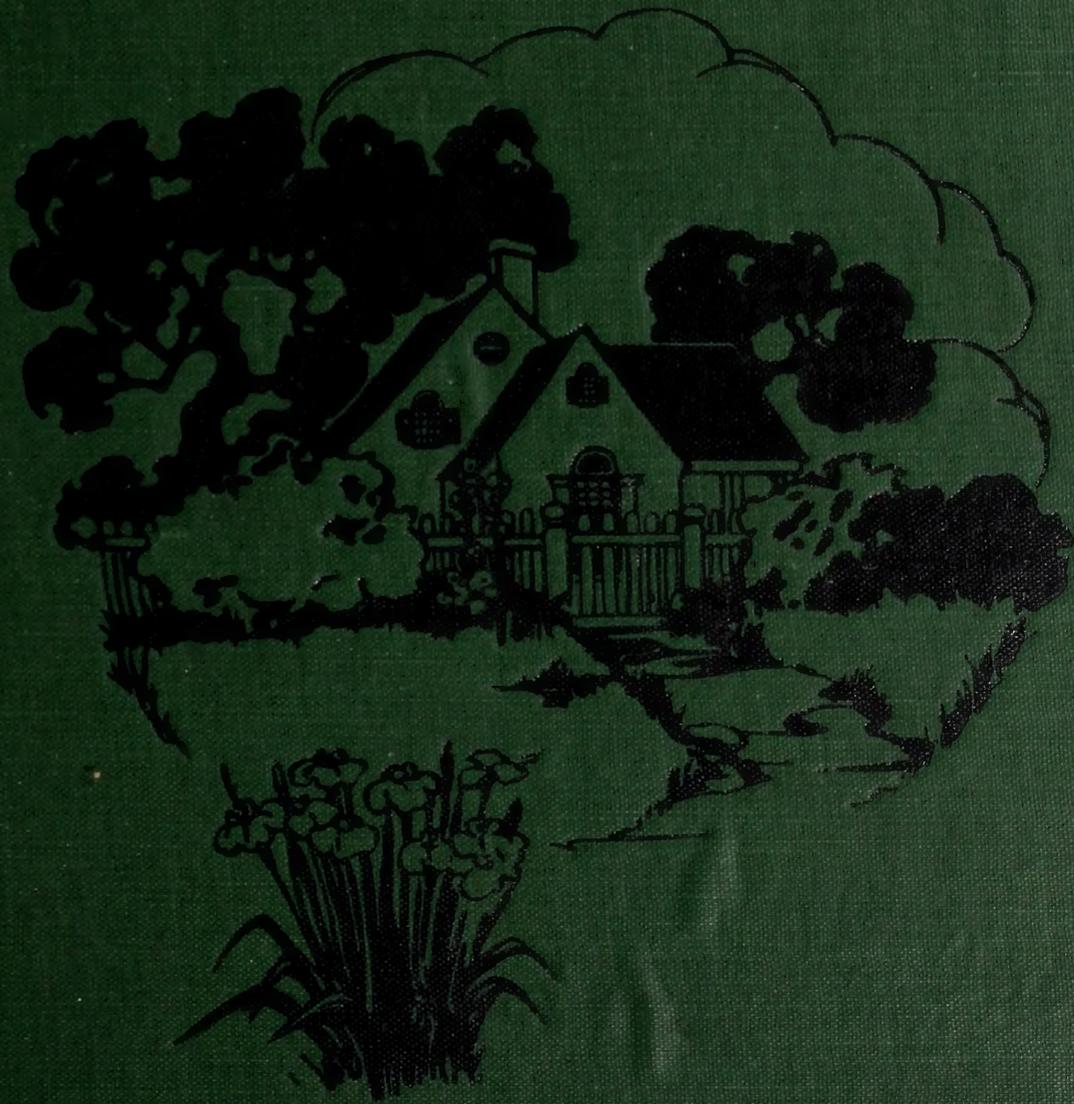


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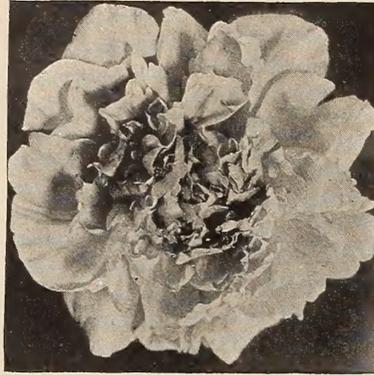
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Entertaining in the Garden
Peonies

Chas. Gebfert

THE BRAND PEONIES

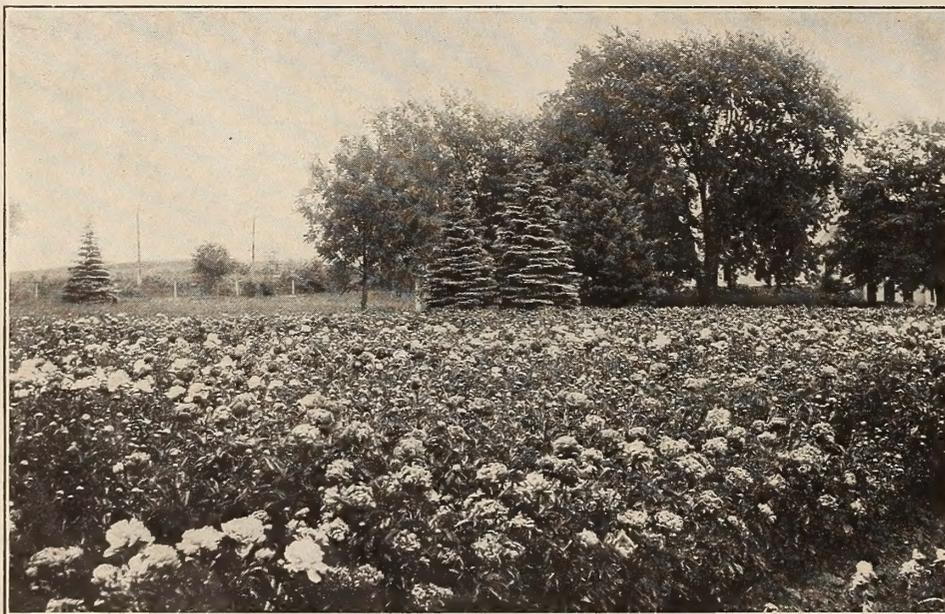
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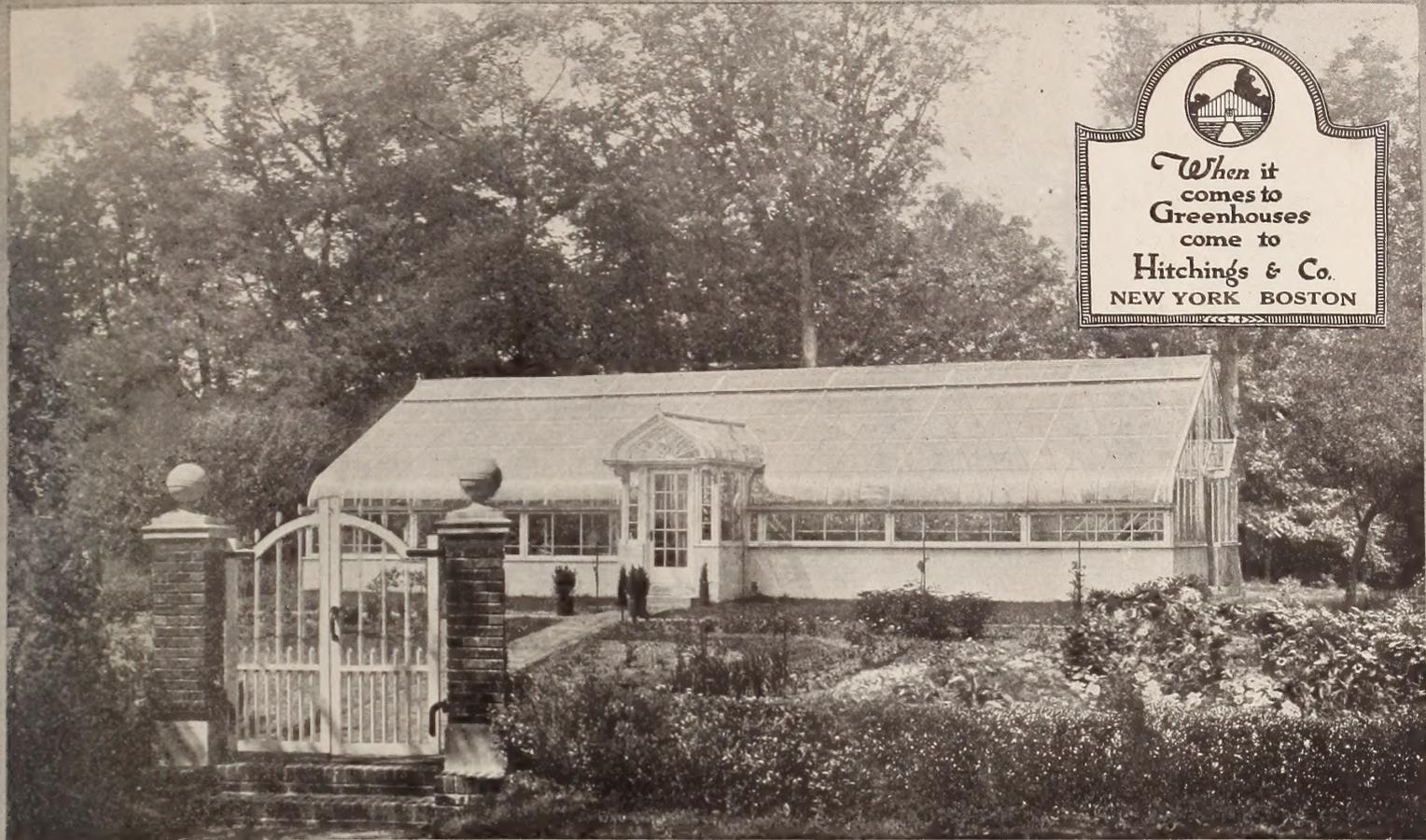
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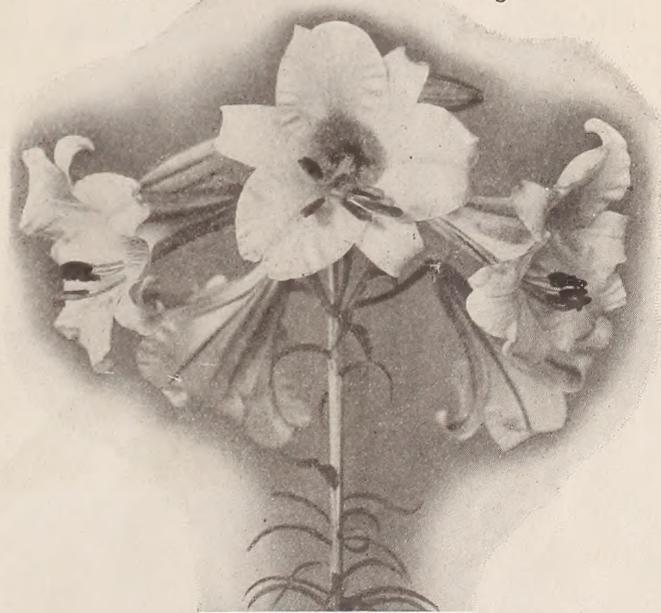
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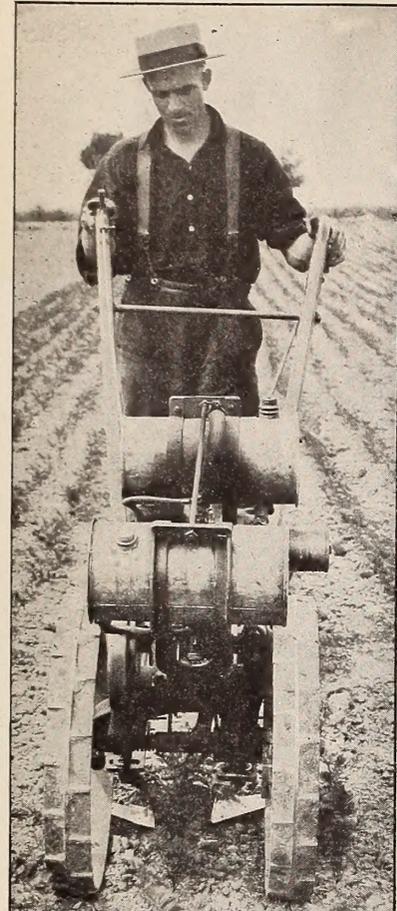
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THE GARDEN

MAGAZINE

AUGUST, 1919

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LEONARD BARRON, Editor

VOLUME XXX, No. 1.

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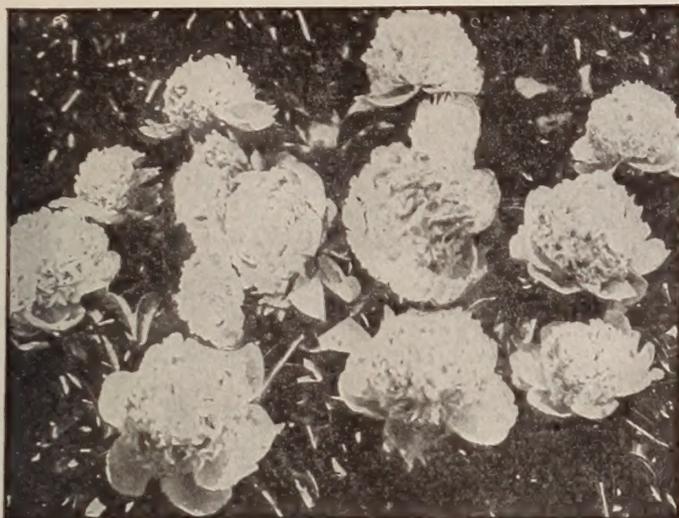
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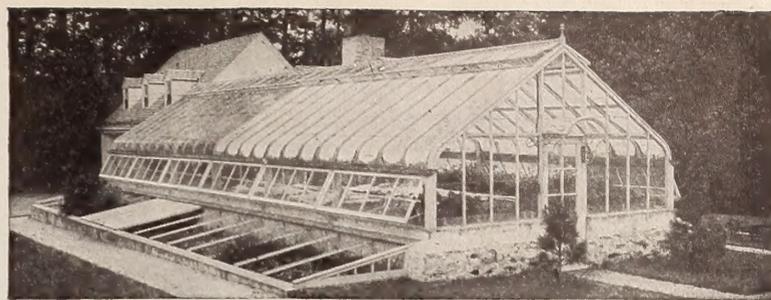
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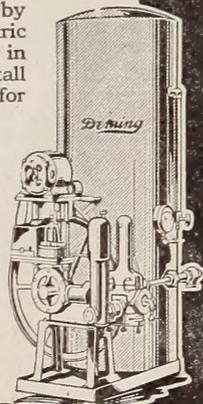
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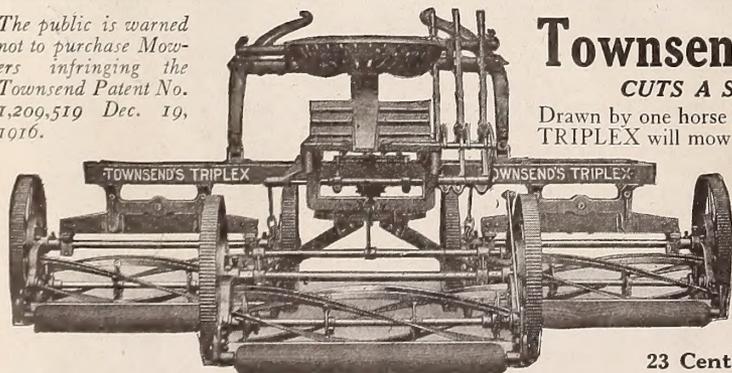
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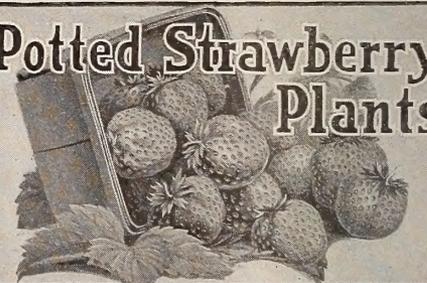
Supported by the income of a bequest by the late Judge Addison Brown, aided by subscriptions.

The third volume has recently been completed; the fourth volume will be issued during 1919; each volume contains 40 full-page colored illustrations.

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The Garden Magazine

VOLUME XXX NUMBER 1

AUGUST, 1919

EVERGREEN transplanting has become a recognized August activity—not because the height of summer offers the ideally favorable conditions for this work, but because at this time it can be conveniently done. Moreover the “peak” of active top growth for the season has been reached, and there is a short lull before the second growth of early fall is made by the roots. The plants are caught as it were, taking their midseason siesta. Hence in addition to being convenient to handle them now, it is culturally permissible and possible.

No planting that can be done at any season with any other material is so immediately effective as this of evergreens in the present month; and nothing indeed parallels it in amazingness save possibly that traditional fame that finds a man overnight. Consider for an instant what this picture would be like without the spire-like Cedars and overtopping Spruce. What lies beyond we may not know; but whether it is barren expanse of open prairie-like land, a neighboring feature of doubtful aspect, or a too close approach of the highway matters not. What we see is trees—and trees that will retain their present verdure and beauty all the year through. Indeed the picture may have been made on a day in midwinter for all there is to indicate otherwise. But the point is that the whole thing may be reproduced, if not exactly overnight, at most within a week's time.

Every kind of conifer is included in the planting possibilities of the month, but do not undertake to transplant broad-leaved evergreens as well. These are more safely handled in early spring. In making naturalistic groupings remember that there are always small trees as well as large in nature plantings, and mingle small sizes with large accordingly, even though the purpose of the group is to screen something that only large trees will hide.



IS THIS WINTER OR SUMMER?

All the year through a planting like this (that may be completed in a week's time) fulfils all that is expected or desired of it



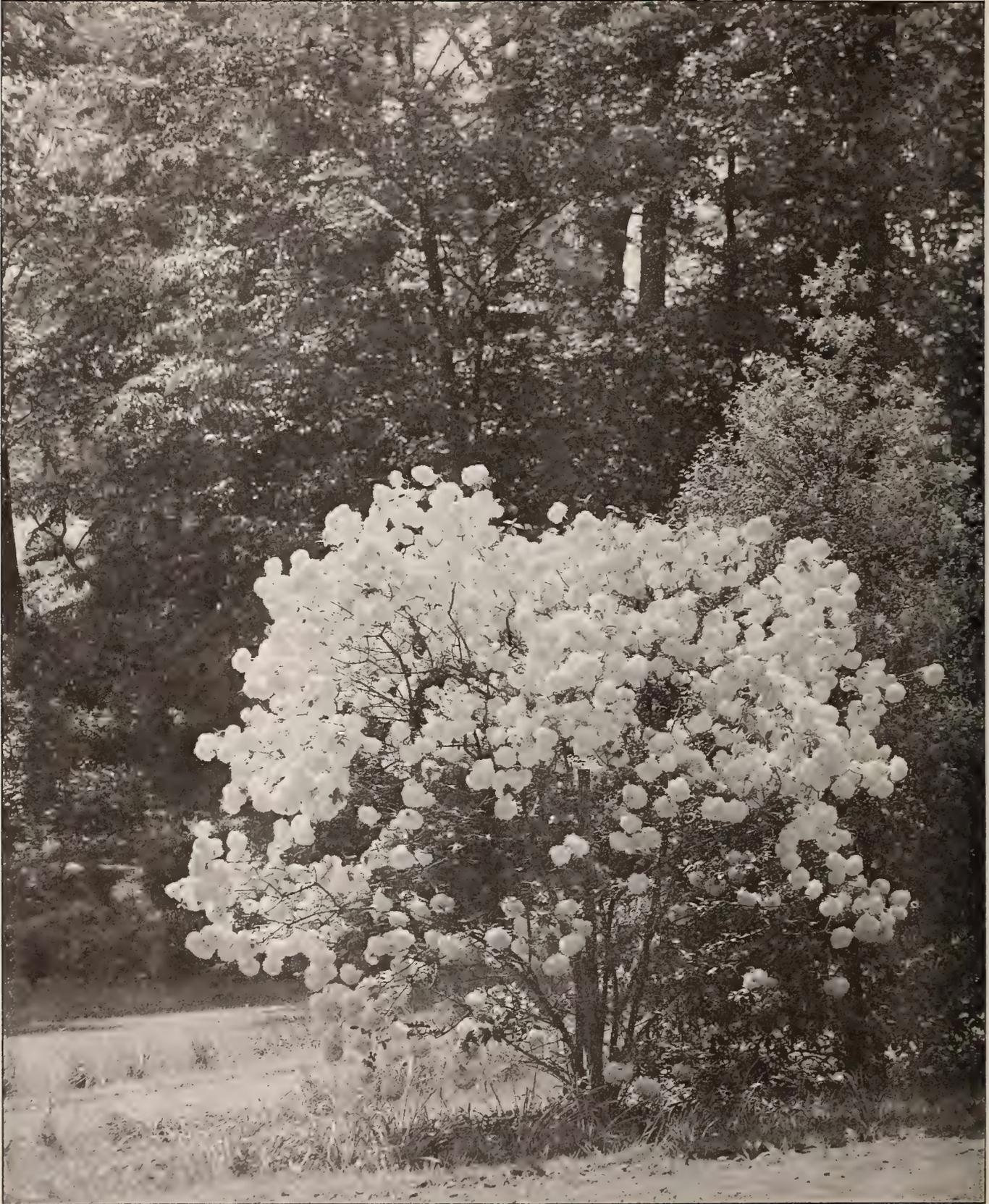
THE RESTFULNESS OF LONG LOW LINES

Garden and house in ideal unity is shown in the residence of Mr. W. E. Martin at Oak Park, Illinois, where the insistent horizontal lines that distinguish the Chicago type of architecture have been used under the intriguing influence which Aztec design has had upon Frank Lloyd Wright. The house itself is wondrously colorful and its rich brilliant tones glow through the foliage of the trees and vines by day; while at night the illuminated windows are like fairy jewels



A GREENWAY WINTER AND SUMMER

Up to the top by easy stages this path on the estate of Mr. Jere A. Downs, at Winchester, Massachusetts, leads, with balsam fragrance of Spruce and Pine for refreshment, a skyline of mysterious promise for allurements, and little shy flowers peering from everywhere for encouragement. Planted by Harlan P. Kelsey, Landscape Architect



THE SUMMER SNOWBALL OF CHINA

Pronounced the finest specimen of *Viburnum macrocephalum* in the country, this bush, growing near Wilmington, Delaware, stands twelve feet high and has a spread of fifteen feet. (See page 31)

ENTERTAINING IN THE GARDEN

GRACE TABOR

Workaday Gardeners Miss Their Final Real Reward so Long as the Social Cultivation of the Home's Better Half Lacks the Attention it Merits

"And add to these retiréd Leisure
That in trim gardens takes his pleasure."

II Penseroso

WE HAVE our gardens—a great many of them here in America now—but we have still to learn to use them. We are not getting out of them anything commensurate with what we have put into them, and are putting in. In other words we are not yet at ease with them; the formalities still prevail; they have a bit the best of us.

The visitor to an English home, for example, moves with his host gardenward almost at the moment of his arrival, and quite as a matter of course—the garden being to the Briton preëminently the place of rest and refreshment and of entertainment resources. But we here seldom get beyond that great American institution known variously as the porch, piazza, veranda—or gallery if we are from the South—with our visitor or even by ourselves, unless we have work to do in the garden.

Right here indeed is the touchstone of all our garden relations I begin to think. Here I am afraid we have formed the habit of stranding most of our festal garden thoughts immediately they are launched—if indeed they ever actually slip down the ways of our anxious minds. We are so concerned with the garden making and garden tending that we lose altogether the real purpose of a garden—its *use*, the purely pleasure use, the entertainment and enjoyment. We are so fixed in the habit of work therein—observers tell us that this is not confined to any one aspect of our national life—that we have not yet formed the habit of play.

Like all habits, good and bad, however, it may be cultivated; and being distinctly good, it should be. The porch, as we understand it, ought never to be abandoned. But it is not after all a part of the garden. On the contrary, it is very decidedly a part of the house, with the sense of indoors dominating rather than outdoors, and with precisely the same limitations of walls and carpets and furniture—and a *roof*—that the house has.

So it is to garden entertaining as a definite thing that it seems desirable we should direct attention and thought. For, of course, the first step toward forming a habit is to think about it; then to try it, little by little; and before we realize it we have it, or it has us.

TO SOME of course there comes at once the thought that a garden alone and by itself, is entertainment—entertainment of a persuasive eloquence that lures all sorts of people through all sorts of weathers, in all seasons. And all sorts of people respond, to be sure—gaily, seriously, enthusiastically, negligently, according to the soul and the circumstance of each. But after all, this response is only a passive

acceptance of something insistently offered; and it has never meant and never can mean the realization of a half nor a quarter of the garden's possibilities.

For the garden, in addition to being entertainment, offers the richest background for positive enterprises in entertaining. Nowhere is there such diversity of opportunity as it affords, varying all the way from the simplest intimate going forth for coffee and cigars under the lengthening shadows of our present—alas! only present—lengthened days, to the carefully planned and elaborately prepared pageant or dramatic performance. Moreover, the character of entertainment that may be given is, up to a certain point, the same whether the garden be large or small, the scale alone distinguishing the diversions of the one from the other.

From the old fashioned garden party through *tableaux vivants*—of a contemporary vintage—to the very modern living moving picture, the small garden shares with the large one in possibilities for delightful affairs. So whether it is the impromptu week-end lark of a group of intimates or something quite formal to which guests are seriously bidden, let us give the garden its chance. The time has assuredly arrived for it to take its rightful place as an actual part of the home instead of remaining merely a secondary and somewhat apart adjunct thereto.

THE charm of music when listened to in the open immediately suggests a motif that is subject to widely varying interpretations. The most recent possibly was a twilight garden party given between the rather unusual hours of seven-thirty and ten o'clock of a long June evening, at which the "Kilties" were the feature. Hidden by the trees and shrubbery that frames a lovely lawn they approached from a considerable distance, piping as they marched, and coming at last into view, picturesque and suggestive figures in the midst of their own true environment. In the twilight hour they brought the romance and wild beauty of their great heritage straight into the heart of to-day as never would have been possible indoors, under a roof—and electric lights. At intervals they danced too, as only the Scot can dance out of doors the old dances of his people—all to the same "skirl o' the pipes" of course.

Far cry it is from the primitive bagpipe to the preserved disk-music of all the world to-day—and likewise far cry from the highland fling and the sword dance to the foxtrot and the shimmy. But where the guests are to do the "dancing on the green" it is the dehydrated jazzing of any preferred jazz king (they are always "kings," I note) that is really more suitable as well as more readily obtainable. Wherefore, given

a level bit of sward, a few such records and a phonograph one has all the elements of the garden *thé dansant*—a strictly modern innovation. By setting this back a few hours and masking the dancers, a revel with the true Elizabethan flavor, notwithstanding its music and dances, is arrived at. And of course music that is strictly in keeping with the Elizabethan period may be obtained in the same convenient desiccated form, if one is a style purist and wishes to go in for the real thing; while as for the dances of then, they are easy!

Taking a page from our allies of the orient, the Japanese, and turning from music to the garden's own particular embellishment, not to say element, the flowers, what lovely occasions of special observation are not immediately discerned? A Lilac-flower fête in one garden, a Peony feast in another, a Rose soirée in another; and so on, according to the special thing for which each garden is distinguished. Innumerable motifs will suggest themselves, if they are given a chance. The summer meetings of garden clubs at members' homes may well pave the way for this sort of observation of special floral displays; for of course these meetings are timed to bring them to each garden when it is at its best, as nearly as it is possible to do so.

In this connection it has been here and there remembered by a June bride that June is also the month of Roses; and rose-garden wedding breakfasts have been the delightful result, which will doubtless lead to further outdoor wedding parties, if not to weddings themselves being staged out of doors. Surely a garden is of all spots the most appropriate for marriage vows; and for the Southern bride why not a wedding among the outdoor orange blossoms?

FINISHED dramatic performances offer difficulties in some places that are of course insuperable; but living pictures may be made more effective in a garden—or in an outdoor setting, if no real garden is attached to the home—than anywhere else, providing suitable subjects are chosen. One such function on a fairly large, though not for that reason any the more elaborate scale, gave "The Tempest" in a series of its essential scenes and incidents posed as tableaux, while extracts from the text and especially written explanatory clauses that welded the fragments into a whole, were read by the Muse of Poetry, standing at

a tall lectern placed at one side of the frame which enclosed the pictures.

NATURALLY the thought of "As You Like It" comes to mind as particularly suited to such interpretation; and there are so many stories, plays and poems, old and new, that lend themselves delightfully to picture presentation that any situation and circumstance may be appropriately met. It is worth noting, by the way, that by focussing attention on a particular place or bit in the garden, as the frame does wherein pictures are shown, unsuspected beauties are revealed therein and scenic character brought out amazingly. Therefore in a garden that may at first seem to lack possibilities for any sort of entertainment, it not infrequently happens that living pictures may be given with a high degree of success. This is especially true if the time chosen is evening, for illusions of distance and forest within very small area are often only a matter of clever lighting.

Open air theatres as permanent features have been constructed in comparatively few gardens; but where space is available and proper conditions exist, such rendezvous are as delightful a feature as a garden can have, quite apart from their purpose as dramatic settings. And whether the players be amateur or professional, there is no doubt but the play is everywhere the most popular and generally enjoyed form of entertainment that can be chosen or offered. The earliest instinct remembered, if we trouble ourselves to remember, is the instinct of "let's pretend!"—and no one ever grows so old that it is not still next in liveliness to the instinct of self-preservation. Indeed it may very possibly be that it is a part of this—but that, of course, is another story.

To dress up and be in imagination someone else, however, starts in the nursery and carries straight through life; hence to be able to give one's guests the chance to do this themselves, or—lacking the temerity if not the impulse—to enter in as intimately as garden dramatic performances allow them to while others create a little world of make-believe, is perhaps the surest way of providing them with the real pleasure that every hostess wishes and aims to give.

A permanent garden theatre is not by any means essential to outdoor play presentation, for many garden corners afford conditions



(© Mattie Edwards Hewitt)

A LIVING PICTURE OF CLASSIC SIMPLICITY

Almost any garden affords a setting equal to backing up the modest demands of a big picture frame and such groups as may be shown within it



WHERE THE SHADE IS JUST RIGHT WHEN TEA TIME ARRIVES
The cool little stone garden of Graystone, Greenwich, Conn., the estate of Mr. Wm. Steele Gray

for instant impromptu transformation into a stage. A most delightful recollection indeed of a certain small garden I wot of, is of certain small people who entertained there one summer afternoon with a play conceived, written, costumed and staged entirely by themselves, in a space where less imagination than a twelve-year-old's would not have ventured—utilizing shrubbery and trees as these stood, adjusting their entrances and their exits accordingly, all with noteworthy success. Needless to say the affair was incidentally of infinite service in keeping this entire flock of youngsters amused and out of mischief for many days before

it came off; and served further educationally, in the best and broadest sense, without their ever suspecting it!

ONE group of village children that I know annually produces a play for the benefit of their own small library. The place where it is given is a lovely hillside glade that is a natural amphitheatre within the woods of an old estate. Sometimes it is a ready-made and ambitious drama, and sometimes it is an adaptation of their own from some old folk tale or fairy story, done with the help of the young fairy godmother who watches over them. Such a little band



A LATE AFTERNOON IMPROMPTU

A group of lively notables takes the music as it comes on Mr. Edgar Selwyn's lawn



A PLACE TO DANCE, TO CHAT, OR JUST TO SIT AND DREAM
The terrace at the Easthampton residence of Mr. Albert Herter

might very well grow into a troupe of village players similar to those of Oberammergau—inasmuch as “dramatic representation” (otherwise, acting) is beginning to receive the recognition from educators and thoughtful social workers that it merits as a tremendous force in human development. It seems eminently proper that this instinct, inherent in all of us, should have its opportunity under such ideal surroundings as the garden or woods afford—all without the individual approaching in any sense or intending to approach the profession of acting.

A WORD is not amiss as to the gardens generally that are to be thus used. I am tempted to regard their scenic potentialities and entertainment possibilities as the acid test of their merit as creations of the landscape art. That they shall be “paintable” we have always demanded; but we discover as we go along, that it is quite possible for a garden to have many paintable and delightful bits and yet not meet in its entirety this standard. Actually it is the more exacting standard of the sculptor that must be set up—the seeing from every side, instead of from just one or two or three carefully chosen and fixed vantage points.

And this is precisely as it ought to be! There is no part of a garden that may go unconsidered or unbeautified, even though it is obscure and of small consequence in the general scheme—or even though it is purely utilitarian and practical. Portions there may be that must wait years perhaps for their full development, to be sure; but this does not mean that they may be neglected meantime to such an extent that they require hiding or carefully steering away from. With the intention to use the garden to the uttermost always in mind, it will take on more the aspect of the house as far as thought about it is concerned; and its perfecting in every part and smallest detail will follow, as a matter of course.

Actually it was just this attention to detail and careful consideration of every part, however obscure it may have been, that gave to the world the beautiful gardens of Italy that are inevitably our standard whatever our preference as to style and character may be. Whether we design as they did or not, inspiration comes from the lovely things that these gardeners—nobles or prelates—have left. In view of the fact that so many were princes of the church, it is interesting to note the same care over the seemingly inconspicuous detail in the gardens that impresses when a great cathedral brought to completion under the same authorities, is studied. Nothing escapes the painstaking instinct to make beautiful.

This is something that the gardeners of the Far East also bring to their work—infinite taking pains with just those things that we, being always preoccupied with the larger features and more noticeable parts, neglect. Of course it is simply because they are older than we; they value the full completion of a thing even more perhaps than we value its conception and inauguration. To us, it is so great to have thought of it and to have made an enthusiastic dashing attempt at it that it has not mattered greatly, with the majority, whether the careful, loving finish that takes time and patience and painstaking has been rounded out or not.

NOT that I am anxious to criticise; but in order that the gardens that are already made here in America shall go on to the greater perfection which a garden must ever be

moving toward—or away from!—it is necessary to point out those things wherein they fall short. And that is what I am trying to do. They are largely things of detail; not the detail of care and exactness and neatness—too often indeed, just these things are overdone—but detail of thought, I am tempted to call it. That is, the rounding to completion of the conception, the finish of the work as a great and consistent unit of beauty, not simply as a place to be planted.

It is not a thing that comes for the asking, nor for the wish for it. It is rather a thing of slowly awakening understanding, of gradually clarifying perception, of rising aspiration. It is the thing that commoner and more intimate use of the garden will bring, just as this use of the garden will bring sharpened appreciation of the beauties already developed; and of many unsuspected, I have no doubt. For most gardens are far lovelier than any one suspects—unless they are far uglier. Intimacy alone will reveal which; hence, even if you have no intention to take up garden entertaining this year or another—or if you have no intention to entertain at all!—take your self into your garden and seek your own entertainment there, in solitude, if this is preferred.



“BELGIUM OF TO-DAY”

The supreme tragedy conveyed by Mrs. Reginald Vanderbilt's impersonation of this desolated land, at the Newport Red Cross Fête given at the home of Mrs. Arthur Curtiss James, could be provided with no finer setting than the desolation of Nature's own bare rocks



EVERYONE LOVES MAKING BELIEVE

And when it's making believe you are a fairy, as little Miss Gloria Gould is doing in this play given at the Gould estate at Lakewood, life's cup of happiness simply spills over

THE realities of beauty—or lack of them—are not found out by working in the garden. It is only the time spent in idling, or playing, or entertaining there that brings this side of it into relief. Hence, if only for the sake of the garden and its best development, garden entertainment and recreation must take its place in our scheme of things. But it is not the garden alone that will develop under this use of it. Every entertainment in a garden is an inspiration to the entertained; physically, mentally, and spiritually they are refreshed and recreated as nowhere else. And since recreation is the sole purpose and the end and aim of all entertainment, what can be offered, therefore, that will equal entertainment in the garden?

For charity's sake grown-ups as well as little folks have of course always served in entertainments of a public and semi-public character, given indoors; but not until the revival of the pageant at a comparatively recent date, did outdoor possibilities begin to be considered. On top of this came the war, bringing its heroic demands and heroic enterprises both indoor and out to meet them—great shows, spectacles, bazaars and pageants—all of which have shown us the way for many things, now that peace days are once more come. With or without the excuse of charity therefore, why not proceed? Must there be an "excuse"? It seems to me not—or that the pleasure of the doing for the players, and of the ob-

serving for the others, is sufficient without a qualifying reason. Why not? Tennis and golf are for their enthusiasts—but there are many to whom other appeals are greater.

My contention is that the entertainment out of doors should be as varied and as rounded as that within the house—now that the gardens are provided wherein it may be so ordered. Hence the use of the garden theatre, even lacking the purpose to entertain on a large scale or with professional players therein. Of its charm where entertainment on a large scale is intended it is hardly necessary to speak. The combination of the art of the stage with the art of the garden—the natural beauties of a lovely creation wherein living trees, shrubs, flowers, birds and sunlight, overarched by the sky, are substituted for the scene painter's efforts and the electrician's devices—furnishes so perfect a whole that imagination cannot conceive anything more delightful. One of the charms of the film drama indeed, is that its scenes are real; we get the sense of outdoors when the scenes demand outdoors, because they are actually filmed out of doors.

OLD garden games for all times and occasions have largely fallen out of memory altogether it seems, or into the desuetude to which ridicule consigns all that it attacks, good or bad. I am emboldened to speak up for one of the latter, however, by reason not only of its ancient lineage but because a famous street still is known by its name—Pall Mall—and also because it is a very excellent game indeed. I am willing to admit that the modern form known as croquet is not worthy of its illustrious ancestor, the very old game of pall mall. This latter I commend for serious consideration, especially for the small garden, as the actual space required for the "mall," which may be gravelled or in turf, is only seven by forty feet.

Another game of equal antiquity, and one that should have a place in every garden where there is room for it, by reason of its historical association if not on its own merits, is bowls. For long before we were an independent nation every village and near-village had its bowling green; and the name still lingers not only to designate the little park that ends the most famous street in our land—Broadway, ending at Bowling Green, down by The Battery—but as the appellation of several towns throughout the country, some of them quite pretentious. Requiring a square of about seventy feet or a circle of that diameter, level and closely shaven, this ancient game—the favorite sport of the Revolutionary smart set as well of the common folks—is picturesque and interesting. A terrace at one side giving a view down upon the "green" is an ideal arrangement, or it may be altogether below the level of the surrounding garden, simply a sunken *tapis vert* with grassy banks sloping thereto.

One of the most interesting and at the same time least troublesome games, because requiring no installation whatsoever, is boggia. It needs only any sort of lawn space, at one side of which a starting line twenty feet long may be stretched or marked, from any point on which the players may roll their balls.

A variation on lawn tennis in the form of tether tennis is good fun—and needs but a twenty foot square. Inasmuch as there must be a central pole ten feet high however it should not be in a prominent place, for there is no very great element of beauty in this.

The game of badminton is very like tennis save that it uses shuttlecocks instead of balls. It takes a court thirty feet wide by forty feet long. Garden hockey is an amusing adaptation of the strenuous field sport of the same name. It is played between side lines that are but three and a half feet apart and usually twelve yards in length. For more than four players the length may be increased as desired. As no hard hitting is allowed by the rules of the game and clubs are never raised more than eighteen inches from the ground under penalty, it is not by any means a violent game—though it is decidedly exciting.

Variations on golf that adapt its principles to the space of a garden take two forms—the small-area game known as clock golf and the larger and more like golf combination called golf-croquet. This utilizes wickets which, irregularly

placed as the lawn's contours or outlines may suggest, become the "holes" of the golf "links" thus created.

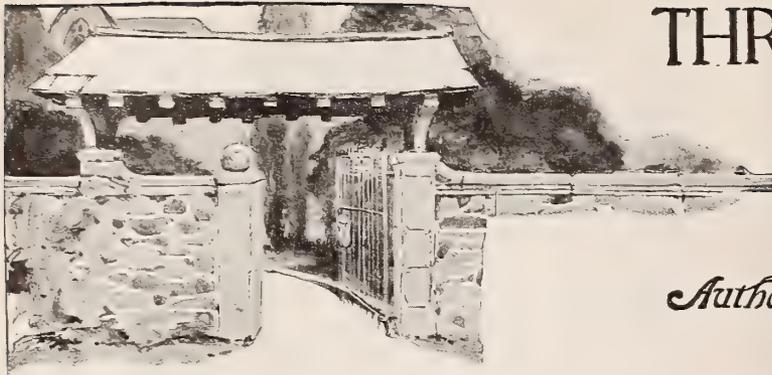
Roque is a game that is on a par with tennis in many ways—and may be passed with just a brief mention therefore. It is a highly scientific and delightful game but the difficulties of it may well give pause to the merely casual installation of a court. It is a game for the enthusiast only.

Not exactly a game and yet coming within the general classification of games, is another old-time lawn diversion that the use of the garden may restore and that may help in bringing about the use of the garden—namely archery. Most picturesque and delightful of "gentle" sports, its requirements are the simplest while the space may be more or less, according to that available. The customary range in matches is sixty yards for men and fifty for women.



FAULTLESS HARMONY BETWEEN THE MATTER AND THE MANNER

The extravagant and finished loveliness of pantomime found its most appropriate shrine when given by the Washington Square Players within the airy, festooned peristyle of this outdoor stage on the estate of Mr. Benjamin Stern, at Roslyn, N. Y.



THROUGH THE GARDEN GATE

By Louise B. Wilder

Author of "My Garden" and "Colour in My Garden"

And, North and South and East and West
The pride of every zone
The fairest, rarest and the best
May all be made our own.

Whittier.

Then and Now! What of the Outlook?

THE above verse is taken from Whittier's Hymn to the American Horticultural Society. It was written in 1882 when Americans were just beginning to take a vital interest in gardening; were just beginning to realize that they had time and money and, most of all, the desire to garden finely as well as to build stately. It expresses high aspirations, noble intentions. Since then these have flowered into gardens from end to end of the land; few estates but have, as a matter of course, fine gardens; few suburban places but have an assemblage of flowers personally tended, and these are often of rare and choice varieties. Indeed it has seemed from certain gay signs and portents observed in our towns and villages that even these often depressing areas might be on the point of such a blossoming as sets their English prototypes like jewels in the memory.

All this has been good, for "flowers through their beautiful, varietal of colour and exquisite forms do bring to a liberal and gentlemanly mind the remembrance of honestie, comeliness and all kinds of virtue," and it would seem that never before has the world stood so in need of being "admonished and stirred" to contemplation of these, perhaps, old-fashioned qualities. But all this sort of thing is nothing to the Department of Agriculture. Its horny hand has struck roughly at this fine general impetus toward something noble, and we must face the possibility that the great expense attendant upon raising plants in great quantity in this country is going to put them out of the reach of any but the well-to-do, and the dream of little jewelled villages where men's minds are turned toward "honestie and comeliness" must remain a happy reality only for our cousins across the sea.

To-day I have been going over the fall bulb lists. What a paucity in comparison with the riches that have in other years been offered us! Astonishment and resentment grow within me. Is it possible that our Government has taken time from the momentous matters that now engage it to forbid the importation of Snowdrops? Can it be that we are no more to plan for spreads of azure Scillas and Snow Glories beneath the white-clothed Magnolia trees? Shall knowledge of the gorgeous exultant Crown Imperial pass with this generation and the Poor-man's-Orchid (Spanish Iris) be known

no more? Shall the spring for our children be less lovely than it has been for us?

I am no fighter, neither have I any but the most general knowledge of things political, but I am strongly inclined to cling to that hymn of Whittier's, to make it a battle song. A wrong has been done us and that so swiftly and secretly that we had no time to mass for effective resistance, nor even to realize to the full its possibilities. The testimony of many experts has been offered to prove that many ills will follow in the wake of this drastic and ill-considered measure, and while these facts are sinking in let us keep the fires of our just wrath alight. Let us not sit down stolidly to endure this calamity, but continue to dream of American gardens where the pride of every zone, the fairest, rarest, and the best is brought for their adornment.

It is a brave man, or perhaps a foolish one, that sets "for all time" against any of his earthly arrangements. Administrations pass and Department heads fade away, and there are better fish in the sea than have yet come out of it. Let us have something to say about the next catch.

Plants that Get Along Without Watering.

PLANTS that will thrive in a naturally dry soil or that will endure long periods of drought without flinching are of especial importance to American gardeners. Even where the soil is of a retentive character, or where the garden is equipped with the means to apply water freely, the unfailling summer droughts are a severe trial and usually leave the garden looking worn and exhausted. It is important, therefore, that we should know which plants may be counted upon to maintain an appearance of freshness and vigor under these trying conditions.

The first that comes to my mind is the Chalk-plant, or Baby's-breath (*Gypsophila paniculata*). The enormously long tap root grown by this plant enables it to be quite independent of surface moisture. The Chalk-plant appears entirely unmindful of drought and indeed develops its fullest beauty only in a dry, sunny situation. Thus situated a single root will, in a few years, produce a delicate mass of gray-green foliage several feet across and three feet tall, which, when covered with tiny gray-white blossoms, is fresh and cool enough in appearance to redeem the most drought-ridden of July gardens. For the front of the border the small prostrate Chalk-plant (*Gypsophila repens*) serves the same purpose and continues blossoming for many weeks.

The Sea Hollies and Globe Thistles (*Eryngium* and *Echinops*) are also to be counted upon. They, too, have the strong down-striking tap root which supplies them with refreshment.

Their silvery foliage and cool blue flower heads are a relief to the eye amidst the warm coloring of the summer garden. Mulleins do very well under dry conditions and are always picturesque and striking in the garden. I do not mean our common roadside Mullein, though even this is a plant of distinction and charm, but the fine fellows from over seas and the hybrids created from them.

Perhaps the finest of all the garden Mulleins is *Verbascum olympicum*, the Greek Mullein, with a towering stalk topped by a candelabra of pale yellow blossoms that remain alight for at least six weeks at midsummer. *V. phlomoides* is another handsome sort with yellow flowers and there is a fine hybrid, *Miss Willmott*, whose stalk is threaded with creamy white blossoms. There are numerous other good hybrids with bronze, apricot, or yellow flowers. *V. phoeniceum* is lower growing than any of the foregoing. It sends up a stalk not more than three feet in height bearing round blossoms in soft colors, rose, mauve, buff, pink or cream. All these plants are easily raised from seed, and though biennial in character seed themselves so freely that there is no trouble in keeping up a stock.

The Kansas Gay-feathers, being prairie born, are inured to drought and prefer it. It took me some time to grasp this fact concerning them and year after year I lost the plants set out in rich heavy borders. Both *Liatris pycnostachya* and *L. scariosa* are exceedingly decorative plants of medium height (3 to 4 ft.).

Lupines too prefer a dry situation (and a poor soil, in fact) and are longer lived and less prone to disease under such conditions; indeed they will flourish amazingly. Flag Irises in all their many beautiful varieties are plants that are little affected by drought, nor are the gorgeous Oriental Poppies, nor the various *Anchusas*. In fact *Anchusa myosotidiflora*, I have found to be perfectly hardy only in the driest situations. The annual *Alkanet* (*Anchusa capensis*) is also useful in a dry situation, as are California Poppies, Verbenas, Petunias, Marigolds, Zinnias, Portulaca, Sweet Tobacco, Mexican Poppy (*Argemone mexicana*), and Balsams, to name a few annuals.

Following is a list of a few other plants that may be counted upon during seasons of dry weather or when planted in particularly dry situations:

All the Sedums and	Yuccas in variety	<i>Nepeta Mussini</i>
<i>Sempervivums</i>	<i>Helianthemum</i> in	<i>Salvia pratensis</i>
<i>Cheiranthus Allioni</i>	variety	<i>Salvia azurea</i>
<i>Santolina incana</i>	<i>Euphorbia poly-</i>	<i>Linaria dalmatica</i>
<i>Artimisia Abrotanum</i>	chroma	<i>Platycodon grandiflorum</i>
<i>Artimisia Stelleriana</i>	<i>Erigeron speciosus</i>	<i>Glaucium flavum</i>
<i>Stachys lanata</i>	<i>Achillea filipendulina</i>	

All Evening Primroses are good drought resisters, but not all are sufficiently circumspect in their behavior to make them good garden plants. Many are quite too rampageous and weedy and others seed so freely that they deserve to be called weeds. Two, however, are fit for any company: *Oenothera fruticosa*, eighteen inches tall with large soft yellow blossoms borne over a long period at midsummer, and *O. speciosa*, somewhat dwarfer, with satiny white blossoms that turn pink in fading. Both these plants are rather strong spreaders from the root and should be planted with this fact in mind.

Beardless Irises That We Can Have.

THERE has been in my garden this summer an unusually fine display of some of the Beardless Irises. Just why they should have been incited

to a more than ordinary floriferousness I do not know; unless the generous rainfall that has been vouchsafed my section of the country may have had something to do with it. At any rate I am moved to say that this class of Irises does not receive the recognition that it deserves. I took a few stalks of *I. aurea* and *I. spuria* to the garden club to which I belong and which is composed of women of considerably more than elementary garden knowledge, and only one knew what they were beyond the fact that they were some sort of Iris.

My favorite is *I. aurea*—not to be confounded with the good yellow Iris of the variegata section of the Flag Irises—with stout bright green narrow foliage and a strong stem rising well clear of the foliage and bright golden-yellow blossoms, large, well poised and with the segments daintily crimped. It has proved with me a fine border plant, not dependent upon the damp situation generally claimed for it, but enjoying a rather stiff, retentive soil. It blooms late; about the time of the Japanese Irises and just before *I. ochroleuca*, also a tall, strong growing plant of the Beardless group bearing ivory white blossoms, yellow at the throat and of heavy texture. This plant with me has never flowered as freely as *Iris aurea* or some of the others but it is well worth growing.

The various forms of *I. spuria* and *I. Gueldenstaediana* closely allied to it are also delightful and with me very free flowering in ordinary rather heavy loam. The flowers are closely crowded on the tall stems and delightfully fashioned. There is a charming form called *A. W. Tate*, soft lavender, a lovely pure white with a yellow throat and several others. The type is rather dark blue in color. *I. Wilsoni* is a new yellow-flowered Iris belonging to this group that is said to be much like the slender growing *sibericas*. I have a thrifty plant of it but it has not yet flowered. Then there is Sir Michael Foster's fine group, *monspur*, *Monnieri* and *mon-aurea*. They are all tall and strong growing, giving their blossoms after the Flag Irises are past. *Monspur* is an Iris of unusual gaiety of coloring—bright blue and bright yellow—and with me has always bloomed with the utmost freedom.

Our own gay little Meadow Iris belongs to this beardless group and while it is a bit too free for garden purposes it is lovely enough in the moist meadows where it forms great cloud-like masses. And there are other fine American species also belonging to it that we Americans should know more about. There is *Iris fulva*, the blossoms of which are a rich mahogany, and small and delicate and poised as some strange butterfly; there is *Iris prismatica*, said to be like a small *versicolor*, *Iris hexagona*, *Iris missouriensis* from the Northwest and others.

In our preoccupation with the steadily rising tide of beauty in the Flag Irises, let us not forget these others. They are so different in form from the Flag Irises that they in no way compete with them, they thrive in situations that are not suited to the former and knowledge of them will, I think, in all cases make for a deeper love and admiration of this most entrancing of flower families.



THE GLORIFIED FORM OF THE MOST COMMONLY KNOWN CRABAPPLE

This specimen of *Malus Arnoldiana* growing beside the residence of the late William J. Stewart, Editor of *Horticulture*, is convincing evidence of this hybrid's great beauty

CRABAPPLES FOR THE GARDEN

JOHN DUNBAR, Assistant Superintendent of Parks, ROCHESTER
NEW YORK

A Group of the Hardest and Most Profuse-Flowered Large or Small Trees That Bloom When Quite Young, Increase in Glory Year by Year, and Have Fruits at the Same Time Decorative and Useful

MUCH as "apple-blossom time" is loved for the transcendent beauty of the pictures that orchards make in the early summer, we do little to put into practice in our gardens the suggestion thus borne—the pictorial possibilities of flowering trees. We give too much attention to the small undergrowth things of the garden and too little to the embellishment of the background. We do not need to transport the apple tree into the garden for this though, because in the closely related Crabapples (both of Asia and America) we have available a number of trees that are even more glorious in the fragile tracery and delicacy of their bloom, and with a greater range of coloring from crystalline white to pink and bright rose-crimson.

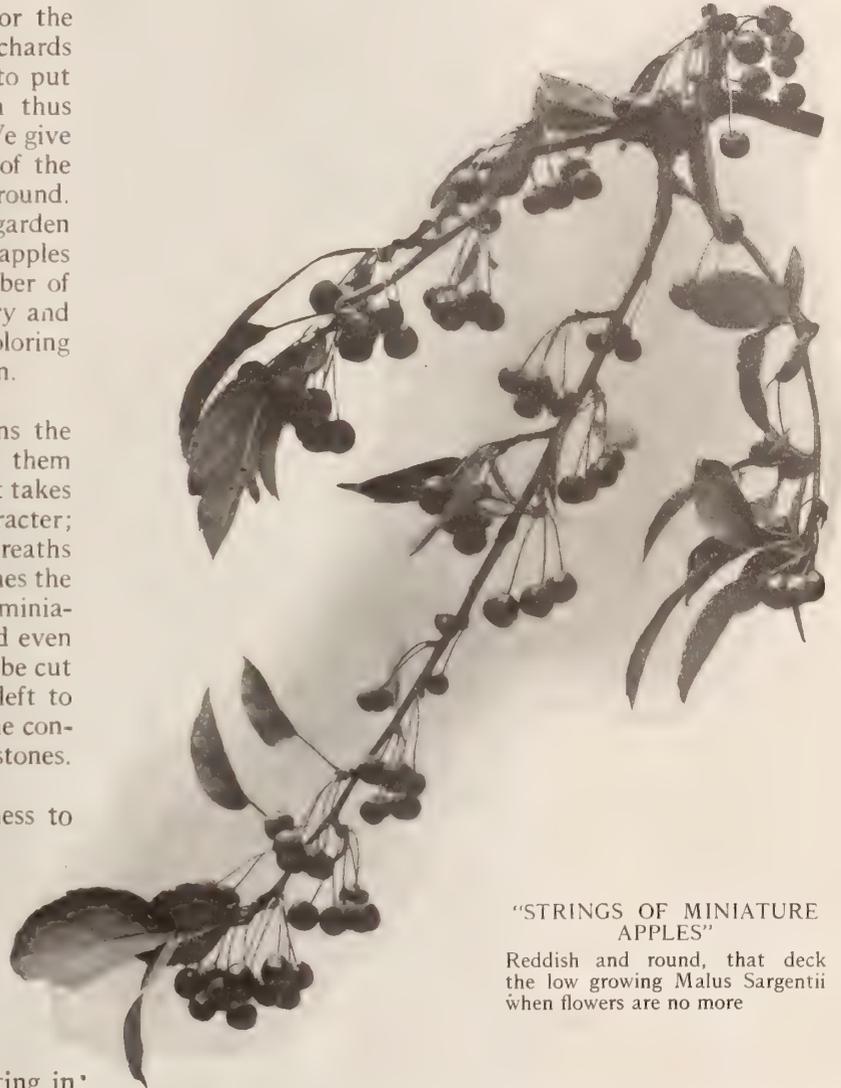
OF ALL the flowering trees for American gardens the Crabapples are the most wonderful. Most of them flower freely when young and quite small, and indeed it takes a good many years for a tree to attain its individual character; but as it grows old it does it gloriously, giving its wreaths and garlands of bloom each year, and when the fall comes the branches are laden, literally with continuous strings of miniature apples variously golden yellow or ruby red. And even here their usefulness does not end—the branches may be cut for interior decoration or the ripened fruits may be left to succor the birds; or gathered, they may be used for the confection of delicious jellies of colors like unto precious stones.

CRABAPPLES are almost universal in their fitness to conditions. They will thrive wherever the apple will grow and in some other places besides. Can we ask more? To increase the stock it is best not to rely upon the seed, although germination is quite easy; but with seed one can never be sure that the result will be an exact reproduction of the parent (even if saved from good true species) because Crabapples are very prone to cross-pollination.

The proper way to increase stock is by root-grafting in winter on strong central roots of apple seedling three to four inches long. Tongue grafting is the most practical. Secure the grafts with knitting cotton, keep in a cool cellar, and plant in nursery rows or frames in May. In three or four years you will have planting stock.

There are many Crabapples. Their variety is almost infinite; but our purpose is to offer a selection of those which experience has proven to be worthy and representative. Particulars of these follow herewith. The flowering dates are as recorded at Rochester, N. Y.

AMONG our natives the one most notable is the Western Crab, *Malus ioensis*, which can be readily distinguished from the other American species. The leaves are usually elliptic-oblong, and downy below, and are more or less so at



"STRINGS OF MINIATURE APPLES"

Reddish and round, that deck the low growing *Malus Sargentii* when flowers are no more

maturity. The young growths and shoots are downy. The pinkish-white flowers in clusters of 4 to 6 are very showy and open later than the Eastern species, and are usually in flower about May 28th. Bechtel's Crabapple, a double form of this (shown in color on this month's cover), has become popular during late years. It usually blooms about May 30th and June 1st.

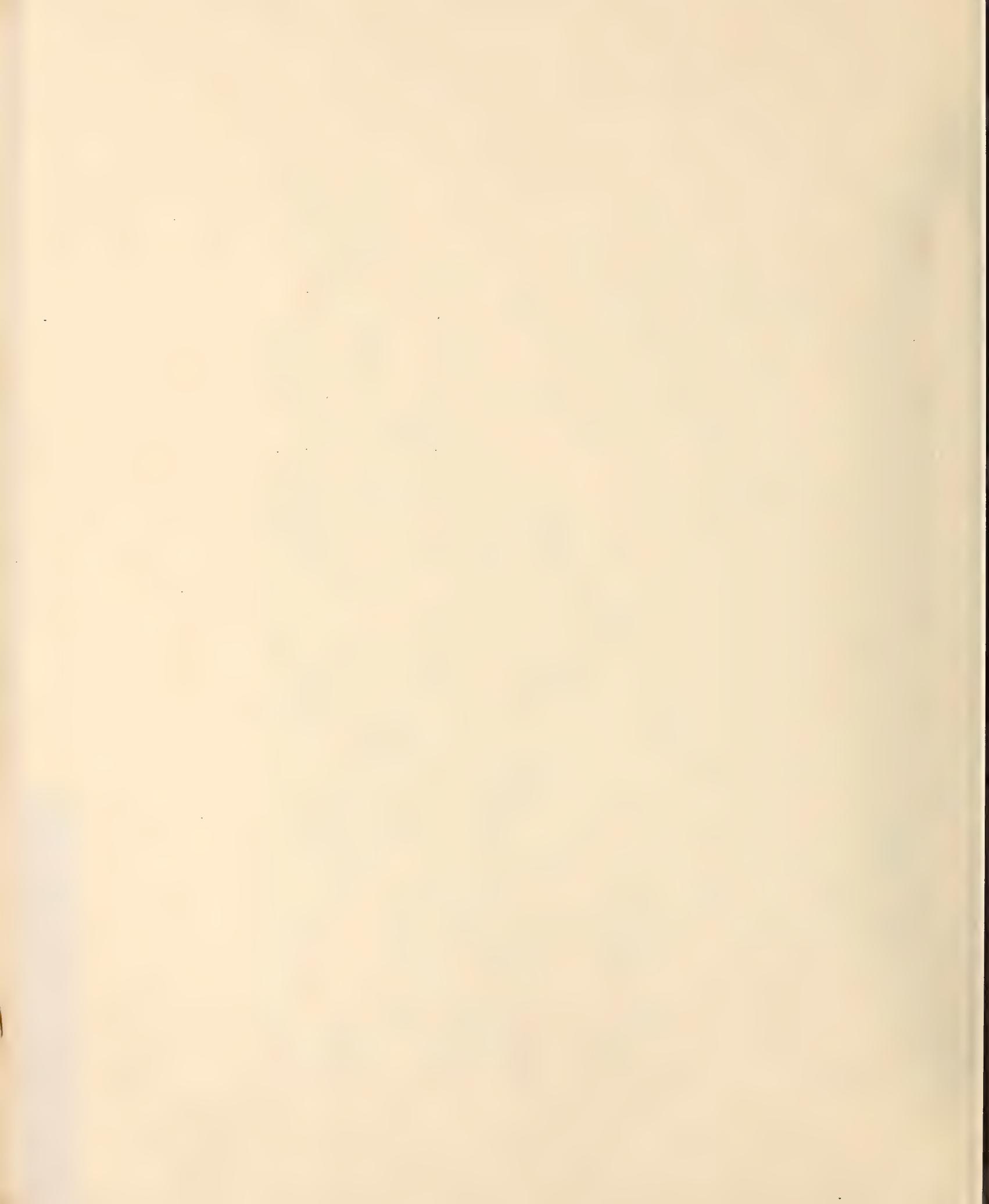
TWO American Crabs that are much alike are *Malus glaucescens* and *M. coronarius* blooming from May 20th to 25th. I am much interested in the former species, because I first noticed it growing wild in one of the Rochester parks about 17 years ago. It had not then been separated from the Garland Crab (*Malus coronarius*), yet it is distributed from western New York to North Carolina, in a wild state.



A SPRINGTIME LYRIC OF ROSY FLOWERED PROMISE



THE BEST KNOWN OF THE CRABAPPLES, MALUS FLORIBUNDA





A SPRINGTIME LYRIC OF ROSY FLOWERED PROMISE

THE BEST KNOWN OF THE CRABAPPLES, MALUS FLORIBUNDA

Malus glaucescens forms a small tree seldom exceeding 12 to 15 feet in height with spreading tortuous branches, whereas the Garland Crabapple forms a handsome round headed tree 25 ft. tall. The leaves of *M. glaucescens* are usually triangular-ovate, with a broad base, and often cordate; glaucous beneath, and smooth at maturity. The unfolding flowers are reddish pink, but pinkish white and strongly fragrant when fully open. The clusters are 4 to 6 flowered, and are borne in such profusion that a small tree or large bush is most attractive. All American Crabapples, east of the Rocky Mountains, are distinguished by a glutinous skin which is greenish yellow when fully ripe and very fragrant.

Malus coronarius has much more elongated leaves, and less lobed, and they are not pale glaucous beneath. The showy flowers are rosy white in clusters of 4 to 6, and very fragrant. The flowers open 4 to 5 days later than those of *Malus glaucescens*, and the fruits ripen ten days to two weeks later. A form of the Garland Crab distinguished by narrower elongated leaves deeply incised and deeply rose-pink blossoms is variety *elongata*. In a wild state it appears to be much lower growing than the type.

THE most commonly cultivated of all the Japanese Crabapples is probably *Malus pulcherrima*, or *floribunda* to use its very popular name, long sold by nurserymen under the name of *Pyrus floribunda*. It forms a bold, round and somewhat flat topped head. It produces an extraordinary abundance of 5 to 6 flowered clusters of rose tinted blossoms on long slender stalks, and a well developed individual is completely wreathed in flowers in early May. The fruits are slightly larger than a pea, reddish yellow, and quite decorative. I have raised a number of seedlings from this Crabapple, but the progeny shows such diversity from the parent that I am of the opinion that the plant is of hybrid origin. What is usually called a variety of this although that is questionable (sold in many catalogues under the name of *Malus* or *Pyrus atrosanguinea*), is a singularly handsome flowering form. The flower clusters are coral red when unfolding, and are deeply pinkish red when fully open. It forms a very ornamental round spreading head and is one of the most beautiful of the family.

A glorified form, doubtless of hybrid origin, was detected at the Arnold Arboretum among seedlings of *Malus pulcherrima* and has been named *M. Arnoldiana*. The branching is spreading and intricate. It is remarkably floriferous and bears clusters of 4 to 6 flowers which are red when unfolding, deeply rose tinted when open, and much larger than the flowers of the parent. This is a remarkably beautiful flowering tree.

PROBABLY the first Asiatic Crabapple ever in cultivation in this country or Europe was the Chinese Crabapple (*Malus spectabilis*). It appears to have been in cultivation in Britain in the 18th century. There is a handsome individual in a garden in the outskirts of Rochester that is perhaps 60 years old. The growth is distinctly upright, and can be distinguished from most Crabs by its branching habit. The flower clusters are particularly showy when opening, and are deep reddish-pink. There are several forms of this Crabapple in which the flowers range from semi-double to double, and I have never seen a single flowered form.

LOWEST growing of all the Crabs is *Malus Sargentii*. It has a spreading, compact, shrubby habit, and does not exceed 8 to 10 ft. in height. The large pure white flowers are borne in clusters of 5 to 6 on long slender stalks, and are produced in prodigal profusion and bloom from May 15th to 20th. The small reddish, roundish fruits are very showy in the autumn. Another small growing Crabapple occasionally becoming a small tree is *Malus Sieboldii* or *toringo*. The leaves of this species are small as compared with other Crabs, and are usually oblong in outline and often slightly lobed. The blossoms are slightly rose tinted, appearing about May 15th. The fruits are small, usually about the size of peas.

Malus Zumi is a thin branching small tree, with the branches partly spreading but mostly upright, with their ends somewhat remote from each other. On vigorous shoots the leaves are occasionally lobed. The large white flowers sometimes with a blush tinge, borne on long stalks in usually five flowered clusters, look very effective on the long, slender branches, and are commonly in bloom about May 15th. The small, yellowish colored fruits are noticeable in the autumn.

THE Siberian Crab (*Malus baccata*) has a distinctly round head, and after 20 to 30 years makes a handsome tree. It has very distinctive leaves larger than in most Crabs, ovate to lanceolate in outline, deep green and smooth. The flowers are borne on long slender stalks, $1\frac{3}{4}$ inches long, and in clusters of 5 to 6, pure white, and frequently $1\frac{3}{4}$ inches across. In the average season it blossoms about May 15th. The Siberian Crab is distinguished by a good many varieties, in which the fruit varies considerably, but as an ornamental flowering tree the typical form is perhaps as good as any.

Malus Halliana forms a small tortuous branched tree, with very smooth ashy gray bark. The deep green smooth leaves, pale beneath, taper at both ends, and are very distinctive. The flowers are richly rose colored, on long dark stalks, and 3 to 5 to a cluster. The calyx is dark purplish red. This is perhaps one of the most beautiful of the Crabs in its richly tinted blossoms. Normally it is in flower about May 20th. The popular Parkman's Crab is a double flowered form of this.

IN A native of the Caucasus and Siberia (*Malus Niedzwetzkyana*, which has been with us for nearly 20 years) is a tree of spreading tortuous habit, much like an ordinary apple tree with deep reddish pink flowers in clusters of 5 to 7, conspicuous at a long distance. There is no Crabapple that approaches it in the reddish color of the flowers, and the fruit is almost the size of an ordinary apple and has a red skin, indeed red runs all through the plant which is therefore easily distinguished. The wood and bark are colored red and the veins of the leaves are deeply impressed with red. In a normal season it blooms about May 18th.

Malus prunifolia is a much discussed tree among botanists, some considering it a hybrid, and others believing it to be a true species. For my part I will pass an opinion when my seedlings have borne flowers and fruits. It certainly is distinct in character. The branching is distinctly upright, forming a compact oblong head. The leaves bear a strong resemblance to the Siberian Crab. The rose-tinted flowers are borne on short-stalked clusters and it is usually in bloom

about May 20th. The fruits have a conspicuous persistent calyx.

Malus prunifolia variety Rinki (*Malus ringo*) has a particularly wide branching habit, with the branches very intricate. The leaves of this Crab bear a resemblance to the

common apple. The large clusters of flowers are slightly rose tinted, and are borne in great profusion. The yellowish fruits tinged with red are borne in great abundance, and like *Malus prunifolia* have a very prominent raised calyx. It is usually in flower about May 20th.

LET'S HAVE PANSIES IN THE SPRING!

OUR hot dry summer is not entirely to the Pansy's fancy; yet we want Pansies. With a little forethought in sowing the seed in August, protecting the young plants from excessive heat, and wintering them in a well-drained soil, we can attain flowers equal to those shown in the accompanying picture, which is not by

any means an exaggeration. That is the way to insure Pansy bloom next spring.

True, about only one seed in every four (or even less) will develop into a sturdy plant because of the struggle for existence—so don't expect too much. Until recently seed of the best Pansies came to us from France, England, and Germany; but we have specialists of our own who have developed strains in which size and color are the chief characteristics. With us form has been given less consideration; in fact, diversity is an added attraction; but some wonderfully delicate color shadings are to be had.

Pansy seed is best bought by *strain* rather than by named variety, for the maintenance of quality is accomplished only by rigid selection by specialists. If it is desired to perpetuate any particular flower it can be done by taking cuttings.

Seed may be sown this month in a freshly made soil that is a little sandy and was well manured for a previous crop. Water; sow; and cover one-sixteenth of an inch with light sandy soil; press lightly; and water again.

"Damping off" is the cause of many losses. As a preventive dust over the bed with powdered sulphur. The young plants must be kept watered and growing. If the seeds dry after germination all is lost! Seed can be sown in the open and lightly mulched after the ground is frozen. Pansies are really easy to grow if started in summer; and nothing will add more to the gaiety of the garden all through the spring and until next midsummer.



“MASTERLY INACTIVITY” IS THE BEST THING FOR THE PEONY

REID HOWELL, NEW
JERSEY

An Enthusiastic Amateur Summarizes His Experiences and Observations in the Successful Cultivation of This Flower. The Information Here Conveyed Is the Digest of His Own Work and the Recommendations of the Most Skilled Specialists in the Country. This Article Was the Substance of an Address Before the Ridgewood, N. J., Garden Club

THE time to order Peony roots is August; planting should be done in September. There is nothing difficult about their cultivation. As a matter of fact, you may stick your Peonies in the ground, never giving them another thought, and the probabilities are that year after year they will struggle through the weeds and grass and produce a very fair display of flowers. They are neither Orchids nor Roses and are literally easier to grow than a Geranium.

Peonies indeed will resent nursing and coddling; they don't like much stirring of the ground about their stems. Briefly, about the principal "culture" consists in letting them alone, except to keep them clear of grass and weeds.

Many of the disappointments experienced are due to some of the eyes having been destroyed, either by hasty or rough planting or a stirring of the ground directly over the plants in early spring. No weeding or raking should be done near the plants until the shoots are well up out of the ground.

Planting is a simple job. There is no need of "excavating to the depth of 2½ to 3 feet" for the planting of those roots, unless you want to do it for your health. It isn't necessary. Some hysterical horticulturist wrote this a hundred years or so ago, and every Peony man since has seemed to think it necessary to copy it. Imagine excavating to the depth of 2½ to 3 feet for a bed of 100 Peonies, or even 50! It brings visions of steam-shovels, straining horses, shouting

men. The duffer who first wrote that ought to have added, "and if you change your mind about the Peonies, and decide to have a house instead, you will have an excavation ready for the foundations." Simply dig a hole for each individual root. The hole need not be "as deep as a well," nor "as wide as a church door," but just large enough for the root to go in, with some little space to spare all around it.

The rest of the advice that experience has taught me can best be presented in the negative form of what NOT to do!

Don't Use Manure

NEVER use fresh manure in any way, shape, or form, unless as a mulch after planting, and even in this case, it must be kept away from directly over the crown of the plant. If your ground has been prepared with manure a year in advance of planting, it will be an excellent thing; otherwise, when you come to set your roots, don't use manure at all. Peonies can be, and frequently are, overfed. Assuming that you have just ordinarily good garden soil, I would advise against enriching it in any way except by the addition of pure raw bone-meal. And if where you are planting the soil is not good, I suggest replacing it to the depth of two feet or more with good garden soil.

Don't Plant Carelessly

Don't plant too deep. Too deep planting is responsible for many partial to complete failures. If roots are set with eyes much more than three inches below the level of the soil when planting is completed, the plants may fail to



FASHION FAVORS THE SINGLE PEONY

Even though the bloom soon falls the single flower gains yearly in popularity. "Japanese" type, shown here, has showy golden petaloids in the centre



THE MASSIVE RICHNESS OF THE DOUBLE FLOWER

Though the connoisseur may consider subtle variations of form, the man in the street sees rather the immensity of the perfectly double Peony bloom, the result of leaving well enough alone and not shifting

bloom for several years, or the blooms may be of indifferent quality year after year.

Don't plant too shallow. Plants with the topmost eyes less than two inches below the level of the soil are likely to be exposed in one way or another. From $2\frac{1}{2}$ to 3 inches is about right, making due allowance for settling of ground after planting.

Don't set too close in permanent planting; that is, if you mean to let them remain as you plant them. Peonies should not be set closer than three feet apart each way. Four feet is far better.

Don't Worry About "Protection"

PEONIES (all varieties) are literally as "hardy as the oak," and need no protection whatever, even in latitudes where the temperature goes down to any quantity of degrees below zero. Indeed, the best blooming seasons are invariably those which follow hard, "stay-frozen" winters. The first winter after planting, the roots are, of course, loose in the ground, and for this one season, a light cover of, say two inches of coarse litter—grass, or fine straw—is thought by some to be necessary to prevent heaving of roots.

"Once planted, all is done," is almost a literal truth about Peonies. Assuming that you follow the foregoing directions in planting, etc., the after-culture or fertilization consists only, in my opinion, of applying one pound of bone meal to every plant directly after the blooming season is past. This bone meal should be dug lightly with the hands or with a hand-trowel into the soil around the plants to the depth of only an inch or two, but not too close to the stem.

Don't use lime in preparing beds. A certain grower reports the death of several acres of plants due to excessive liming of the soil.

Don't fail to water plants plentifully during the blooming period; but don't use manure water at this time, or at any time, unless you are careful not to get it close to stems of plants.

Don't Worry About Diseases

THERE aren't any diseases that need give you any concern whatever, eminent horticultural professors to the contrary notwithstanding. True, there is a fungous disease, which attacks the leaves of the plants. This usually occurs

only during very wet summers, and follows the blooming period. Purple blotches appear on the leaves and though a great ado has been made about it, it does not seem to render them especially unsightly. The trouble does not extend to, or affect the root in the slightest degree. There is another "disease" of a like character which attacks the stems and sometimes causes them to wilt rather suddenly; but this, except in rare cases, also follows the blooming season, but it does not affect the root in any way. The Peony root itself is subject to no disease that is either fatal or even of temporary seriousness. There are times when plants become "sulky" and refuse to bloom for a season, sometimes even two successive seasons. There are also times when the buds do not mature, and sometimes they turn brown or blast before opening but don't ask any one to explain it, for they can't and any grower who undertakes to do so is just groping in the dark. [It seems to be pretty well established that these are all forms of one, the botrytis, disease which is, in our experience, controllable by dusting on dry bordeaux.—Ed.]

Some of the above difficulties may be due to the plant's method of taking a season off—a rest; the fruit trees in your orchard do no less. Or it may be caused by over-fertilization or the use of strong manure.

Selecting the Place to Plant

Don't plant in low, wet ground. Peonies require lots of moisture but they will not do well in low and constantly damp ground. A situation where there would be a constant supply of water around the roots they would not tolerate at all.

Don't plant under trees. Peonies will do admirably in partial shade—the shade cast by buildings or trees when the latter are located at a considerable distance. But in no case should roots be set, say for example, within 30 feet of a tree a foot in diameter, and they cannot do well when planted within 12 feet of a Privet hedge.

Don't plant Peonies along the foundation walls of a building, unless you see to it that the plants get their share of water during the growing season. Frequently plantings about the base of a house receive no water for many weeks in succession, the rains all coming from the wrong direction—for the plants! Moreover, the soil directly around a house frequently contains too much miscellaneous refuse—often large quantities of lime—for plants to do well.

Don't worry about ants. At a certain stage in their development Peony buds exude a sticky substance which attracts ants by the thousands and they swarm all over the buds and plants. It is scarcely worth while to take any trouble to get rid of them, inasmuch as they don't do the slightest injury, and by the time the buds are ready to unfold, have entirely disappeared.

Don't Move Your Peonies

SOME growers have voiced the opinion that roots ought to be taken up and divided every four or five years. But it is a mistake to do so. Roots should be left undisturbed indefinitely. If this is done the plants will increase in vigor and productiveness year after year, the blooms growing larger and more fragrant and nearer and nearer to absolute perfection in form. The Peonies I originally planted have remained

undisturbed for 25 years, and each one produces every year from 25 to 100 magnificent blooms.

As to Attention After Blooming

A GREAT many people thoughtlessly cut down the Peony stems after blooming, close to the ground, to make room for other flowering plants—perhaps annuals nearby. A Peony root has actually more lives than the proverbial cat, but this often kills it outright, and if it does not will at least, in every case, cripple the plant to the extent of its bearing the very poorest sort of flowers for several subsequent seasons. Foliage is necessary to the life of the plant; in other words, it breathes through, and lives, by reason of its leaves; and thus through the summer months the Peony is growing below ground, storing up energy and forming its eyes for the following season's bloom. It is plainly obvious, too, that even in cutting blooms, too much stem should not be taken with the flower. At least two leaves must be left growing on every stem from which you take blooms. This is as important as not cutting down the whole plant.

By the first of September the root has finished its work and has become dormant. After first heavy frosts, the tops may be cut off, but I would advise not cutting right down to the ground, but allowing a few inches of the stem to show, to the end that when the annual garden clean up comes the following spring, you will know just where the Peonies are, and therefore where to avoid raking.

Be Philosophical

DON'T be too greatly peeved if your color scheme goes askew. Many people seem to plan their Peony plantings with a certain color effect in mind, or else for a definite succession of bloom. This is the one direction in which Peonies sometimes disappoint, for "early," "mid-season," and "late," attached to the description of the varieties in the catalogues, are really very uncertain. Climate, soil, and the vagaries of the season, all have an enormous influence on the blooming period. For example, two certain varieties may bloom here in our soil and climate, at the same time; somewhere else, near by, they may bloom a week apart. Even here, on our own soil, we have had in certain seasons Couronne d'Or open very shortly after Festiva Maxima, although normally they are ten days and more apart. This illustrates the effect that certain seasons have on some varieties when planted side by side.

I HAVE always thought that the ideal Peony garden should consist of two plants of each of the varieties desired; one plant for cut flowers, the other for outside display. For while a bed or row of high-grade Peonies in blossom outdoors is a sight worth traveling some little distance to see, beyond question the only way the individual flower may be had at its best is to cut it *in the bud* and open it indoors. But it is quite an accomplishment to know just when to cut the many varieties, for scarcely any two sorts may be treated exactly alike in this respect. Roughly speaking, the bomb type may be cut much earlier in its stage of development than the rose type, although there are some exceptions to the latter sort, such as *Edulis Superba* and *Festiva Maxima*, which open easily and quickly.



ACHIEVING SUCCESS WITH THE MADONNA LILY

E. E. TRUMBULL, NEW YORK

Moisture Is Kept at the Roots by Putting a Layer of Clay Beneath the Bed

IN A neighborhood where other growers have gradually lost their plants, there is one garden where the classic Madonna Lily flourishes, and this photograph is the evidence. This vigorous growth and abundant bloom were achieved by one painstaking woman, on soil naturally very light and porous, after several early attempts had been rewarded by short stalks with few and small flowers.

This is the way that success was achieved: The earth was removed altogether from the space of a new bed, to a depth of about two feet. In the bottom of this excavation a wagon load of clay soil was spread evenly, and on top of this about two inches of well rotted stable manure. Then the normal earth was restored, and the bulbs set with their tops about four inches below the surface.

During the growing and blooming season, an abundance

of water is given the bed, the clay bottom helping to retain the moisture at the depth where the roots are most benefited by it. The bulbs are never disturbed until they crowd badly, when they are dug—in August, after ripening, which is indicated by the tops dying—and reset. The conditions established by this treatment are so favorable that about a bushel of extra bulbs is harvested whenever this occurs.

The flowers are cut when the first bud on the stalk is ready to open, and cut with long stems without injury to the bulbs in the succeeding year, though this is contrary to the general belief with regard to cutting Lilies. In this way the blooms are kept clean when they open. If allowed to expand on the plant they are soon soiled by their own pollen and the white crystalline lustre is killed. Needless to say, they are never permitted to form seed.



—Horticulture as a Profession”

IN AN address delivered to a graduating class of the School of Horticulture for Women, at Ambler, Pa., which has since been published in *Science*, Dr. C. Stuart Gager of the Brooklyn Botanic Garden sounds some notes that many a garden lover, whether or not desirous of ever being a “professional horticulturist,” can read or hear with both pleasure and profit. For he sees the measure of the progress of horticulture as a profession simply as the fullness of preparation with which one exceeds “the limitations of anticipated requirement in practice.” In other words the gap between the practical gardener and the horticulturist, he says, can be bridged by gaining from a study of horticulture what may be called a liberal as distinguished from a technical education—a knowledge of the why and the wherefore and the history of the subject, the true names and relationships of its plant materials, something of the sciences that link up with it, as well as the mere details of how to plant and grow and reproduce garden crops. “Make your horticultural study, then,” he says, “not only a means of preparation for a vocation, but also a basis and means of education—of the enlargement of your minds, the enrichment of your lives, the expansion and perfection of your characters. . . . See your vocation in broad perspective—in its relation to the sum total of things; to social needs, spiritual needs, civic needs, human needs.” This is a worthy admonition, and one no less applicable for all of us who love gardens and gardening and want to make the most of them in the way of an avocation, than for those young women who plan also to make their living therefrom and who with that aim in mind had gone to a school of horticulture—to avoid, as Dr. Gager remarked, living up to Charles Dudley Warner’s statement that “women always did, from the first, make a muss in a garden.”

—Peonies in the West”

THE Northwestern Peony and Iris Society held its exhibition midway between the twin cities of Minneapolis and St. Paul on June 20th. These two flowers are marching triumphantly on in popular favor in the West. Mr. Brand introduced a new wonder in the competition for seedlings carrying the honors with Victory Chateau Thierry, of which, however, no description has been received. In the color classes the leading varieties were as follows: Medium to dark pink, Martha Bulloch, Mons. Jules Elie; white, Le Cygne, Enchantresse; flesh to light pink, Tourangelle, Albert Crousse; red, Mary Brand, Rubra Superba.

—An Official Flower for the Nation”

ANOTHER attempt was made a while ago—this time by a popular magazine through the medium of a general referendum—to determine which flower should enjoy the privilege of being accepted as the national floral emblem. Apparently no decision was arrived at, although it is reported that Columbine and Goldenrod shared the honor of receiving the largest number of votes with the humble, plebeian Red Clover. Probably there are individuals and organizations that had no opportunity to express themselves, but that are just as convinced as were any of the voters that still some other plant deserves the implied tribute. One trade journal, for instance, pins its faith to the Mountain Laurel,

while another choice, based on the unquestioned nativity of the plant, designates our own Indian Corn. Even the following, from a New York City newspaper, has the merit of timeliness:

When wholesale prohibition comes along
 ’Twill not be silly,
 To make the floral emblem of the land,
 A Water Lily!

Official, or even unanimous designation of one flower for the whole country is as far off as ever. Nevertheless, on grounds of beauty *and* utility, the little Red Clover does make a strong plea for recognition.

—The Effect of Bud Selection on Tree Growth”

AMONG the subjects often discussed by horticulturists but concerning which present knowledge is still limited mainly to theory and conjecture, is the question of the relative value for propagating purposes of different kinds of buds. As far as the apple is concerned it is now possible, to hope for some really definite information based on experiments being conducted by the Illinois Experiment Station and involving hundreds of trees and thousands of cases of budding and grafting. One project is attempting to “determine whether or not there are differences in value, for purposes of propagation, between large buds and small buds, between buds produced on different parts of the tree, and between buds from different locations on the shoot.” The ultimate test will of course come when the trees involved in the experiments come into full bearing, but at the present time, according to Bulletin 211 of the Station, it is possible to arrive at the conclusion that, so far as the growth of the trees is concerned, there are no differences in value between the buds of any of the groups mentioned. The second group of experiments, dealing with the results of “growing apple seedlings from fruits from trees chosen as possessing special merit,” thus far seem to warrant the statement that, in general, “seedlings from seeds from large fruits are somewhat more resistant to adverse conditions and possess a higher degree of vitality than do seedlings from seeds of small fruits.”

—Flowers and Reconstruction Work”

HORTICULTURE as an art and a profession is being taught to convalescents among the returned soldiers in the same practical way as the other subjects in which courses are offered by the Federal Board for Vocational Education. A recent report shows that a very respectable percentage of those who are taking advantage of this opportunity are studying some branch of practical horticulture—and remember, there are more than 400 callings open to them. Another interesting point is that this particular field of horticultural education is enlisting the services of some of our best instructors. Professor—now Captain—F. A. Waugh, formerly of the Massachusetts Agricultural College, has been, for nearly a year, in charge of this sort of work at a Base Hospital near New Haven. Now we hear that Professor David Lumsden of the Department of Floriculture of the New York State College of Agriculture has been granted leave of absence so that he can fill the position of Director of Agricultural Reconstruction Work and Landscape Work at the famous Walter Reed Hospital, Tacoma Park, Washington, D. C. As has previously been suggested in these pages, seed growing, among the phases of horticulture less com-

monly talked about, offers excellent opportunities for disabled, rehabilitated soldiers.

—Landscape Gardeners, and Others"

IT IS of course a moot question as to what exactly constitutes a legitimate practitioner. Many a really beautiful garden has been made by people who are not graduates of schools—which is not saying, however, whether the particular garden might have been even better had a landscape "architect" been consulted. The real service that the trained professional renders is largely in helping to determine the type of design that best fits any given place, from the standpoint of both utility and artistic harmony at one and the same time. Many people prefer to make their own gardens, to work out their own salvation by the process of trial and elimination, arriving at last just where they would have started had the trained designer been called in at the beginning. And there is much to be said from just that kind of thing—it certainly makes for "personal" gardens, and every once in a while leads to really startling yet most satisfactory results—to the owner at least. Therein lies one of the charms of the garden to the creative mind, because changes can be made in rapid successions; even an error is not so monumental as in the case of such permanent things as a building of brick or stone—or even wood for that matter! No, indeed. And the penalty on the designer is not so great. For a fact the working with flexible plastic material has even greater possibilities for both success and fashion than the construction with dead materials that stay put. For a garden is not only the expression of life, it is life itself. Landscape gardening is the most liberal of all the arts, for the practitioner must always see far, very far, into the future, with a real knowledge of how the living materials will unfold in the years to come. The landscape gardener or architect is a dreamer, a poet, a seer. That the soul of the artist is not always to be expected in the body of a highly specialized student, however, is a matter of history. The soul feeling is the first essential. Out of this comes the desire for accurate or scientific knowledge. The most lowly may in time arise on their own



THE PRESIDENT OF THE AMERICAN PEONY SOCIETY

Mr. L. R. Bonnewitz, elected president at the Detroit meeting in June, has long been an enthusiastic Peony collector. He is here seen in his gardens at Van Wert, Ohio, carefully selecting blooms for exhibition, with the assistance of his daughter

selves to the giddiest heights of artistic achievement, yet you see that it would be well to have at least some guarantee of innate ability before entrusting the embryo landscape pictures about the home to one who may simply aspire and cannot reach. It would not be wisdom, probably, to expect fine results from one whose budding acquaintance with garden art is trailed along behind a sort of general scavenger's calling as in this announcement from a newspaper in the regenerate West:

WINDOWS REMOVED, screens put on, yards cleaned and landscape gardening. Phone 3375-W after 6 o'clock. H. A. Holte.

Perhaps the facts are that our landscape gardener found himself pioneering in so unresponsive a field that he turns his hand to the nearest honest manual toil the while he lives on in the hope that the times will catch up with him! For even in the old and effete East the landscape graduate is not honestly recognized as an asset to the national development—which may be partly due to the shrinking modesty with which he hides his light under the bushel of "ethical" practice and considers it beneath his dignity to announce himself to the public that may really need him if it knows where to find him, or if it knew he even existed. All honor to this Western pioneer!

—The American Peony Society At Detroit"

THE "most noteworthy gathering of its seventeen years" was the general verdict of those who attended the exhibition on June 17 and 18. Of course, a date for Peony blooms that shall be satisfactory for all growers and all seasons cannot be set in advance, and the date proved a little late for local enthusiasts.

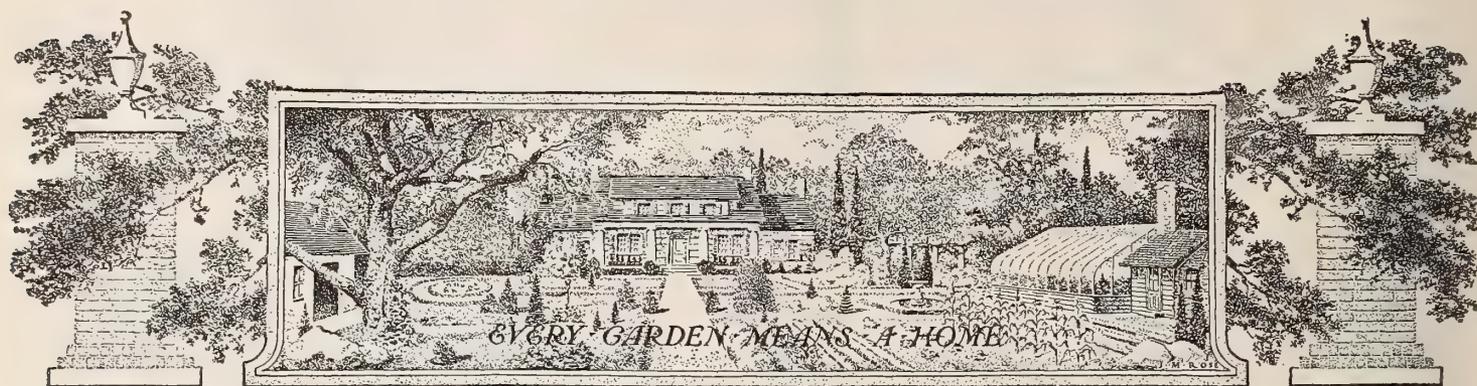
"Speaking from an artist's standpoint," says one correspondent, "my first selection would be Cherry Hill by F. C. Thurlow & Sons. The name suggests the color, and conspicuous yellow stamens gave it tone. And the blooms are not so large as to seem monstrosities. But Peony flowers to look well must be large and some varieties, notably singles, appeared contrastingly small."

Avalanche vied with Mont Blanc as the best-appearing white. Other conspicuous blooms were La Rosiere, Enchantment, M. Barral, and Marie Deroux. Midnight was the darkest. A yellow was conspicuously absent, although \$100.00 will be given by the Harrison Memorial prize for the best of that color. This prize will be open for competition till 1924. The largest bloom shown (in the collection of 1,200 from the gardens of L. R. Bonnewitz, Van Wert, O.) was eighteen inches in diameter. "Victoire de La Marne" is the name of this new bright red variety. Of the 80 prizes offered the first prize was awarded to Professor A. P. Saunders, Clinton, N. Y., for Kelway's Gloria. He also won the prize for the best individual bloom with Le Cygne. For the best 100 blooms of different varieties the award went to F. C. Thurlow & Sons of W. Newberry, Mass. L. R. Bonnewitz won second place and particularly featured Therese. He also exhibited blooms of rare beauty in Lady Alexandra Duff, Elizabeth Barrett Browning, and Etta. The following officers were elected: L. R. Bonnewitz, President; A. W. Fewkes, Newton Highland, Mass., Vice-President; Prof. A. P. Saunders, Clinton, N. Y., Secretary; A. H. Scott, Chester, Pa., Treasurer. The 1920 show will be held in Reading, Pa.

—The American Gladiolus Society"

THE tenth annual meeting and exhibition of the American Gladiolus Society will be held in the Arcadia Auditorium, Detroit, Mich., during the next convention of the Society of American Florists and Ornamental Horticulturists, August 19th, 20th, and 21st. Complete information regarding the exhibition will be published in the premium list which will be gladly sent by Prof. A. C. Beal, Ithaca, N. Y. It is hoped all growers may make their plans to attend this meeting.

THE GARDEN MAGAZINE



AMONG OUR GARDEN NEIGHBORS

WITH this issue (which begins the thirtieth volume) THE GARDEN MAGAZINE assumes a changed appearance and new size—the number of text pages is increased at least fifty per cent. Taking advantage of the opportunity thus presented the illustrations are on a more luxurious scale than hitherto, and it is the intention of the editors to maintain a high standard in portraying the best in garden art, in garden design, and in garden material. The increased and widely spreading interest in the garden in America demands a broader presentation than has been desirable in the past.

In the effort to picture the best work in garden making and the most fascinating developments of special features, or of successful cultivation, the interest and active coöperation of the reader are invited. The editors will be glad to consider for publication photographs of garden scenes, interesting plants, etc., of a type similar to what is used in this month's issue.

American garden art is now finding itself—art as apart and distinct from craftsmanship. Of all things that surround us or form part of our homes the gardens ought to be the most natural and most beautiful because, as was pointed out long ago by Mr. William Robinson, that famous champion of nature in gardens, we there deal with the actual beauties of nature—themselves, and not the mere representations of them. That is quite true, and yet we have here in America bordered dangerously on the narrowing verge of superimposed fads in garden making—the one color fad, and the open lawn, or no fence fad, etc., etc., all of which are but the misdirected efforts of well intentioned energy.

But so we progress, and we learn to make gardens that afford naturalistic habitats for the plants. The march is ever onward as soon as we cease to labor under mistaken limitations, whether these be of fact, or fad, or fancy. There are no actual limitations to this great and most plastic of arts; why, therefore, impose any?

Features to Come

LAST month we announced the return to our pages of Mr. Ernest H. Wilson, Assistant Director of the Arnold Arboretum, who has but recently returned from another extended journey of plant hunting in China, Korea, and Japan. Mr. Wilson will contribute a series of articles dealing with the stories and romance of many of our most popular garden plants, telling how they came to us, and the stories of their introducers. The first article will probably appear in the October issue. Among other features soon to appear are:

Mr. W. R. Dykes, the greatest living authority on Iris, has written an article on his special delights.

An appreciation of the work of that most illustrious gardener, William Robinson, the apostle of the modern garden, will be written by an American landscape gardener, and will be illustrated by photographs of Mr. Robinson's own garden at Gravetye, specially communicated for that purpose.

Mrs. Maud Ballington Booth has written a delightful poetic reverie on "My Garden in Verdun."

"Texture in Landscape Planting," is the subject of which Miss Theodora Kimball writes, with pictures. Miss Kimball is Librarian of the Harvard School of Landscape Architecture and joint author with Professor Vincent Hubbard of "An Introduction to the Study of Landscape Design."

Dr. John W. Harshberger, of the University of Pennsylvania, who has made a close study of the historic gardens of that state has prepared a series of brief articles which will begin shortly. These noted Arboreta of Pennsylvania have much to do with the beginnings of gardens in America—there are for example, those of Bartram, who was a pioneer plant collector, and of Marshall, the author of the first American book of botany.

In next issue will appear a study of sculpture groups for the garden and their proper disposal by Count Jean de Strel-

ecki illustrated by photographs which he has specially made. This is rich in suggestion, inspiration, and revelation, bringing to the gardening possibilities of America a fresh interpretation, blazing a new trail, of much interest and beauty.

Also in the September issue the subject of the Herbaceous Border will be very amply treated—but from the artistic and practical viewpoints, giving in word and picture suggestions for planting this fall for the harvest of flowers next year.

Coming Back to the Present

IN THE gardener's calendar the month of August may be considered the end of things. Nothing more can be started and brought to completion this year—except of course a few short season vegetable crops, and even then there is a decided risk of failure. On the other hand, while enjoying contemplatively and materially the harvest of the year's efforts we are brought face to face with the fact that now is the time to gain an advance movement on next year. Seeds of perennials sown now will make good plants for sure results next summer; all construction work started as the summer wanes will be finished before winter arrives; disturbed earth will be solidly settled by the winter weather; unoccupied ground sown to a cover crop now will be as a manured spot next spring.

With the exception of evergreens there is little planting to be done now, and according to Mr. Albert D. Taylor, in a recent issue of *Landscape Architecture*, even those plants are successfully moved now only because they are "balled and bagged." Doubtless any other plants similarly handled could be similarly transplanted with success. That summer transplanting is possible, even with large deciduous trees is shown by the experience of Mr. Hicks as has been noted before in these pages. After all, as this testimony goes to show, transplanting is successful *in degree as the plant does not know it has been moved*. All of which is another way of saying that when a plant is not dormant it must not be literally dug up and transplanted; it must be moved *in situ*, or, as the gardener expresses it, "with a ball."

ALL KINDS OF SNOWBALLS

 SNOWBALLS in midsummer were common in every old garden once upon a time; but by reason of the popularity which they eventually achieved with the aphids they became most unpopular, until very few of the old original (which is *Viburnum Opulus sterile*) now remain. This once loved old Guelder-rose by the way, would not harbor these loathsome little monsters to such an extent if it were not planted in places that are dry and unsuitable for it; but the knowledge of this comes too late to restore it to favor, since we have acquired finer kinds to use in its place.

One of these is a variety of what is perhaps the finest of all the snowballs, the Asiatic *V. plicatum* or *tomentosum*—all Snowballs are *Viburnums* though not all *Viburnums* are "snowballs"—which is found wild in both Japan and China. The snowball form is usually accredited to Japan however, being the "Japanese Snowball" of common parlance generally found in gardens and catalogued as *Viburnum plicatum*.

According to Prof. Sargent however the proper botanical name of this is *V. tomentosum dilatatum*.

Lovelier still is the Chinese Snowball, *Viburnum macrocephalum*, sometimes listed as *V. Fortunei*. The pure white sterile flowers of this form larger heads than any other—as the name indicates—and the plant in bloom is an object of rare beauty. It is hardy and free flowering, but unfortunately is not long lived in this country; though it is well worth using, for all of this, where striking effects are desired. Alongside the fine specimen shown on page 8 this month is a second specimen almost as fine though smaller.

Of the great *Viburnum* family the Asiatic species are the finest, though only a few of these are as yet in common cultivation. *Viburnum tomentosum*—the type of which the Japanese Snowball is an artificial variety—grows to the size of a small tree in Japan, but here it is only a large shrub. The flowers appear in broad clusters surrounded by rings of purest white ray flowers, and a specimen in the Arnold Arboretum has attracted no little attention the past season. This particular plant differs slightly from the type, having narrower leaves; it is distinguished as variety *lanceolatum*.—*E. I. F.*

THE OPEN COLUMN

Readers' Interchange of Experience and Comment

The Fall Flowering of Iris *Lurida*

I FEEL very much as if I were trying to secure the woman's proverbial last word when I reply to Mr. Sturtevant's note in last month's magazine concerning *Iris lurida*, that the accident of favorable position has little to do with the fall flowering of my plants. The garden offers many types of soil and aspect and the Irises, owing to their sturdy spreading, have been transplanted about until they have tested most of them. That I have plants of an unusual habit, however, I am beginning to suspect. Mr. Dykes said my plants were probably *Iris lurida Redouteana*. Does any one know the difference between this and the type? I hope those who try *Iris lurida* for the first time this year will report upon its autumn behavior in their gardens—*Louise B. Wilder, N. Y.*

Growing Tropical Plants from Seed

SEVERAL years ago I planted some grape fruit seeds, nursing them with great care, separating them as the little plants grew larger and repotting them from time to time. Now my prize one is seven years old, with real bark on the trunk and almost two feet tall with thick foliage and glossy dark leaves. My success with these plants led me to try some orange, lemon, cumquat and tangerine seeds. All germinated without any difficulty and some have become very handsome plants. On first trying to grow from these seeds one may be tempted to be discouraged at their slowness. They should be planted twice the depth of their own size, to make good root growth, and the first year will only put out leaves from the top of the stem. The next year little side branches will appear and the third year, if they have been grafted, they should at least bear blossoms. Some experiments with straggly plants, that seemed determined to make all their growth from the ends of their branches have been very interesting. I bound absorbent cotton on the limb where there seemed to be the suggestion of a leaf bud, moistening some with a thick application of vaseline and others with a daily soaking of warm water, and after three or four weeks the leaf developed and strong, healthy

branches have started. Rubber plants and ficus responded readily to this treatment, and the vaseline gave the best results, rootlets often starting with the water, making fine cuttings if one wishes to start slips. Many attempts at grafting proved unsuccessful but most florists have fruit bearing orange trees and they will graft from them quite willingly, as orange grafts on any other citrus plant will take well, and the character of the original plant, on to which the graft is placed, will determine the nature of the fruit. [Then why graft?—Ed.] The tiny trees are quite ornamental, each family having a little different leaf formation. They seem to be inclined to have scale but spraying or washing often with strong soap suds will destroy the condition and keep the leaves glossy.—Mrs. J. G. Mousarret, Bennington, Vt.

The Burr Oak

THE Burr Oak is perhaps the humblest of all the Oaks; its very humility, however, commends it to the planter of limited space or one who has to contend with poor soil. None of the Oaks and in fact few other trees will adapt themselves with the same facility to both rich and very poor soil. It has great drought resisting qualities yet will endure with its roots in water soaked soil for months at a time. Where the soil is very heavy or very poor it simply remains a small tree without losing any of that ruggedness of trunk and limb so characteristic of all the Oaks. Other Oaks would not grow where the Burr Oak persists and this no doubt accounts for the greater individuality of growth among the Burr Oaks than is to be found among the members of any of the other species of Oaks. Quite frequently a burr oak resembles a gnarled

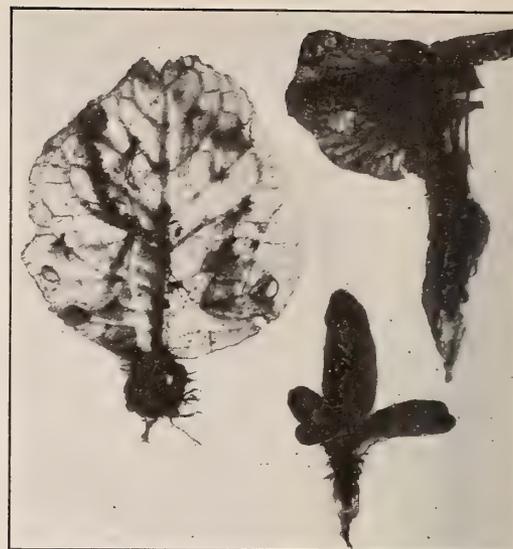


THE OAK HAS COSMOPOLITAN HABITS

The Burr Oak is not fanciful as to soil. It has an individuality in winter and is adaptable to various kinds of landscape planting

PROPAGATION BY LEAF CUTTINGS

This is a recognized method with certain groups of plants and is easily handled



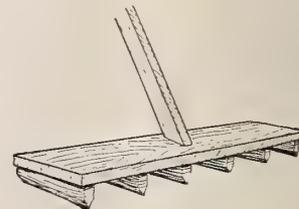
apple tree when growing on heavy soil. While it spreads if given the freedom to do so, it endures excessive crowding cheerfully. This commends it to the planter who would establish a grove or who seeks to approximate forest conditions on an area no larger than fifty feet by fifty feet. I have trimmed up a Burr Oak to a mere pole only to see it clothed in foliage the next spring without any evidence of the struggle that other trees would show under similar conditions.—C. L. Meller, Fargo, N. D.

Leaf Cuttings

ONE of the most satisfactory ways of propagating such plants as Begonias, Gloxinias, Streptocarpus and many Gesneras is by means of leaf cuttings. The best time to carry out this plan is in the late summer when the leaves are fully developed and yet have not started their fall fading. The process should be started in a box or pan of sandy soil. The stalks of the leaves may be inserted and, if the cuttings are kept covered with a bell glass or a similar appliance, little plants are soon the result. In the case of large leaves a considerable number of plants may be secured by cutting little "nicks" in the leading ribs and then pegging the whole thing downward on to the soil. At the left of the photograph is shown a Gloxinia leaf that has formed a bulbil at the stalk end, and also a number of small ones on the ribs.—S. Leonard Bastin Bournemouth, Eng.

A Convenient Row Marker

IT HAD always been a problem with me to mark the rows in sowing flower and vegetable seeds but at last I have struck upon a solution. For some time now I have been using a little home made marker and it has proved a great success. It may be of interest to other neighbors and help them with the same problem that I had. I took a piece of eight inch board and nailed wooden guides spaced twelve inches apart on the bottom as the sketch shows and put a handle on the top. The marker can be drawn along the top of the ground or lifted and pressed down lightly to mark the rows, whichever seems to be the easiest for the one operating it.—Anthony De Young, South Holland, Ill.



The Month's Reminder

The Reminder is to "suggest" what may be done during the next few weeks. Details of how to do each item are given in the current or the back issues of THE GARDEN MAGAZINE—it is manifestly impossible to give all the details of all the work in any one issue of a magazine. References to back numbers may be looked up in the index to each completed volume (sent gratis on request), and the Service Department will also be glad to cite references to any special topic if asked by mail.

When referring to the time for out door work of any sort New York City at sea level in a normal season is taken as standard; but at best dates can only be approximate. Roughly, the season advances northward fifteen miles a day. Thus Albany, which is one hundred and fifty miles from New York, would be about ten days later, and Philadelphia, which is ninety miles southwest about a week earlier. Also allow four days for each one degree of latitude, for each five degrees of longitude, and for each four hundred feet of altitude.

AUGUST—HIGH NOON IN THE GARDENER'S CALENDAR



TSURELY is delightful now to be enjoying in abundance the rich rewards that come to the gardener who has honestly striven in the earlier part of the year. Yet this is not a season for complete inactivity, and by seizing the opportunities much time and work of next year can be discounted. Suggestions for planting and sowing are given in the accompanying "box" on this page. Other routine jobs need attention to keep things under control as the season advances.

Keeping the Vegetables Going



Some things call for prompt attention in the first days of the month. Others can wait. Of the insistent duties there are:

- (1) Start melons to be matured under glass next winter. The seeds are best sown in pots, though they may be put directly in the greenhouse benches.
- (2) Sow lettuce to be transplanted to frames from which it will be harvested in late fall. Also make the last sowing of beets.
- (3) Sow some cauliflower in a seedbed. Kept growing vigorously this should be ready for use in November.
- (4) Start pe-tsai (Chinese or celery cabbage) for a late fall crop, and witloof chicory for early spring forcing.

TIMELY tasks to be taken care of as they come along are:

Harvest *onions* as soon as the tops become yellow and begin to fall over.

Spinach for late fall use, and corn salad to be mulched over winter and harvested the first thing next spring, should go in some time after the fifteenth.

Keep up the hilling or other blanching method in connection with the celery. Sections of drain tile—one to a plant—make good blanchers. On a large scale boards or special paper appliances are favored. If the ground is well supplied with moisture and plant food, close planting in beds or blocks effectively blanches all but the outside bunches, which must be banked up or otherwise attended to.

Turnips can be planted throughout the month.

Cultivate the *potatoes* as long as you can conveniently get between the rows. Spray at least once in two weeks as long as the tops remain green.

See that the *all-season crops* are not beginning to want for plant food as otherwise such plants as Swiss chard and New Zealand spinach become tough as the supply runs short; parsley loses color; beans and tomato vines take on a weakened, yellow appearance.

Remember that August Brings these Orders

1. Sow perennials to get young plants for wintering over, ready to set out for flowers next summer.
2. Plant without fail this month as soon as possible: Candidum Lily, Strawberry runners from pots, Irises, Peonies, and such like flower roots.
3. Make out the list of flowering plants needed for the border, and place orders for early delivery to do the planting next month.
4. Can available fruits and vegetables as they come to hand; don't let them spoil by delay.
5. Keep growing plants in active growth by watering and feeding. A check now cannot be remedied later.
6. Early this month make last plantings of vegetables for this year. Plow and sow cover crops in cleared spaces.
7. Plant evergreens from now on. Of course other things can also be moved at this time if given equivalent care in balling and baling.

One of the best solutions of the problem is the frequent use of manure water.

Don't let *lima beans* get too big before picking. The big pods are the easiest to shell, but the smaller ones are by far the more delicious.

There is a tendency to let all vegetables get too old before gathering.

Wax beans have three stages at either of which they are "most usable." First, when they are young and the pods tender—when they are used as snap or string beans; second, when the pods have become rather tough and the seeds big enough, though still soft, to be cooked along like "butter beans" or limas; third after the seeds have matured and dried, when they may be added to the baked bean, or pea bean supply. *Cucumbers* deteriorate very rapidly after reaching the "peak" of quality.

As each row is cleared of its crop, start something else there. If you have no need for more vegetables put in a *catch crop* of rye or millet to help build up the soil when dug under. Anything indeed is better than leaving an old crop to rot and harbor insects and disease right in the heart of the garden.

If you enjoy mushrooms begin gathering manure for the bed. An old cellar where moderate heat can be maintained, or the space under the greenhouse benches is a good site. Order the spawn at once and make the bed before the manure shall have lost all of its heat.

Now is the time to get quality and size in next year's *asparagus*.

Give an occasional feeding as long as the plants show any signs of continued growth. When the tops begin to grow yellow, stop!

If several heads of early *cabbage* are maturing together and threatening to split open before they can be used, take hold of each one and, without removing it from the ground, give a half or three quarters twist, first one way and then the other. This breaks just enough of the feeding roots to check temporarily the plant's growth.

Tomatoes can be ripened evenly and in a more or less regular succession if some of the fruits are picked while firm but pink, and placed in a full southern exposure for a week or so, in a hotbed or a sunny window.

Summer in the Fruit Garden



By the middle of the month stop cultivating between fruit trees and bushes and sow a cover crop, not only to provide a winter ground cover and a crop of humus to be turned under next spring, but also to stimulate the maturing of this year's wood.

Pick the early apples as soon as they are ripe; they are not good keepers.

Cut out any *black knot* that may appear on stone fruit trees, and burn it.

This is the month for *budding*. Tackle the plums and cherries first, then continue with peaches toward the end of the month.

Young pear trees not yet in bearing can be topworked now instead of in late winter.

Layer *gooseberries*, and make currant cuttings from the material pruned off in trimming back. Cut out the old canes of blackberry and raspberry; that is, those that have borne this year. If sprouts are coming up between the rows of these crops, grub them out—unless you need them to enlarge the plantation.

Grapes should be fully ripe before they are picked, so thin the foliage of the grape vines if necessary in order to admit plenty of air and sunlight to the ripening crop. The sugar content increases very rapidly during the last few days of ripening.

Repot *strawberry* plants that are being kept for indoor fruiting; feed them too.

Where Grass Grows and the Flowers Bloom



NOTE the *spots in the lawn* that suffer most from the dryness just as you located the poorly drained areas early in the spring. Some of them can be restored by simply raking the soil well, adding a little rich compost, sowing thickly a little re-cleaned grass seed, and rolling. Water regularly twice a week until the grass is well established. Drainage work can now be done in low wet spots that are too sticky at practically all other times of the year. Finish such jobs promptly so that a new lawn or shrubbery planting can be established on the site of the improvement before winter.

Cut out or otherwise destroy all large *weeds* such as plantain before they mature seed. Some of these become a bit loose in the soil about now, and can be pulled or spudded out with less effort than at any other time.

Don't let the *manure pile* heat and "fire fang" by becoming too dry. If it cannot be worked over by hogs, wet it down now and then and also fork it over so as to retard fermentation.

"Prick out" perennial seedlings from last month's sowings just as you handled the annual plantlets early in the spring.

Use *manure water* frequently and, if not too strong, freely, anywhere and everywhere. Plants that are blooming now will benefit. Others have played their parts and are storing up food and energy against their reappearance next season, so "build up" now.

Clip the Privet hedges, just before they would bloom. Pot up Freesias for early winter blooms. Cut back Pelargoniums and when the new growth starts repot and feed generously. Old plants so treated can be used simply as a source of cuttings. Pot up some dry Tuberose bulbs. Keep them dry until they start into growth, then gradually water and accustom to indoor conditions. They will bloom in December or January.

For the best effects indoors, cut Gladiolus flower stalks just as the first flower, at the bottom, is opening. The others will then open in succession.

Anything that is to be *grown indoors* during winter should be well started before artificial heat is turned on. This means that all such plants should be started soon, whether from seeds, cuttings, or bulbs.

There is nothing to be gained by delaying the outdoor planting of hardy herbaceous stuff. The longer it is in the ground before cold weather arrives, the better.



Keep the frames busy all summer. In them you have the richest soil on the place; don't let it loaf. As soon as the last of the vegetable and bedding plants, and early crops are removed, get a summer

or fall crop started. If you don't need them for anything else, sow clover or cowpeas, to fork under in the fall—cover crops are just as useful here as in the garden.

Order your seeds of Pansies, Daisies, Forget-me-nots, Canterbury Bells, etc., *now*, so that you can get a good early start. Get a frame or two ready for this work. Clean it out, put in fresh, clean soil, and provide a cloth covered sash, which may be supported a foot or so above the frame, to shade it, while still allowing free circulation of the air.

Keep *Roses* in the greenhouse well syringed, so that they will stand the heat without checking; and look out for mildew and if it appears use flowers of sulphur dusted on or potassium sulphide in water.

Seeds from trees and shrubs can be sown as soon as they are fully ripe. The best place is an outdoor seed bed where they can remain undisturbed for a year or more. Time and patience only are required to raise a lot of nursery stock.

Begin to make *cuttings* of all bedding plants toward the end of the month, to have plants for potting and winter forcing. A shaded cold frame is a good place in which to root the slips.

Plant evergreens this month as windbreaks, as background for flowering shrubs (especially the early spring blooming sorts) and for hardy herbaceous perennials, and for the sake of their warm coloring in winter. Windbreaks will appreciably reduce the coal bill!

Plant bulbs for winter blooming as soon as they are delivered. By controlling the conditions of heat and moisture they can be matured gradually so as to afford a succession of blooms instead of one big burst soon over.

Gathering the Harvest



NO MATTER how hard you try, there may be a few crops that you will fail to harvest while they are at their best. Many of them can be left to mature seed. Or you can deliberately set out to raise some of your seed supply by selecting and giving special attention to a few of the best plants, of a particularly desirable type. Most of our standard quality varieties or strains have been established through just such means.

When the main-season and late crops begin to mature there will be little chance to do anything but harvest and dispose of them. Therefore clean out the root cellar, potato storage corners, and other places in which crops can be kept in good condition, and get them ready for another year's supply. Remember the different conditions that are needed for different kinds of special foods. For instance, a warm, even hot, dry place will keep Hubbard squash and pumpkins for the longest possible time; a dry, cold storage is best for onions; and a cold, but naturally moist one is best for all the root crops, for potatoes and celery, and for most tree fruits.

PREPARATION FOR THE FUTURE

Whenever you want to *add to the fertility* of the soil this month, use a fertilizer rather than manure, except where you are preparing a deep permanent bed for future planting. Manure that is the least bit fresh has a considerable warming and drying effect, and the soil usually doesn't need to be aided in drying out these days.

Weed and do most of your cultivating *early in the morning*, so that the weeds left on the surface will be baked by the sun all day. Of course there is no objection to cultivating again later on, with the commendable purpose of conserving moisture.

Special Reminder!—Look up your garden photographs, and send to the Editors any that seem specially attractive, together with a concise description. The most meritorious will be selected for publication in the GARDEN MAGAZINE

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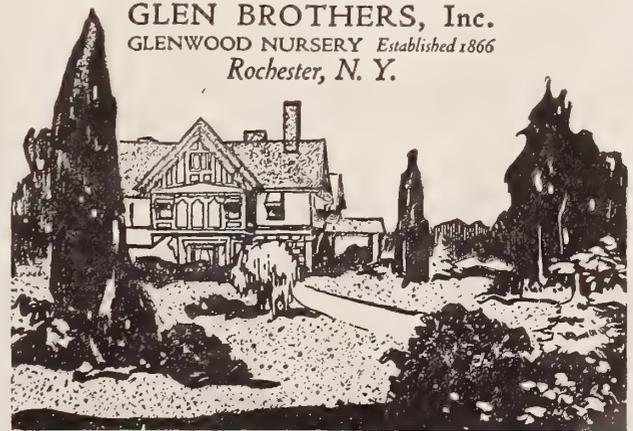
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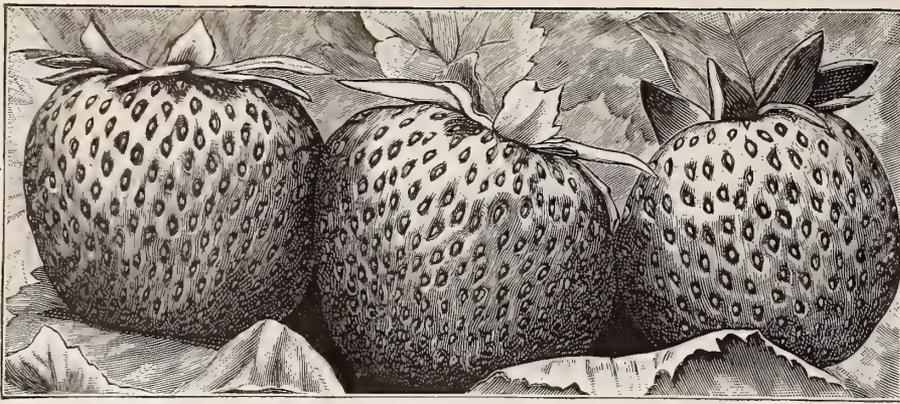
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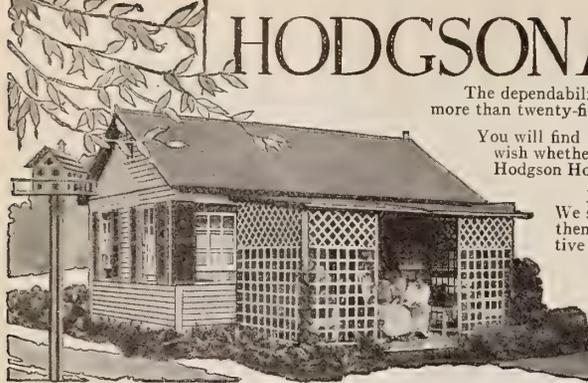
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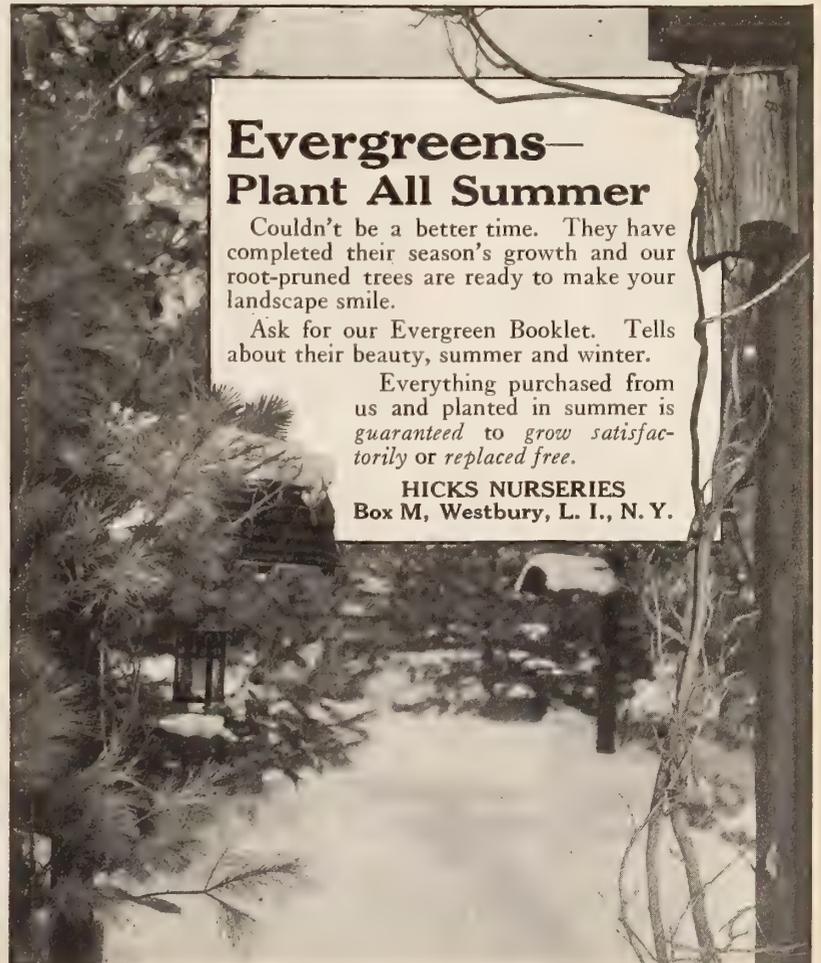
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In order that everyone may have a collection of extra choice Peonies, I have selected twelve varieties, which I offer at an extremely low price to those who will mention Garden Magazine when they send the order.

Twenty years ago the lure of the Peony drew me so strongly that I began to assemble the great collection now at Wyomissing Nurseries. Since then many amateurs have come to know what the modern Peony really is and have recruited their increasingly valuable groups from Wyomissing where there is now in existence the most complete collection in the world.

Peonies in addition to the joy they give to our gardens, can be made to contribute to present day needs. They are indispensable for Memorial Day, which has now a greater significance for us. They aid the Red Cross, for a single day's sale of blooms by the Wyomissing Chapter netted more than could possibly be reaped from any other products on the same garden area. The Soldiers and Sailors Canteen Club of Cleveland received over \$2,000 from the sale of the blooms shown at the Peony Society's exhibition last year.

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Plant This Fall

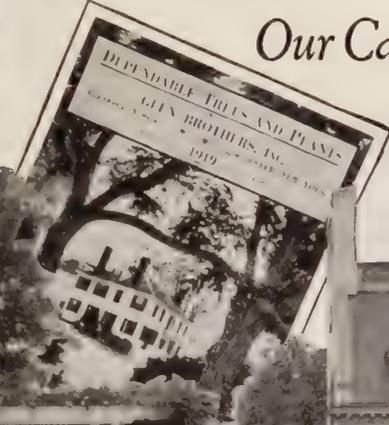
Whatever you are planning to plant, **PLANT THIS FALL.** Don't wait until Spring—when nursery stock will be scarce, perhaps impossible to obtain at all, and certainly higher in price.

Trees and plants placed in the ground this Fall will have made greater progress by next Summer than those planted next Spring. You gain about six months growth by planting in the Fall.

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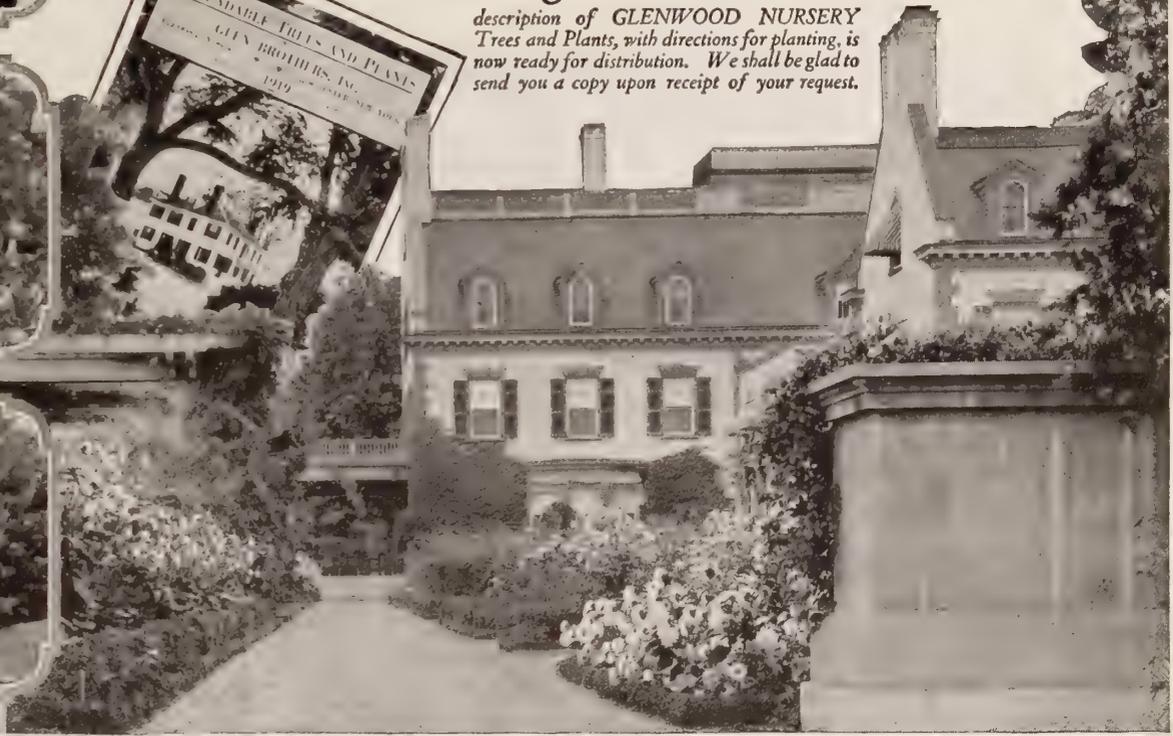
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THE GARDEN MAGAZINE SEPTEMBER, 1919

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LEONARD BARRON, Editor

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There is nothing adorning;
The night has no eve;
And the day has no morning;
Cold winter gives warning!
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Villosa Lilac



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The Garden Magazine

VOLUME XXX

NUMBER 2

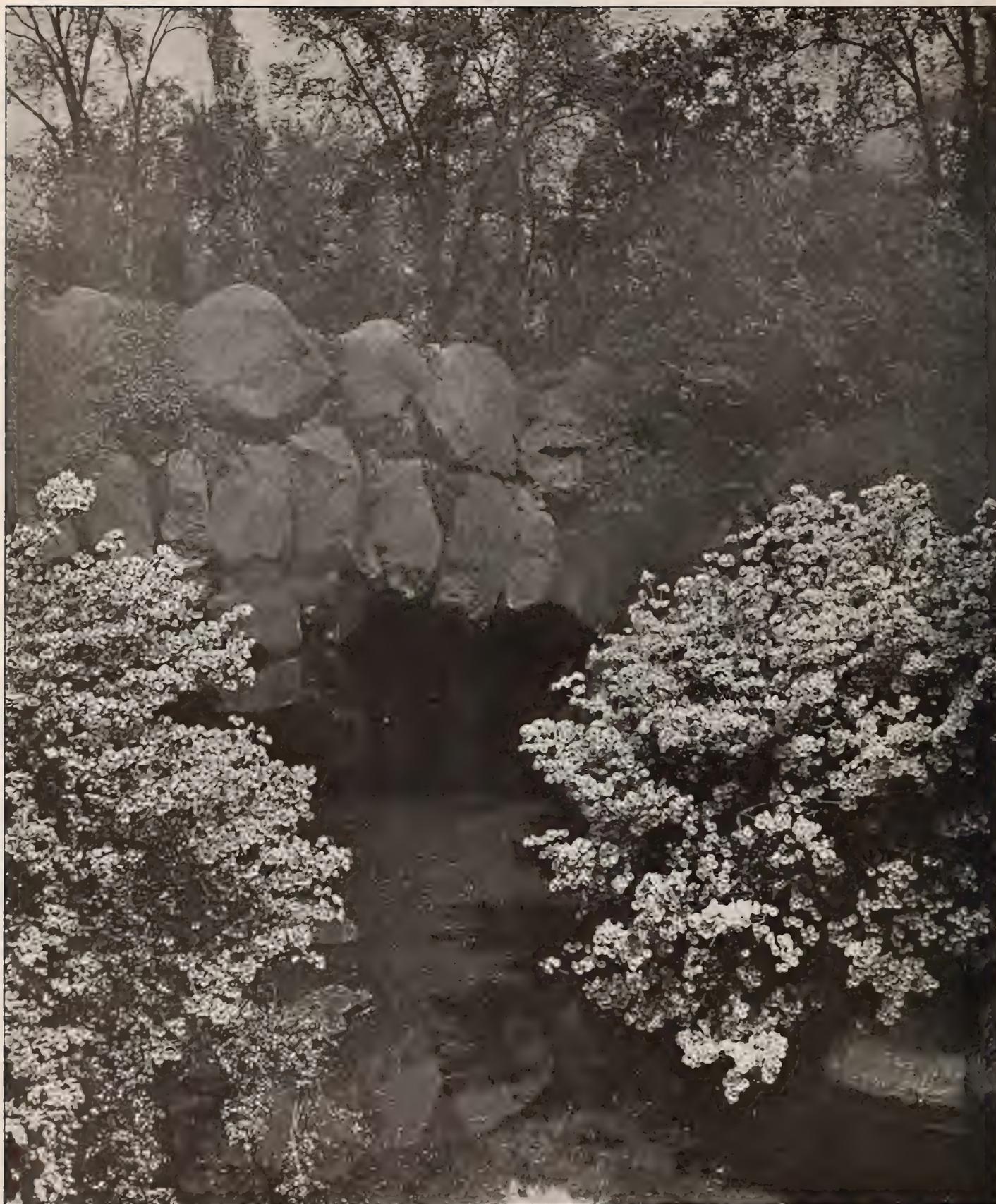
SEPTEMBER, 1919



QUICKENED BY THE MAGIC OF A BIT OF STONE

IF that stone, vitalized by the sculptor's chisel and appropriately framed, is as harmonious with the scene which it adorns as this Apollo with the radiance and vivid beauty of sunshine and flowers in the garden of Mrs. L. Tiffany Dyer at Southampton, Long Island. There is dawning in our garden consciousness a recognition of the vitality which a well-chosen statue lends to a scene; and while temperance and restraint ought never to be relaxed in

this connection any more than in any other, it is unquestionably true that here is an opportunity for the exercise of the liveliest fancy. A garden may be keyed to a piece of sculpture or the stone may be fashioned to embody the spirit of an already existing garden, it matters not which; but it does matter greatly that the two shall express absolute unity of thought and singleness of concept.



AFLAME AND YET UNCONSUMED

Preëminently for shade and reflection in deep shadowed waters, Azaleas of the amoena and Hinodigiri type light up such spaces like veritable beacons



ALONG STEPPING STONES AND STEPS DOWN TO A BROAD
TAPIS VERT

The eye is led in Mrs. Frank Streeter's garden at Concord, N. H., but cannot penetrate to the lily pool beyond—nor yet to the workaday world shut out by the boundary planting

MY GARDEN IN VERDUN

MAUDE BALLINGTON BOOTH

Persistently Carrying On Under the Very Heels
of War, Flowers Solace the Wounds of Earth
Even as They Comfort the Heart of Humanity

WHEN I was homesick or tired I would pass down the street of wrecks and ruins and go out by one of the gates of Verdun to a quiet spot I had found, just behind the ancient moat and beyond a mass of barbed wire entanglements. So I went forth on a day that I had for rest, when the fact that for long no mail had reached our city made me crave the comforting touch of nature.

Back in the dear homeland a garden in January shows no beauty—except to the eyes of its planter, who can vision the golden treasure of the future and can dream, while tramping over the snow, of the beauty and color and fragrance that will wake again next spring. I know nothing of the climate of Verdun but what this ruined garden has told me; but I do know that it whispered of many things to my heart as I walked its moss-covered paths between broken Box borders and under gnarled and twisted fruit trees.

* * *

THE sky was very blue, the sun shone golden, and in the trees a cheery little bird sang me a greeting. He was so glad that someone else had found his garden and appreciated it. Had I heard him at home I should have called him a chick-a-dee, but his color was rather gayer, and he had a distinctly French accent. Though I spoke to him with an equally Frenchy correctness, he flirted his tail and cocked his head and refused any information as to his identity.

Why is the garden mine? I did not even live near it, for my home was amid the ruins within the walls. But that is the joy of a garden; it blooms for all who have eyes to appreciate it, and all may claim it, because it gives its beauty so freely to every garden lover. Then no one else seemed to have found my garden—no one loved it! It was somewhat of a ruin indeed, poor dear! And why not, with the flights of shells and deadly missiles of war that, for four black years, hurtled over it at the valiant city whose defiant "thou shalt not pass" withstood the Hun legions so amazingly.

STANDING there in the stillness I glance back over the barbed wire across the moat to the city ramparts, and see the great gashes and scars made by the pounding projectiles—and the gate that held so valiantly against the tramp of alien feet.

As I stand there I hear the rumble of wheels. Army wagons, a whole train of them, are rolling past my garden, driven by smiling khaki-clad lads,—boys of America to whom the portals of Verdun stand wide. There are horsemen in the blue of France too, and smiling darkies driving mules—these wishing doubtless that the city was New Orleans or Savannah or any other sunny place away back in Dixie—passing by and disappearing beyond the gates. Far afield a mighty detonation rends the air—but the gate remains open, and no one

turns an apprehensive face toward the hills, for we all know that it is but the explosion of German "duds" and ammunition, now under the control of friends and harmless to the city.

Ah, what tales could not my garden tell of all these days, could its gnarled trees and its broken fountain and its ruined arbors but speak! Where is the master of the garden? As I wander at will down the moss-grown paths I speculate. Sleeping maybe under one of those crude gray crosses on the shell-pitted fields of battle, over which I picked my way yesterday. And the mistress of the garden? Is she in some distant refuge, waiting until the citizen population shall return, to seek heart-ease in this dear, familiar spot?

MY GARDEN has no house near it—but it may have had! Here in France we can never tell what stood on the ground over which we tread. Whole towns and villages are now only a name and rubbish heap. Maybe a pretty villa or stately mansion stood where now I can see but a mass of rusty barbed wire. These questions my garden cannot answer, but other tales it has told. For instance, on this 21st of January it reassured that the climate of Verdun—where I had resided but one month—is not severe, and that I need not dread the remaining winter days. I learn too that the spring will come early this year, both of which facts were comforting. I find big clumps of Snowdrops; a few I gather—and hundreds will be here for me in a day or two. Sweet yellow Primroses are blooming freely, and here and there red ones (*Polyanthus*) add a touch of color amid the thick tufts of green leaves. Some of the choicest blooms grow around a great, jagged shell-hole. Another great hole is already almost covered with Ivy. Everywhere the Ivy trails its leaves, veined and beautifully colored—some with the reds and browns of fall, some of vivid or dark green; and everywhere also grows the feathery moss, brilliant and soft, just the contrast needed with Ivy and Primroses, in my nosegay.

Then there is promise in this garden, that I can only vision in the future and shall never see in luxuriant bloom—Oriental Poppies, Iris, Narcissus, Marguerites, Violets, Lilies, grown even now to the height ours only attain at home in May, all speaking of a nearer spring than ours. What a riot of color my garden will be under the warming touch of spring, when its wild, wide stretches have bravely answered the call of the sunshine! In the broken fountain are still aquatic plants, and many long, unpruned masses of Roses show their future strength; everywhere the fruit trees stretch out sheltering arms that will in brief space be draped and veiled in misty white and pink finery, while clumps of golden Daffodils catch the sunshine in mossy shadows.

Will others love my garden then, because of its spring beauty—though now they pass it unnoticed? Or will the

rumble of passing war material and the tramp of feet send dust clouds to dim its loveliness before it is discovered? I shall not know; for by that time my eyes will be looking westward over tossing waves to the land of my heart.

But I shall never forget my garden of Verdun!

* * *

I PASS back through the gates and into the ruins of the city, with my hands full of blossoms and moss. French

soldiers smile at me and shout "Ah, des fleurs!" Our own boys smile and salute. And many passersby seem surprised that flowers should be blooming in winter; but if you have eyes to see and hearts to love, you can often find the unexpected touch of beauty in the apparent wreckage of life.

So good-bye, brave Garden of Verdun! Human hands no longer tend you, but God's sun shines on you, and you are doing and shall do your part for those who seek and read your message.



"—OUT BY ONE OF THE GATES OF VERDUN"



Here hushed expectancy is keyed to tremulous delight by the grouping and expectancy in postures

A suggestive bit of "Longwood", the estate of Mrs. Pierre Dupont which is at Wilmington, Delaware

SCULPTURE IN THE GARDEN

The Principles Involved in the Choice of Concept and the Proper Disposal of Groups and Figures, Studied in the Garden with the Aid of Living Models

JEAN DE STRELECKI

[EDITOR'S NOTE: *Member of a distinguished Russian-Polish family, Comte de Strelecki is a photographer because he is first of all an artist in the fullest sense. In more or less leisure moments a painter and a dramatic poet, his study of the garden's embellishment with sculptured forms brings out an element in the subject altogether unsuspected heretofore, but of such importance to the whole matter that it seems that too great emphasis of it is hardly possible.*]

GARDENS are always haunted, so the poets tell us, with mysterious and lovely beings whom ordinary mortals never see. Yet even ordinary mortals feel their presence—we all know that—and so, just as I have yet to find the garden that may not be made still lovelier and more appealing by the proper introduction of sculpture, so have I yet to find the mortal who does not warmly welcome and respond to it. This is only what we might expect of course, since sculpture simply embodies, in tangible form, those elusive essences just mentioned, to which most mortal eyes are holden; but right here we face the extremely important crux of the whole matter of sculptured features in the garden. Almost never are they appropriate or appropriately placed. Commonly they are anything they may happen to

be—any statue that is handy, I think your idiom has it—without regard to anything more than the closing of a vista perhaps, or the centring of some plot. What a waste of opportunity! What lamentable ignoring of richest possibilities!

THE greatest exponents of the plastic art that ever lived were the Greeks and Romans; and it is especially to be remarked that they understood the moral value embodied in a sculptured concept, and made full application of it in every instance. They built temples and great gardens, and enriched both with statues that represented gods and goddesses who were themselves the personification of deep fundamental truths, profound philosophic conclusions, or soaring

poetic aspirations. Here is of course a principle that sculpture has always followed and always will follow—the expression of abstract thought—but my point is that this thought should constitute a harmony with all its surroundings and thus become more impressive and emphatic. This is to be done either by bringing these into harmony with the sculptor's conception through the landscape architect's art; or the other way about, by studying the surroundings to learn their natural spirit, and then creating a work of art that embodies and sets this forth. In other words, my principle is briefly that either the natural landscape should inspire the sculptor, or the sculptor should, with his creation, inspire (fix the motif of) a landscape that must then be created.



DOLCE FÀR NIENTE

Where insects hum, leaves rustle softly, and summer rests, dreaming away the golden days

FOR the proper study of the landscape and the selection of its appropriate sculpture ornament or adornment, I use the living model—and freely confess I do not see how it is possible to make such a study except in just this way, with a model or models *in situ*. To make clear my point I will invite you to consider for a moment the subject shown in page 50. And as a beginning, I will ask you what have we in this view, if the figures are removed?

It is a very simple view—just a still, formal pool in the foreground, with a flight of steps leading up and away into richest masses of foliage, piled depth on depth. The whole arrangement however creates the sense of mystery; of wondrous mystery enshrined beyond. A sleeping princess, perhaps—Truth, Love, Beauty,—as you will! It matters not whether you name it or not. The thing that matters is that this impression deepens as you wait, until the senses are

steeped in the magic of it, and in the hush of a shrine that pervades the very air.

There is but one answer to this. Inevitably the figures are disposed in the static attitudes of expectancy and hush; and inevitably they group about the centre, at once bearing out the impression by their respective positions as well as by their posture. I will invite you to consider also that, however long they wait here, assuming them to be rendered into marble, the spirit of the scene will only intensify; and at the end of a century—two, three centuries—this will still be a shrine, with its intriguing, hushed mystery richly promising. Which reminds me to say that this test of Time's effect should also be invariably considered.



ART SUPERLATIVELY REFINED IN SUBJECT AND IN SETTING

In a garden conception such as this the delicate charm exhaled by perfection in every line and factor of design demands appreciation as delicate, and a sculpture approach that is nothing short of ethereal

WITH the very different scene and group shown at page (53) what do we discover? Again, we study the landscape first with the figures eliminated. Placid repose I think you will agree it expresses, with the blue (or gray) of sky reflected in a little lake, clouds lending movement on occasion as they float across, and the foliage of trees and shrubs on the banks, as well as the water's surface, moving also under the rippling wind. There is life in abundance in this repose indeed; but always in its gentlest aspect. Therefore any figure or group that is to be introduced here must express just this and all of this—no more and no less.

The models are placed under this conception—a figure at rest and a figure in mild action—and their pose is modified until all lines are harmonious and the group *and its reflection* become a reasonable and perfectly logical part of a landscape that, by their presence, is lifted actually from the commonplace and colorless on to a plane of real distinction.

HISTORY reveals to us that only those nations which have produced richly in the arts—literature, music, painting, architecture and sculpture—have ranked high, or held supremacy even though they may briefly have attained to it. Which is at once a proof and an argument—a proof that the arts are a necessity in the development of man, and that without them he cannot hope to arrive at the enjoyment and mastery of his full powers; and (hence) an argument for a profounder consideration of all matters pertaining to the arts than has perhaps been commonly given in the present age.

My opinion is that America with her splendid energy, freshly personified it seems to me in every individual with whom I come in contact here, has in this respect—as in all else!—an opportunity of surpassing character. For there is so much that has not yet been done in America! It is well that there shall be beautiful buildings of all kinds, of course, but this is not enough—not half enough, even! For beautiful gardens, both private and public, mean vastly more. Do you know I wonder, America, what you can do for the world just by the development of pure garden beauty in your magnificent outdoors—by the recognition of your garden opportunities? And your garden obligations, I am tempted to add!

Of the great number of beautiful structures and monuments and works of art that there are, how few, comparatively, linger in the memory! This is because of some failure of the art sense somewhere in relation to them. Either they are treated insufferably so that they altogether lack a suitable and fit background, or they are so badly disposed with regard to the spirit of their conception! Take a common instance such as the Central Park in New York City; here is the group presented by Mr. G. W. Burnham, for example—the subject, two eagles battling over the body of a mountain goat—*disposed on a gracious bit of greensward between deciduous trees!*

What an outrage to the imagination and the sensibilities! Why not the proper site—a high and rocky ledge, with a background of sky—where such sites abound? Why not the Pine, if there must be trees? Why the spirit of furious strife unless a similar spirit lurks in the landscape? In other words, why this subject at all, if it cannot be appropriately treated and the same spirit cannot pervade its setting? Why not a some-

thing in keeping with smiling lawn and shade of peaceful trees instead? Here for example—page (51)—is a garden vista devoid of distractions or suggestions—a vista of intimate appeal, dreamy, conducive to reverie and introspection. Yet it is not grave nor solitary nor aloof! On the contrary it is distinctly gracious and appealing, even social. Hence we assemble a group (symbolizing what you will of the triune aspect common to all things) that expresses in posture and position just these elements.

At the fountain on page (51), however, we have something so altogether different from this that I may say it is its very antithesis. As a beginning, for example, water in contrary motion—the jet—is the most vivid expression of positive force that there is. We must have here therefore a subject embodying this feeling, conveying vividly the sense of springing movement and lively force; and yet we must have lines that flow rhythmically and are in harmony with the general composition.

It may be permissible to say that I regard this sort of thing as at once one of the most difficult and interesting of problems, since the danger of introducing a jarring element into a garden design of such refinement is very great. With this in mind, the subject has been made what I may call fugitive in character. That is, a sense of instant flight pervades the figure. Dryad, nymph, wood sprite, god or goddess as the case may be, there is haste in every line—haste in arrival, tension and haste in the rest, and eager haste, waiting but the signal alertly watched for, to be on. Whether pursued or pursuing, this is but an instant's pause; and of course even the pause may express springing movement and lively force.

IT IS all very simple; but to inculcate in the fiber of a race any great abstraction such as genuine love for and appreciation of the Fine Arts it is of course well known that the foundations must be laid deep. Indeed I question whether we actually suspect how deep; but in any event, I may say that I think appreciation must be quickened at its source. And the source of appreciation is perception, naturally. The eye beholds—perceives; the message is carried to the within, and the man—in his soul, spirit, heart, or what you will of himself—appreciates, according to the degree of his awakening. If perception is directed to the beautiful only, especially in the beginning (by an absence altogether if this might be, of the ugly!) appreciation soon becomes developed to a high degree. But if there is a long interval of accustomedness to ugly things or things inharmonious—which is to the artist identical—appreciation will be correspondingly dulled and there will be much to undo before any real progress toward the response to pure beauty can be aroused.

FOR this reason—partly—I look with keen anticipation at the opportunities before America. It is a land in its youth—the time of alert and eager perception and unfolding appreciation. Also it is a land where all is yet to be done, and so may be done in the very most perfect fashion, under the guidance of old world (and new) enlightenment. Hence it is here that the art of the sculptor as utilized in the garden shall once again come into its superlative dignity and be accorded the honor and consideration that are its due.



TO SUIT THE ACTION TO THE BACKGROUND!
This is the thought upon which the sculptured landscape embellishment must
be evolved if it is to rise above the commonplace

WORLD-WIDE IS THE INTEREST IN IRIS

Letters from Europe, the Pacific Coast, New England and the Prairie Sections Emphasize the Universal Appeal of this Flower

THE EDITORS regard it as significant of the flower's great appeal that the mails continually bring response from Iris enthusiasts; and of its great adaptability to all sorts of places that these letters come almost from the four quarters of the earth. A few that seem fairly representative are appended.

Experiences With Some Elusive Gems

R. S. STURTEVANT, Massachusetts

MRS. WILDER'S recent note on her experience with *Iris arenaria* recalled my own sad time with what I purchased as *flavissima*. They are, by the way, synonymous, and like in color to *Blodowii* which in England has the reputation of never blooming. I gave the wee plant a high, dry site in the rock-garden and a semi-shade that to my mind would approximate the full sun of Britain; I was rewarded with one delightful small flower, a mere provocation in reality, for then for four years the plant just existed, was tried in different soil, was watched, tended in vain, and is now no more. Its charm remains and though I have tried repeatedly to re-import, now perforce, I must try it from seed and I thank Mrs. Wilder most heartily for her report.

Though raising *Pogoniris* from seed is most usual with us, raising *flavissima* in the same manner did not occur to me, probably because of its close relation to the *Regelias*. The *Apogons* too come easily from seed and I wonder what fortune others have had with *gracilipes* and *cristata*. Both seed well, but the plants have taken hold so well that the seed was neglected and I have no records of germination. The one on a rich bank in semi-shade, the other with its lighter and slightly smaller variety *lacustris*, as a broad edging to a cool path, form almost indispensable bits of interest and thrive amazingly. In fact I find the true *pumilas* (not the so-called hybrids) even more difficult to establish. They should give as fine a sheet of color as *cristata* or *flavissima*, but their foliage has not the smooth, flowing charm of *cristata* throughout the season.

Other out-of-the-way Iris occur to me (though I feel as though I were trespassing on Mr. Morrison's peculiar field); the fragrant *graminea*, the rich red purple of haft and style-branches conspicuously one; the vivid blue and orange of *verna* which also forms good clumps of stiff, shiny, evergreen leaves in the rock-garden; then down in a moist open place the livid hue of *fulva*, the pale yellow of *Wilsoni* and the wonderfully rich, deep purple of *chrysographes*; my experience with these is short. *Wilsoni* proved disappointing for, contrary to my reading, I had pictured it as fine a yellow as *pseudacorus*, the true English "flag," and it is pale, the haft well-veined; *chrysographes*, however, was fine, far richer and deeper than even *orientalis* Emperor, the darkest *Apogon*

with which I was familiar. The *Apogons* vary but little from seed on the whole, though we found *orientalis* with a tone so red as to suggest the haft of *graminea* and among the *chrysographes* seedlings there was a marked difference in the effect of the orange venation on the haft. Another thought; certain small-flowered seedlings of the bearded Iris, "throwouts" from the point of garden value, are proving delightful in the rock garden. Dwarf they are and with smaller blossoms than many of the rampant *pumila* hybrids but typical in growth and useful when the flood of spring flowers is at an ebb. They are receiving a trial at least and are far pleasanter in color than the usually blotched blooms of those of *Korolkowi* + *Pogoniris* parentage.

Raising Irises From Seed

SHERMAN R. DUFFY, Chicago, Ill.

I HAVE a few seedling Iris, particularly of the pale Dalmatian (one being a much deeper shade of lavender) which have proved very fine; and I have also some seventy-five various crosses with *pallida* coming on which have not bloomed, but the most interesting are of the various dwarfs. I now have a procession established so that each year I can look for new ones. This spring seven clumps came into bloom for the first time. They were crosses of the *Bal-Ceng* variety, *Blue Beard*, and another pale variety. I think I should label these dwarfs "Irish Iris" for the seedlings which have bloomed show shades of green.

The seedlings seem more robust than the parent plants, one in particular with large frilled shining white standards and falls of golden green edged with white being almost a foot tall. This is the prize of the collection. Another is a bronze green, something of the shade known as *Roman gold*, both falls and standards being of the same color. A number of these dwarfs of the Crimean hybrid class contain much green in the mottling of the falls. Others which have flowered have white or sulphur standards with various fleckings of pale lavender to deep purple with green and white falls.

A mass of dwarf Iris in late April and early May is as showy as any of the spring bulbs and in an entirely different series of colors. They are well worth planting in quantity as they are hardy as rocks, take care of themselves and don't seem to care about soil conditions, providing they aren't water logged. They won't stand wet feet. By the use of these Crimean, *Bal-Ceng*, and *pumila* Iris, following with the intermediate, then the *Flag* (German) types, the Spanish and English, the Siberian, some of the beardless types such as *Mrs. Tait*, and others, and finishing up with the royal Japanese beauties in early July, it is possible to have a continuous performance of Irises for three months.

Wants an Iris Society Formed

C. W. H. HEIDEMAN, Oregon

THE recent mention of *Iris arenaria* in the GARDEN MAGAZINE will have the effect of starting me on another thousand mile chase to find it. Why can't we have a clearing house through which Iris fans can locate some of the species which are new, rare or local? Why can't we have an Iris Society?

There are two reforms urgently needed. Reforms that only a Society can tackle. One is the Iris-color-blindness disease of originators of "pink" Iris, and the compilers of plant catalogues. The other is to settle once for all time the German Iris name. As an American-Iris-Lover I have no objection to the name *Iris germanica* as applied to Var. *Kharput* which is generally accepted as a true *I. germanica*, but when an American or any other catalogue classes Mr. Farr's beautiful *pallida* Wyomissing under the heading "German Iris" I think it time to call a halt!

If we have got to have a hyphenated name in place of the misnomer why not have one sanctioned by scientific approval and usage—Rainbow-Iris. Under this name even *I. germanica* may without prejudice come into the League of Iris.

I want to introduce *Iris chrysophylla*, a dainty Oregon species not mentioned in any of the catalogues. As beautiful as the rainbow itself, I know a sunny open slope where there are literally millions of them. The falls are but little wider than the very narrow standards and droop to the same angle forming a perfectly symmetrical open flower resembling *Lilium candidum*. I am not color blind, yet it is impossible for me to describe the iridescent beauty of its color.

An Evergreen California Iris in the East

B. Y. MORRISON, Takoma Park, D. C.

EVER since I have lived in California I have wanted some of the charming native Irises for my eastern garden. In the spring of 1918 I obtained several species and this year was rewarded with blooms from all of the color forms of *Iris Douglasiana*, an evergreen species with slender foliage about a foot high. The plants start into growth early in the season and seem to be more sensitive to the mild frosts that come in the spring than to the lower temperatures of the winter. A heavy mulch of decaying leaf mould made an excellent mulch keeping the plants in good condition. The new shoots of

leaves are often highly colored, flushed with vivid red and pink at the bases. The flowers are borne on slender stalks with three or four flowers to the stalk. The colors range from the most delicate ivory white to deep blues. Those illustrated were of two colors, the upper one pale straw color flushed with a most delicate blue and the lower a pale lavender veined darker.

As I write a fair number of pods seem to be setting on the plants so that seedlings may be available. Because these plants have very slender rhizomes and scanty root systems, they are difficult to move and even when the precaution of moving them at the end of winter is taken, one sometimes loses established plants. Ordinary garden soil rich in leaf mould seems to satisfy requirements; and like many others they benefit by a summer roasting.

Appraising Iris by Points

A. J. BLISS, Morwellham,
Tavistock, England

THE score card for garden plants by R. S. Sturtevant in the April GARDEN MAGAZINE was most interesting and the 20 per cent. allotted to Unusual Qualities is a good idea. It is primarily intended for judging Bearded Irises and estimating their value *in the garden* and from that point of view

there is very little alteration I could suggest. I would add two more characters: Constitution and Freedom of flowering—but the former is practically included in "growth" (vigorous), and the latter in "mass effect." Both are however important and warrant an addition to their points. I think more value should be given to "shape" (form of flowers) for in the garden besides the general effect we find pleasure in appreciating each individual flower. Substance also tells in rough weather. Furthermore to make a standardized score card fully useful, that is, so that it would convey the same meaning to different people, it would be necessary to have a list of standard varieties representing the highest degree of excellence for each character, and several for color. My score card thus takes the whole 100 points, and any added for unusual qualities or exceptional excellence would be over and above, which seems justified since they would be above the 100 per cent. standard, and even so, probably no variety would attain the full 100 points.

It is of course also necessary for the plant breeder to have a fixed standard in estimating his seedlings, to correct the optimism of first impression and to give due weight to those characters which he considers are of special importance in breeding. I give my score card for seedlings below, and on



AN EVERGREEN CALIFORNIA IRIS

This shows flowers of *Iris Douglasiana* as grown in the East by Mr. B. Y. Morrison, about three quarters natural size. The flowers range from ivory white to deep blue



IRIS DOROTHEA K. WILLIAMSON

This is a new American hybrid that repeats a cross (I. fulvala) in England by W. R. Dykes, but differs in the result. Portion of a stalk growing four feet high

I give the two score cards for comparison,

R. S. STURTEVANT	AS SUGGESTED
<i>The Plant:</i> 45%	<i>The Plant:</i> 50%
Growth (vigorous) 10	{ Constitution 10
Mass effect 10	{ Growth (strong) 5
Balance and branching of stalk . . . 15	{ Habit (reasonably compact) 5
Height (appropriate to class) . . . 10	{ Freedom of flowering 10
<i>The Flower:</i> 35%	Poise of spike 10
Color 15	Height 10
Shape 5	<i>The Flower:</i> 50%
Size 10	Color 15
Substance 5	Form 10
<i>Unusual Qualities:</i> 20%	Size 10
To be distributed for general all round excellence, or unique color, scent, foliage, extra development of any point, or value for exhibition or cut flower	Substance 10
Total 100	Scent 5
	Total 100

comparing it with those for the garden (counting each cross as 5 points) it will be realized that the estimation of the values of the characters is different in the two cases, and necessarily so. The selector for garden value estimates for the present out of the actual available material. The breeder estimates for the future, and the 100 per cent. standard is no limit to him. Seedlings which attain 100 points are only equal to the best variety of that type as yet in existence,—worthy of a place in the garden if distinct, but his aim is to surpass this standard of excellence and ultimately to attain an ideal flower. Hence the 100 per cent. standard is not his goal but his starting point.

Of course it seldom, if ever, happens that a seedling surpasses the best existing variety of the type to which it belongs in all the characters and indeed it generally falls short in one or more, but for each character surpassed one cross is added (or even two if the advance is great). The sum total still expresses its value in comparison with the standard and

should be at least 100 per cent. It may be a little less, but if much less it is evidence that the seedling is dangerous to use for further breeding.

SCORE CARD USED IN BREEDING IRISES

<i>The Plant</i>				
Constitution	XXXX	20	} 100	
Growth	XXX	15		
Habit	XX	10		
Foliage	X	5		
Freedom of flowering	XXXX	20		
Poise of spike	XXX	15	} 100	
Height	XXX	15		
<i>The Flower</i>				
Color	XXXX	20		
Form	XXXXX	25		
Size	XXXX	20		
Substance	XXXXX	25		
Scent	XX	10		

The two most important characters, in my opinion, are form and substance of flower—partly because as a matter of experience, they are the most difficult to attain, and partly because they are the most fundamental. Form is the criterion of a well-bred flower. It is the expression, in the flower, of symmetry and balance. Substance in the flower is nearly always associated with vigorous growth and good constitution, and in a less degree, with height of stalk and size of flower, and its influence, other things being equal, is to give richer, brighter, and clearer color. However fine a flower may be it is of no use either in the garden or for breeding unless it keeps healthy and flowers freely and regularly. Breeding for a particular color is of course a special problem, but given good form and substance and good constitution in the parents, the breeder may be assured of a high degree of excellence in a large proportion of the seedlings.

NEW AMERICAN HYBRID IRIS

B. Y. MORRISON

AMONG the newer Irises that flowered in my garden for the first time this year, none was of greater interest than the American hybrid, Iris Dorothea K. Williamson, raised by Mr. E. B. Williamson of Bluffton, Indiana. The cross is the same as that of the hybrid raised by Mr. W. R. Dykes but the color is rather different from that in the form disseminated under the name of fulvala, if one may judge from the illustration. Unfortunately all of the plants of Iris fulvala which I have had from England have died after the delay in the ocean journey.

The flowers in the American variety are of the most extraordinary color. On first opening the texture is that of velvet so that the glowing royal purple is of exceeding depth. The style arms and bases of the flower parts are duller purples flushed with terra cotta and brownish hues. The accent comes from the thin line of yellow which shows on the falls in the place where the beardless Irises commonly have a yellow blotch.

The illustration shows only a portion of the tall branching stalk which rises to a height of about four feet in a rich moist border which has plenty of sunlight. The plant seems of the easiest culture and from the clump obtained last year I have this season four fine stalks of bloom. With me it flowers about ten days before the Japanese Irises, coming with the later forms of Iris sibirica and the forms of Iris spuria.

HERBACEOUS PLANTS, AND PLANTING THEM FOR NEXT YEAR'S BLOOM

With a Consideration of Their Proper Use in Relation to
Other Features of the Garden, and Some Selected Plant Lists

GRACE TABOR

FROM the garden point of view, all garden material is indispensable; and it is not perhaps literally true that any one thing is of greater consequence than another. Yet it is undoubtedly a fact that herbaceous material is more generally used than any other one class of plants, and that its appeal is therefore broader than any other. It not only furnishes the bulk of the flower garden planting, but it supplements heavier growth and often supplies, in certain of its great families such as the Peony or Iris, the motif for a garden scheme.

The mixed border is the most familiar of all arrangements, and the most generally practical one in that it adapts itself to all kinds of places and exposures—as well as to all kinds of gardeners, which is an important factor! Never-the-less it is well to realize that the herbaceous border does not have to be a mixture by any means; and that some of the most sumptuous effects are obtainable only through the use of great masses of one or two kinds of plants. Which brings us at once to the two ideals that are always before us, and between which we must choose. They differ utterly, and choice is not always easy.

Something Always in Bloom

ONE ideal is of flowers somewhere in the border throughout the season—something always in bloom. The other is an imposing display of some particular beauty over as long a period as may be. Obviously it is impossible to have both in the one border, since a mixture arranged for succession of bloom will not contain a really imposing mass of any one thing. Select which one may, there are bound to be longings for the other occasionally; so my practice is to decide which will be regretted least, and then to put it behind me with the ancient admonition to temptation and proceed with the other with singleness of heart.

So much that is doubtful, if it is not worse, has been said and written about garden design, and the subject is one that is so largely over-emphasized sometimes—though it is a subject of the very greatest moment and vital to the success of a garden—that I rather shrink from becoming entangled



THE DIFFICULT PLACE AT THE FOOT OF A TREE
Naturalistic ground cover of Jill-over-the-ground (*Nepeta hederacea*) and *Maianthemum* in the shadow of a Norway Spruce

in it here. But there are broad principles which govern it, under all circumstances, which it seems well to point out. And one of these is the conception of flowers as the garden's trimming. This is a homely phrase, but there seems to be nothing else that quite expresses what I mean. Flowers are of course often the garden's motif; and yet even here, they are a "trimming"—a decoration applied to the plain facts of trees and shrubs and grass and walks and drives. Or they should be. When they are not, something is wrong in the garden's atmosphere; and everyone feels it

though no one may be able to analyze it and locate it.

Flowers as "Trimmings"

IF YOU will always regard flowers as trimming, however, they will never get into the wrong places; they will never be introduced arbitrarily and haphazard, and however lavishly they are used, nothing will be overdone. They are, properly, attributes of design, exactly as color is an attribute of line in painting (it is impossible to lay color on without at the same instant laying down a line) therefore, the design must come first, and must supply opportunity for them. And the garden must be developed from design to flowers rather than from flowers to design.

No End to the List of Plants

OF PLANTS themselves—the herbaceous material especially—there is almost no end; and without a doubt the highly meritorious kinds are legion. Yet even the most mixed border can entertain comparatively few—and need entertain but few comparatively, to meet the all-season bloom requirement. What to choose, how to arrive at a choice that will bring the very best into each particular garden, is of course the particular problem that each must solve. I find choice simplified by the help of a little score-card whereon the five most important attributes of a plant are assigned a definite standing, by points, so that comparison between kinds is easy and each may be given its rightful place with relation to the others with positive finality. This score-card is as follows:



THE EVER-PLEASING MOTIF OF A LONG, BALANCED WALK

Greatly enhanced by the heavy planting of their background are the Bellflowers, Larkspurs, Veronicas, and Pinks here blooming in the blue and white borders behind the turf edging

	PER CENT.
Beauty	30
Length of blooming season	20
Ease of cultivation	20
Adaptability	15
Hardiness	15

On this percentage basis, it is easy to determine the rank of any candidate for the garden, the one variable factor being the first. That is, it is a matter of individual decision whether a Peony or an Iris is the more beautiful flower; hence it is for each to exercise right here the personal preference that makes for distinction in any garden.

Obviously I cannot go into the detail of the application of this test to all of the plants herein mentioned; but since they *are* mentioned, it is understood that they have measured up to an average higher than that of anything that has been omitted. The definite application may very easily be made by any one sufficiently interested to do a little figuring—just as any one's favorite that may have been omitted here may be tested and assigned to its proper place in relation to those here given.

Over-emphasis of Color Schemes

OF COLOR I am impelled to say that questions have been raised, in my opinion, that are utterly forced, that turn the whole matter into a chimerical bugaboo; and that it is high time we had the wisdom and the courage to look this fearsome creature squarely in the eye and see him melt away! The simple truth is that, barring a very few unlikely unhappy combinations, garden colors will get along beau-

tifully unless we ourselves set them at ears by expecting them to quarrel. In certain places and under certain special circumstances to be sure, it is possible to carry, by means of color study, a high degree of finished beauty into a scheme; and with this sort of legitimate interest in color I have no quarrel. But with the morbid finickiness that distinguishes certain lines of thought regarding color I have equally no patience! And would earnestly entreat that they be at once abandoned to the ignominy properly awaiting them.

The facts are that, for the beginnings at any rate, color will pretty well take care of itself; and not until beginnings have been made, and a planting tested by actually seeing it through a year's aspects will it be possible to enter upon those refinements of arrangement that lead to fuller and richer beauty. Unless you are planting with the idea of some very definite color effect or combination in mind therefore, I would urge going ahead in confidence and fearlessly, with faith in the general amiability of flowers and their good intentions toward each other. They will fully justify it.

Expansion As Time Goes On

SOMETIMES it happens that a border is planted complete at the time the work is done, and yet must expand afterward, through alterations or a change that extends the space which logically it should fill. This brings a problem frequently not well solved, since the gardener so often feels that it offers an opportunity for the introduction of altogether new material—new kinds I mean, as well as new plants. As a matter of actuality, the extending of an old border ought to be just that; never the adding on of a new

one. In other words, the same kinds of plants should repeat in the same general way or arrangement; the same spirit should prevail. Indeed, where it may be done, I prefer dividing the old clumps instead of buying new plants; and in this way actually extending the same plants through a greater space. By doing this too there is a uniformity of age and growth throughout that cannot be established in any other way.

If new kinds of plants are so greatly desired that they may not be denied however, confine the choice to new varieties of already established species if possible. If even this is too limiting, be sure to introduce such new material as may be used throughout the border and not just into the new portion. No more than a single clump of new perhaps will be needed in the original section to throw the suggestion of the new comer over it and take away the strangeness; but at least there should be this single clump, or single plant; and similarly, some of the original material should be transferred to the new section, bringing it into unity with the old. In other words, it is impossible to extend an old border and have it maintain its finished appearance without going over the

whole of it and breaking it up to a certain degree, and spreading the same spirit throughout—seasoning it, I may say, thoroughly from end to end with both old and new.

How Many Plants to Use

THE number of plants that may be required for planting any given area may be approximately determined on the basis of a plant to every square foot of space. Many require more space than this, but many also require less; the average therefore will about even up. Taking a border that is twenty feet long by four feet wide, for instance, it is very close to correct—as close as it is possible to come—to say that eighty plants will be needed to fill it, this being the number of square feet it contains. If you are using one of the lists appended to this article, which comprise ten kinds, you may therefore provide eight of each kind. This will plant larger sections of some than of others since some require more space and others less, and will not therefore give any sense of hard regularity to the border, as might at first thought seem inevitable. If a larger proportion of some favorite is desired, order as many less of one of the less fa-



THE TRUE SPIRIT OF THE COTTAGE GARDEN

Literally smothered in flowers, this tiny house lot achieves that intimacy with its Roses and Foxgloves that is the envy and despair of many a more ambitious dwelling

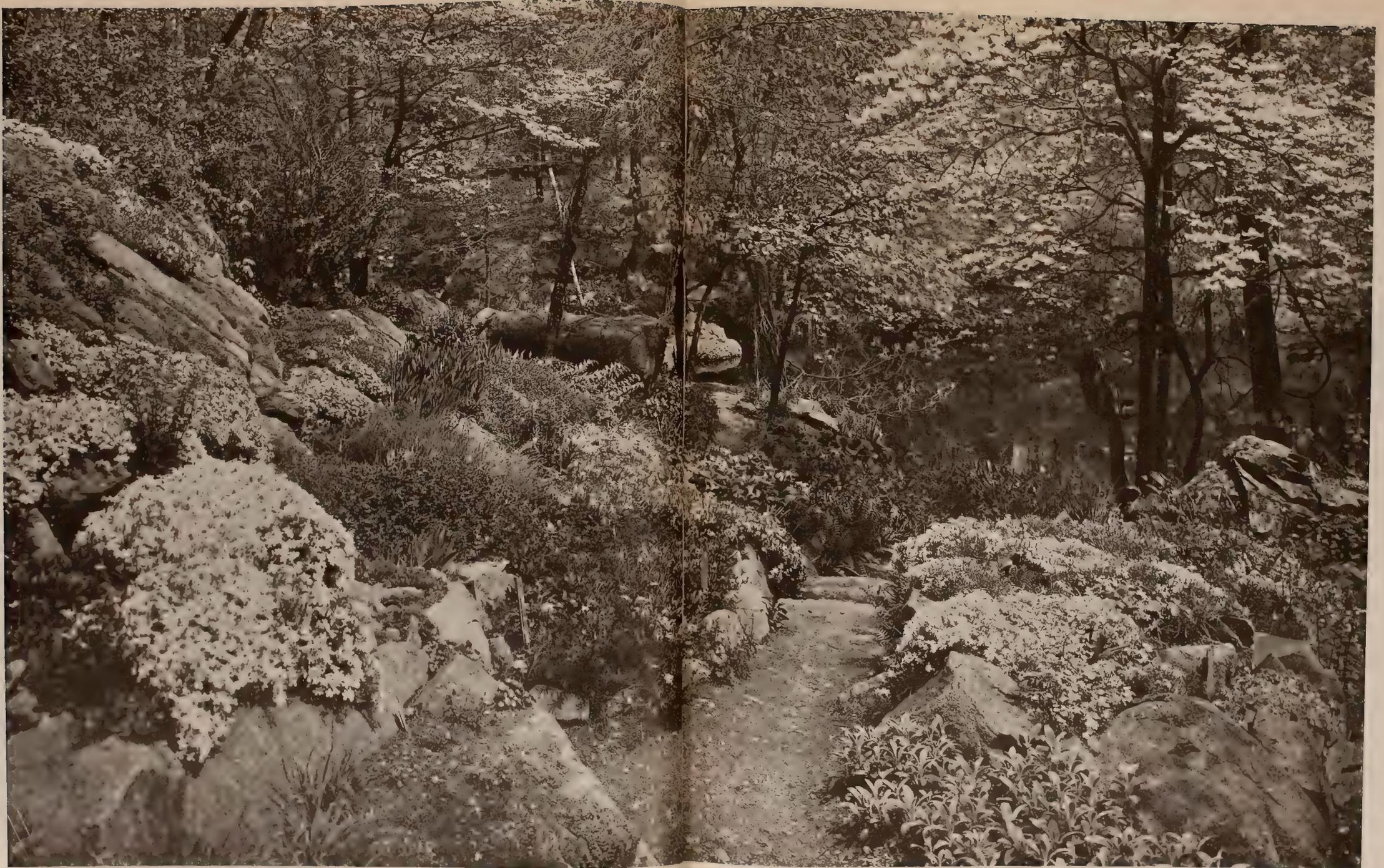


A ROCKY GLEN WHERE FLORA TREADS



Strewing familiar flowers to trim the crevices and adorn the stony slopes





A ROCKY GLEN WHERE FLORA TREADS

Strewing familiar flowers to trim the crevices and adorn the stony slopes

vored as you do more of the favorite; a dozen Foxgloves, for instance, to four Day Lilies, or ten Phlox to six Iris.

What the Market Offers

AT THIS season of the year herbaceous material is offered in pot-grown roots or specimens which furnish strong and sturdy beginnings for next summer's flowers; and where it is possible to use this sort of thing there are advantages, even though the piece seems to be less than a corresponding unit (or clump) of field-grown material. Actually this is only seeming, since the root system is, as a matter of fact, more dense and has the added advantage of being practically undisturbed in the handling. Field-grown plants are larger and more spreading both at top and under ground, but they lack the resistance of the more compact and definite pot-grown specimens; and they do suffer a slight set-back, inevitably, in the handling. Pot-grown material may be shifted into the ground without ever knowing it has been moved.

Of course the greatest advantage lies with the seedlings grown in the garden's seedbed, properly transplanted as they come along and finally set out in their permanent places early enough to become established before winter arrives. But there are many things that cannot be raised unless there are special facilities for handling them; and it is for many too troublesome an undertaking anyhow. So the pot-grown material may be regarded as the real standby, generally speaking. These are listed usually at from \$1.50 to \$2.50 per dozen, or \$12 to \$15 per hundred, and are sold at the dozen rate from six up, or at the hundred rate from twenty-five up.

Fall Planting and Protection

IT IS of the utmost importance that ground protection be given all fall planted material, whether it is herbaceous or woody. Unless it is protected the work might about as well not be done—and the plants as well be left unplanted. For under the action of alternate freezing and thawing which winter brings in practically all parts of the country, everything that is not securely anchored by roots that have grown into the soil will be forced up and out, sometimes completely. The winter mulch overcomes this by holding the ground frost-locked, once it is frozen; and this mulch is put in place therefore *after freezing*, by some planters. Since the ground will gradually freeze however even with the blanket of leaves or straw in place, I like having it put on when the leaves fall, and the general cleaning up of autumn is being done. The point to be borne in mind about the mulch is that its purpose is not to supply heat, but to keep things on an even keel.

Labels and Names—a Puzzle

AFTER each plant is set, put its label close beside it—or set the group label in the middle of each group. Even for those whose enthusiasm has not yet reached the plane of wanting to know their garden neighbors by name, this is the right way; for when they do reach this stage the introductions will be waiting for them, whereas if these are overlooked now, they can never be made. Label with the common or folk name if you will; but put the botanical appellation alongside or underneath. For only the latter is fixed and undeviating; folk-names vary and mean different things in different places.

And finally, when all the rest is done, have the stakes that will be needed early next summer, made ready for use so that none of the tall things that require staking will have to wait a day for it. Nothing is much worse than allowing a feeble growth to twist itself out of shape for want of support, and then attempting to straighten it forcibly by belated staking. It does not work; and it is painful to the observer.

In many of the kinds here listed there are fine horticultural varieties obtainable, and improvements are continually being offered. I make no attempt to name these however inasmuch as they are less significant than the species—but I would suggest that they be obtained, rather than the simple type from which they spring.

Planting, Dividing, and Replanting

JUST a word finally about the actual work of planting, whether it is separating old plants or setting out new ones. It is a matter of everlasting wonder to me that no one ever digs a hole for anything with a convex bottom instead of concave, inasmuch as everything that grows is hollow underneath instead of bulging! True enough, in the very nature of dirt and its tendency to run back down the sides of any hole that is dug, a hole is bound to be dished out and deeper in the middle than at the edges when just the digging is completed. But it would not seem to be a superhuman concept to meet the natural form of a root system by piling a little mound of earth—good earth too, since it is put in after the digging is finished—in the bottom of the aforementioned excavation, to form a cushion on which the plant may rest. More plants perish I believe through being "hung" instead of planted, than through any other one fault of handling. And a plant is bound to be hung when its roots are lowered into a hollow opening and earth piled on top of them.

Always mound some loose, fine top soil on the bottom of the hole for every clump of roots to rest on; then turn the

Some Suggested Herbaceous Perennial Combinations

Furnishing the Most Spectacular Effects

COMMON NAME	BOTANICAL NAME	COMMON NAME	BOTANICAL NAME
Bellflower	Campanula	Lily	Lilium
Foxglove	Digitalis	Marshmallow	Hibiscus
Hollyhock	Althaea	Peony	Paonia
Iris	Iris	Phlox	Phlox
Larkspur	Delphinium	Sunflower (small)	Helianthus

Furnishing All Summer Bloom for Various Conditions

For a General Mixed Border

COMMON NAME	BOTANICAL NAME	COMMON NAME	BOTANICAL NAME
Bellflower	Campanula	Iceland Poppy	Papaver nudicaule
Chrysanthemum	Chrysanthemum— garden varieties	Iris	Iris
Columbine	Aquilegia	Larkspur	Delphinium
Coral-bells	Heuchera	Phlox	Phlox
Feverfew	Pyrethrum	Speedwell	Veronica

For a Dry and Barren Situation

COMMON NAME	BOTANICAL NAME	COMMON NAME	BOTANICAL NAME
Baby's-breath	Gypsophila paniculata	Michaelmas Daisy	Aster grandiflorus
Butterfly-weed	Asclepias tuberosa	Poppy Mallow	Callirhoe involucrata, var. lineariloba
Evening Primrose	Oenothera	Rock Madwort	Alyssum saxatile
Flax	Linum perenne	Starwort	Aster novi-belgii
Lupine	Lupinus	Tickseed	Coreopsis lanceolata

For a Shady Situation

COMMON NAME	BOTANICAL NAME	COMMON NAME	BOTANICAL NAME
Bleeding-heart	Dicentra	Jacob's ladder	Polemonium
Day-lily	Hemerocallis	Japanese Bellflower	Platycodon
False Goat's-beard	Astilbe	Monkshood	Aconitum
Foam-flower	Tiarella	Primrose	Polyanthus
Foxglove	Digitalis	Shooting Star	Dodecatheon

plant upside down on one hand and spread the roots into their natural positions as nearly as possible. Retain them there with the other hand until they are reversed and lowered on to this earth cushion; sift fine earth over and into them, working it down thoroughly as you go along, and watering it down when the hole is filled to within an inch or less of the surface. Let the water settle until every bit is absolutely out of sight, then fill in the rest of the earth and rake up and clean up.

In dividing old plants it is sometimes possible to expose the root clump on one side only and cut away a portion—from a third to half or more—without taking up the entire plant; which saves labor for one thing, and is an advantage to the old plant remaining, especially if this is one of the kinds that dislike being disturbed. Plants that have been for a long time without dividing however will usually be benefited by a general thinning at the roots. It is indeed an axiom of the

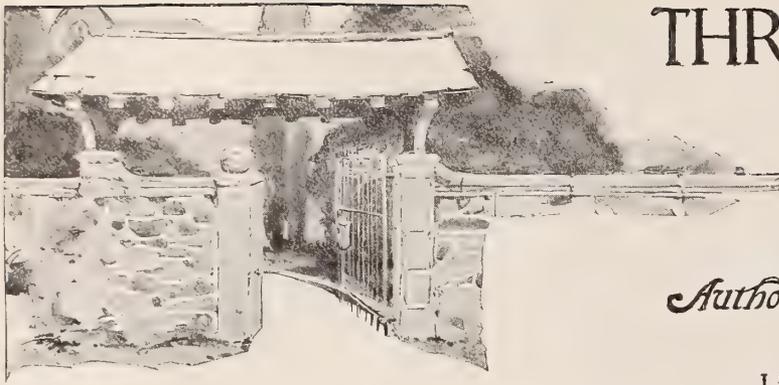
herbaceous garden that everything should be thinned and replanted about every fourth year, for continued health and vigor.

Many simply cut old root clumps apart with a sharp knife, but I like best working them apart and inducing them to separate at the points of weakest union. Afterward all the edges must of course be trimmed with a sharp knife, as ragged edges underground or above distinguish only the ignorant or the extremely careless and indifferent gardener. Small root clusters will of course suffice, if there is reason for making them small; but unless there is I would advise being generous when dividing and extending a border with old material. Otherwise the wait for it to grow and become established will be pretty long—and is sure to be correspondingly discouraging. As the whole idea of doing this work in the fall is to gain time, it defeats its own purpose if carried out on too meager a basis.



THE ABANDON AND RIOT OF WILD FLOWERS

These gay Pyrethrus, growing lustily above a wall in nondescript fashion, convince that any sort of place, be it in or out of a garden, is the right place for the herbaceous plants that are the garden's loveliest ornaments



THROUGH THE GARDEN GATE

By Louise B. Wilder

Author of "My Garden" and "Colour in My Garden"

Spring the young morn, and Summer the strong noon
Have dreamed and died for Autumn's sake.

RICHARD LE GALLIENNE.

Planting To Save Labor in Upkeep



THE problem of getting things done is at present such a pressing one that any device that reduces the things that must be done is surely to be welcomed. The care of grass eats up more labor than almost anything about the place, but by following the example of a wise gardener, the owner of a lovely garden in Westchester County, N. Y., a good deal of it may be eliminated and a new beauty added to the spring as well. The approach of bulb planting time recalls the very effective manner in which the care of grass was eliminated from all places where it was difficult to keep it in order. On all rough banks, along out-of-the-way paths, in shaded places where grass grows in an unkempt manner, she has planted the little blue-flowered Periwinkle, and beneath its reaching branches, masses of all sorts of bulbs. The dark, shining foliage and soft-toned round flowers make the best possible setting for the gay spring blossoms. First countless Snowdrops burst through, with a sprinkling of blue and white Scillas; then patches of Crocuses in many colors followed by bands of swaying Daffodils and lastly by Tulips, their bright colors brought to harmony by the spreads of blue Periwinkle between. When the last bulb has gone its way the little Periwinkle flows softly over all, maintaining seemingly order throughout the year and requiring no attention.

Lily Planting Time Comes Round Again

THE time has come to plant Lilies, and I want to say a word for our nodding Meadow Lily (*L. canadense*), as one of our wild flowers most fit to be brought into the garden. It is one of the most graceful and charming of this aristocratic family and is of easier culture than most Lilies. The slender stem bears anywhere from one to twelve or fourteen flowers according to how well the bulb is established and comfortable. Belonging to the Martagon group of Lilies, the soft yellow or orange petals are reflexed, but so slightly in this species as to give the flowers much more the appearance of bells than of Turk's-caps. The bells, gaily spotted within, are hung upon slender stems and the effect of a well grown stalk is most lovely and full of grace—quite devoid of the elegant stiffness that is frequently a characteristic of Lilies.

In many parts of the east meadows are aflame with these

Lilies during the early part of July and the bulbs may then be dug up and transplanted to the garden. At present they may be bought from the nurserymen. Lilies with both stem and basal roots, such as croceum, require very deep planting, but the Nodding Lily, having but the basal roots need not be put more than six inches below the surface of the soil. A piece of inverted sod beneath a Lily bulb and a covering of fine sand is a precaution worth the taking.

Nearly all Lilies grow naturally among some sort of herbage for even though they be sun lovers, the lower stem and the bulb require protection from the direct rays of the sun. In heeding this need of Lilies in general we are enabled to bring about many charming pictures. For association with the Nodding Lily no plant is so altogether delightful as *Gypsophila paniculata*. I found this out quite by accident. For the best effect the bulbs should be placed at least 18 inches from the roots of the *Gypsophila*.

Let's Call It the "Plum-Apple" Tree

NINE or ten years ago I secured from a well known nursery what supposed to be the Siberian Crab-apple. It was a fine sturdy little specimen with half-drooping branches and a graceful, open growth. It thrived, and the next spring, when prepared to welcome the snow-white blossoming of *Pyrus baccata*, we were mystified when the young branches wreathed themselves in a garland of so dark and rich a pink as almost to match the purplish-red leaves that were just beginning to unfold. Later came more mystification when in the late summer large, plum-colored fruits developed instead of the little yellow ones expected.

All these years we have puzzled over this tree. Every one who came to the garden has been attracted to it whether in fruit or flower, on account of its beauty and distinctness, but none had ever seen it nor could they throw any light upon its exact identity.

The children promptly christened it the Plum-Apple tree, for as one of them said "it looks like a plum and acts like an apple," so what more simple than to call it the Plum-Apple? And so it will always remain to us, I think, for its now discovered proper appellation is *Pyrus Niedzwetzkyana*. Even one's war Russian quails before it! The description found in last month's GARDEN MAGAZINE decides the identity. The curious purple flush that seems to affect the whole tree is seen even in the flesh of the fruit. This, to the adult palate is insipid and without relish, but the children consume the handsome "plum-apples" with apparent enjoyment.

It is our favorite flowering tree and I am glad to be able to recommend it by its correct, if formidable, name. Its early

blossoming—late April in my neighborhood—is delightful and its rich coloring at this season of delicate hues makes it a tree to be desired. The firm from whom I procured it offers both *Pyrus baccata* and *Pyrus Niedzwetzkyana*, but as the latter is described as bearing “a wealth of large white blossoms shaded pink early in the spring” it is not possible to predict just what an order for it would bring forth.

The Charm of the Old Garden THOSE of us who have known intimately a really *old* old-fashioned garden will doubtless be agreed that it possessed at least one endearing quality not always to be found in the finest modern gardens. I mean, to use a homely phrase, its “comfortable feel.” Like charm in a person, this attribute is not easy to define or elucidate, but when it is present it is always recognized and responded to; and the garden that has it is altogether delightful, and that without it, however well planned and carried out, leaves us cold, though perhaps considerably impressed. A garden, to fulfil all its requirements, should (it seems to me), appeal to the mind, to the heart, and to the imagination; should be a spot where repose is induced and the contemplative mood invited—where one feels easy and at home, and well companioned though alone. And, unless sentiment plays tricks with memory, all this one got in the really old-fashioned gardens.

Their peculiar charm was not dependent upon the presence of rare plants, an intriguing color scheme, or the latest thing

in garden furniture. Indeed, the old gardens it has been my privilege to know have been conspicuously lacking in these things—the simplest places in the world, with straight paths along which pear and quince trees marched among the smiling flowers, where Johnny-jump-ups scuttled in and out the Box edgings and Tiger Lilies flamed in the sun. There were white bee hives beneath the pear trees and many fragrances wafted about; and there was always a “green shade” at the point of weariness and a comfortable seat. In these old gardens one lingered to muse or chat, while in too many modern gardens one naturally repairs to the well-furnished piazza after the round of the garden has been made, its treasures and its artistic planting duly observed. Many of them seem as impersonal, as uninviting as the formal reception room, while the old garden is as warm in its invitation as an old arm chair.

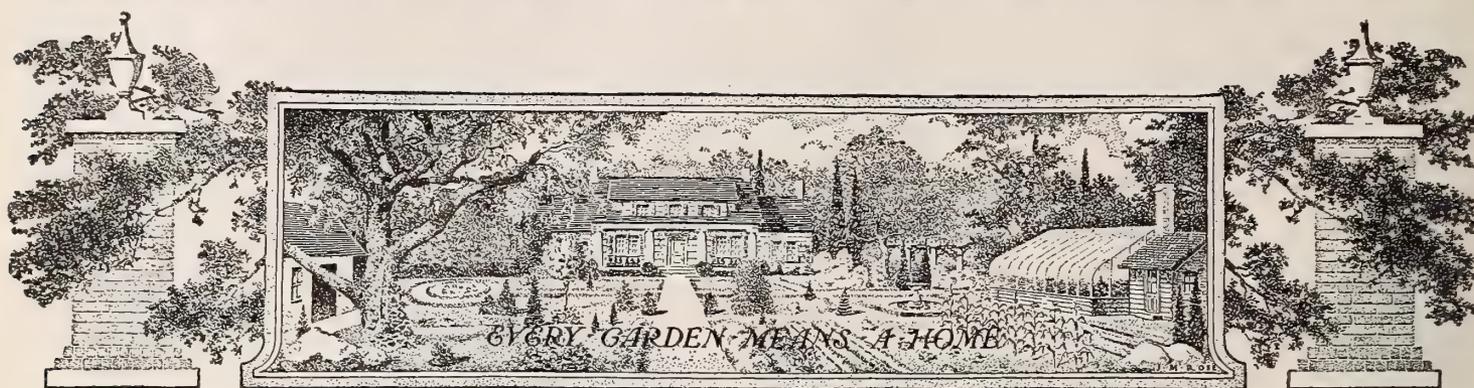
I don’t pretend to say what is the matter with us modern gardeners that we do not endow our gardens with this “comfortable feel,” but I do think that a closer study of old gardens, wherever we may see them, would be helpful; My own notion is that some sort of enclosure is necessary to gain the “comfortable feel,” or at least well defined boundaries; that trees are a help; that seats should be placed beneath the trees—and not in the sun; that there should be the sound of falling water and the music of birds and bees; and plenty of Honeysuckle and Lilac, and Heliotrope and such other long-loved fragrant flowers; for nothing so much as a familiar perfume so ensnares the wandering spirit.



THE REALLY OLD GARDEN HAS A “COMFORTABLE FEEL”

“Not dependent upon rare plants, an intriguing color scheme, or the latest thing in garden furniture . . . With its straight paths along which pear and quince trees marched among the smiling flowers”

AMONG OUR GARDEN NEIGHBORS



THE virtual closing of the doors to plants from foreign lands (except in the seed, or in limited quantities as stock for purposes of propagation) of the ordinary run of tradestuff raises once more the question of its actual merits as garden material in comparison with the plants that grow naturally in our country—the “wild flowers” if you will. The very fact that they are wild, or native, arouses a spontaneous reaction that may have no relation to their real merits as garden material. Some people would ask first of all “is it a native?” and if, “yes” be the answer, then it is, *ipso facto*, desirable or not, according to the school of opinion.

While it is unquestionably true that the native material is in many instances ignored just because it is native, yet, after all it is the essence of horticulture to find the plant that fits a given site or purpose irrespective of whence it comes. To cite a case that is typical: the Maidenhair-tree (Ginkgo), culturally speaking, stands in the front rank of available trees for ornament; and is equally well adapted to lawn and street purposes. The Oriental Plane is a better tree than our native one horticulturally—even under our own conditions. Because a plant happens to be born a foreigner does not seem to offer any reason why it should be excluded from our gardens. If we carried out that rule we would be excluding practically everything that goes into the make up of our gardens in the popular sense; the Roses, Spiraeas, Forsythias, Hydrangeas, and Peonies, to name just a few. Our standard of measurement should be serviceability—those plants that total highest in points of horticultural value, irrespective of their source and origin.

Of course, when we are dealing with herbaceous material, there is a good deal to be said for the use of the natives, if they are selected with care so that they are not plants that lend a character of wildness to the garden. That is the danger—a native plant may be too much at home. On the other hand, the mere fact that a plant exists in a certain region is not evidence that it is better fitted to that region than to any other on the globe, and could not do better elsewhere. In fact, we have much evidence on the other side of the case. A plant survives in nature, not entirely because of its adaptation; but equally as much because of the absence of its enemies. The Canadian Pondweed is a good case in

point—a controllable plant in this country, a rampant and uncontrollable pest in Europe.

Many exotics are driven to the tops of the mountains or to the tops of trees (some Orchids); but they grow better when brought to the lowlands and in soil; provided they are protected from their natural enemies—which is just what the gardener does in supplying soil, shelter, and special food.

As horticulturists we must bear in mind that cultural perfection is our standard. A plant that grows vigorously and fits the situation is horticulturally a good plant; and if it happen to be a native also, well and good; that may indeed be a supervening point in its favor. But we must not discriminate against a plant that through some cataclysmic force in bygone ages has been permitted to wander into the confines of Asia, while it has been excluded from America.

THE incentive to gardening has two origins. On the one hand is the strictly utilitarian demands of the flesh for food, hence possibly the first efforts at confining certain plants within prescribed areas and their removal from the conditions of the normal struggle for existence. The other source is the desire to acquire the unusual, or to enjoy pure beauty of form, texture, or color. And this latter is the greater (it would seem) as people turn more and more to the sheer enjoyment of having around their homes the most beautiful products of all the world. And the fact that we may not now enjoy them with the freedom of the past is irksome, to say the least.

Much human effort has been put into gathering the floral gems of the earth's remote corners, for the purpose of garden and greenhouse embellishment, and fascinating stories lie behind the discovery and introduction of some of the most popularly esteemed garden plants of to-day. Life has even been sacrificed in the effort to achieve the successful gathering of a plant as yet unknown in cultivation. The progressive plant dealers of Europe have in the past, despatched collectors to hunt out some plant at the merest hint from another traveller, or even inspired by the painting of a jungle scene in a little travelled part of the world.

When Miss Marianne North exhibited her Java pictures at Kew Gardens in the gallery presented by herself to house her gift, one plantsman, keen for novelties, sensed a sensational

thing in one of the paintings and at once despatched a collector to hunt for something quite unknown. This plant was later named *Nepenthes Northiana*.

It was that same horticulturist who at a later date sent Ernest H. Wilson travelling through central Asia for other new things for the garden merely on the strength of a memorandum note of a botanical collector. Yes, indeed, there is a good deal of human interest behind much that we accept as common-place; and it is something of this that Mr. Wilson will himself tell in the forthcoming series of articles that it is expected will begin with the October issue of THE GARDEN MAGAZINE.

IN HER article on "Texture in Landscape Planting" which is to appear in the October GARDEN MAGAZINE Miss Theodora Kimball, Librarian of the Harvard School of Landscape Architecture, uncovers an almost unsuspected

attribute of landscape beauty and shows further how important a factor it is. Studies of this character are the sort of thing that will bring into American gardens that degree of finished artistry that triumphs by concealing itself. Such studies also furnish a working basis for the establishment of a standard by which one may examine and correct and improve existing plantings.

Bulbs and Bulb Planting will be covered in practical fashion with a brief traverse of the growing and importing problems that, since the war, have made them one of the precarious elements of horticulture.

In November something of greenhouse design, construction, and use in association with the house will be sympathetically treated, with illustrations of the finest examples that have ever been built, as well as of the small, unpretentious but none the less efficient buildings.

THE OPEN COLUMN

Readers' Interchange of Experience and Comment

More About Dahlias

I READ with great interest your article on Dahlias on page 65 of the March GARDEN MAGAZINE but with still greater interest the note by John W. Chamberlin

on page 156 of the May issue—"Dahlias but no flowers, Why?"

His experience seems so like my own. For several years now I have planted despairingly. Last year I thought I had an ideal place—the very centre of a splendid potato patch, where they got good cultivation, the soil was deep, mellow, fertile and loamy. We raised splendid potatoes, large Dahlia plants and tubers galore—but no blossoms. Possibly three or four got out enough so I could see the color. Most of the buds blighted or dropped off just before it was time for them to open. I sprayed with Pyrox, arsenate of lead, sprinkled them with air slaked lime; but of no avail. They were covered with a small, hard shelled bug that was extremely lively, having a pair of wings. I think it must be the tarnished plant bug or the chinch bug. Are they the same? What can I do to get ahead of it, or drive it away? It was on my Gladiolus also but did not seem to damage them. Can any one tell me what to do for them?—RUTH G. KELLEY, *Union, N. H.*

—Not a description of the tarnished plant or rose bug which seems to be an inevitable concomitant of garden flowers, especially on light, dry soils. Neither is it the chinch bug.—Ed.

Does Cutting Back Injure Larkspur?

IN THE June number of THE GARDEN MAGAZINE I noticed the question as to whether cutting back injures Larkspur. My experience has been that it should al-

ways be cut back as soon as the stalks begin to get unsightly. My

Delphiniums are well established plants four or five years old and to-day the stalks measure from six and one-half to seven and one-half feet high and are fine and vigorous. I have always cut them back, when they fade, as far down as possible in order not to let anything interfere with the development of the new growth. The ground is cultivated and enriched with liquid manure and wood ashes. The second growth attains a height ranging from four to five feet.—Mrs. M., *Bedford Hills, N. Y.*

—In my perennial garden, started twelve years ago, the Larkspurs have always been cut back for a second blooming, with no apparent injury to the plants. We are 1,500 feet above sea level, and many plants listed as "hardy" will not survive our severe winters, but I have never lost a Larkspur. Last summer, for the first time, a leaf disease attacked the plants but the newer ones were affected as well as the ones originally set out. The second blooming of the plants was feeble, but this year they are coming up as vigorous as ever.—ELIZABETH L. CABOT, *N. H.*



A PLEASING VISTA IN A PENNSYLVANIA GARDEN

On the right a clipped Barberry hedge is used as a background for annuals. Kelway seedling Delphiniums and early Phlox, Miss Lingard, are in bloom on the left. Lombardy Poplars enclose this long border where stepping stones lead down a grass walk to a much-frequented bird bath.—Garden of Mrs. Walter King Sharpe, Chambersburg, Pa.

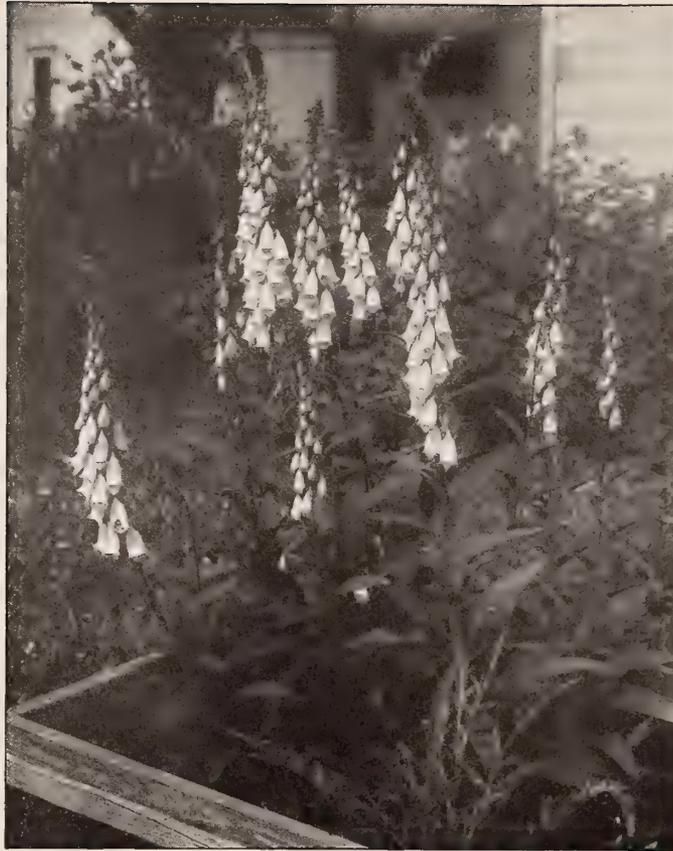
How Perennial Is a Foxglove?

THE one in the photograph is now in its fourth season. It is one of the maculata Iveryana strain, the throat handsomely spotted although it doesn't show in the photograph. It has fourteen spikes of bloom this year although some of them are so close together they are not distinct in the picture and some have been cut. It is three feet across, covering the width of one section of the cold-frame where it appeared as a waif and was allowed to remain. That accounts for its longevity, no doubt. The tallest spike was a little more than four feet seven inches in height! Although this particular plant has lived in a coldframe all its life, I have had good success in making my Foxgloves live for at least three seasons at which time they are at their best. The chief complaint against this very decorative plant is that it is so short lived, being regarded usually as a biennial. Here is the method I use to prolong its life for more than one blooming season.

When the best of the bloom has fallen and while there is still a tuft of flowers at the top and just as a quantity of seed pods are forming, I cut the stems off close to the ground and then give the plants a few doses of weak liquid hen manure. Side shoots develop and grow luxuriantly, forming good sized tufts. I grow my Foxgloves in straight rows for convenience in protecting them. When the ground is well frozen, I place planks supported by bricks of sufficient height just to clear the foliage without crushing it along the rows and then put on a mulch of straw or leaves. In this way I bring a majority of them through although a certain percentage dies. The trouble with the Foxglove is that the central crown is inclined to rot under the thawing and freezing of an ordinary winter. If it can be kept fairly dry and well drained it will pull through vigorously.—SHERMAN R. DUFFY, *Illinois*.

Help for Sedum Hunters

REQUESTS for help in locating Sedums as a result of my recent article have been forwarded me by the editor of THE GARDEN MAGAZINE and I am glad indeed to guide others, as far as I can, to the plantsmen who list Sedums in their catalogues. So kindly have I been looked after myself in this respect, because of my desire for *S. pulchellum*, that some of the information is but a passing along of what has come to me. The most comprehensive catalogue recommended is that of the Wolcott Nurseries, Jackson, Michigan, which carries the most unusual list among American nurserymen; *pulchellum* may there be found, and at Bobbink & Atkins, Rutherford, N. J., as well; here also, *Stahlii* and *Midendorffianum* are listed and I think their *S. lydium* may be *lydium glaucum*, a favorite which I had of Henry A. Dreer, Inc., of Philadelphia, but it has recently disappeared from his fairly good (in-



HERE'S A STURDY FOUR-YEAR-OLD

The popular Foxglove sometimes disappoints by dying out in winter. If it must be given protection, see to it that moisture cannot settle in the crown and so cause rot

teresting I mean) *Sedum* list. This glaucous *Sedum* of mossy growth, may be had, however, with other good things in the *Sedum* line of the Julius Roehrs Company, Rutherford N. J. I am told that R. & J. Farquhar, of Boston, carry "besides the varieties usually offered, three or four pleasing sorts, *Maximowiczii* among them." And I know from experience that the Wyomissing Nurseries Company, of Wyomissing, Pa., (Mr. Bertrand H. Farr) is another excellent source of supply for these little plants that you and I like so much. I have also found in Mr. Edward Gillett, of Southwick, Mass., a reliable plantsman whose *Sedum* list is to be considerably extended another year, he writes me. My little collection has been increased this season, it may be worth recording, by *S. replexum*, *sexangulare*, and *ternatum* from Mr. Gillett's, and by most unexpected gifts of *roseum*, *telephoides*, *pulchellum* and more *teratum*. I am finding the Annual Stonecrop (*Sedum caeruleum*) very interesting to grow. The only one I know of whom seed may be obtained is A. T. Boddington Company, New York City.—ALICE RATHBONE, *Chatham, N.Y.*

Sowing Annuals in Summer

I THINK that if I lived as far south as A. H. Botsford does (Delaware) I would not need to sow seeds of annual flowers in summer for the next season, but would depend on a volunteer crop. Possibly, though, the climate does not have the effect that I imagine. I am here in western New York, fairly overburdened with self-sown annuals. I recall a sparing growth of Snapdragon, *Aquilegia*, *Arabis*, *Aster*, *Cleome*, *Coreopsis*, *Evening Primrose*, *Feverfew*, *Foxglove*, *Kenilworth Ivy*, *Lychnis chalcidonica*, *Pansies*, *Petunias*, *Pinks*, a good showing of *Balsams*, *Campanula medium*, *Candytuft*, *Cosmos*, *blue Flax*, *Forget-me-not*, *Morning Glory*, *Portulaca*, *Sweet William*, *Vinca*, and a profusion of *Bachelor-button*, *Eschscholtzia*, *Calendula*, *Calliopsis*, *Hollyhocks*, *Larkspur*, *Nicotiana*, *Poppies*, *Rudbeckia hirta* (*Black-eyed Susan*), *Sunflowers* (yellow and red, annual and perennial) *Sweet Alyssum*, *Wild Cucumber*. The *Polygonum orientale* became such a weed that I had to discard it, as I did the *Ranunculus Ficaria*. The *Marigolds*, *Nasturtiums*, *Phlox*, *Salvia*, *Stocks* and *Zinnia* seldom self seed. These plants flower earlier than from hand-sown seed. Here ought to be variety enough to satisfy any one. The difficulty is that the cultivator seldom thins the plants out or arranges them by transplanting enough to keep them from overrunning the ground, which makes cultivation difficult and encourages weeds. The best plan is to thin out as soon as blossoming begins, so as to be able to save the best. It is also necessary to buy new seeds now and then, as it always is with the amateur. I was at first astonished to find that tender sorts like *Poppies* would winter like a *Dandelion* if the seed came up in the fall. The *California Poppy* tries to be a perennial with me, or a wintering annual, but it usually freezes. The Annual *Larkspur* is

just now (July) my most showy flower. I hear little praise of it, but am much interested in it. New shades often develop. I suppose they "throw back," as animals do. A word as to transplanting. This season was perfect for that so long as the heavy rains kept up, but after May 23d it seldom rained, so I had to fall back on my old scheme. I dig a hole as big as my fist or bigger, pour it full of water, hold the plant in the water where I want it and trowel the water full of earth till the plant will stand alone. That is all. It will grow about as surely in dry weather as in wet. If any one knows a better plan I would be glad to hear about it.—JOHN W. CHAMBERLAIN, *Buffalo, N. Y.*

**Transforming
the Back
Lot**

I AM very proud of my little garden or really my first garden as I now have an extra lot 45 x 150 devoted to flower and vegetable garden in addition to this. The garden seen in the picture is 40 x 50 and is 4 feet below level of back of my original lot, being part of the back lots fronting on another street. It was a briar patch and an eyesore to me so I bought it and transformed it thusly. Gardening is my hobby and recreation and my list of plants contains all the best hardy perennials. Besides all our own vegetables and fruits we have plenty for free contributions to our neighbors. One of the greatest delights I get from my little garden is growing wild flowers.—F. D. CARR, M.D., *Batavia, N. Y.*

**Sowing New
Zealand
Spinach**

IN THE June issue of THE GARDEN MAGAZINE I see the statement made— "It is sowing time . . . for crops for summer use such as turnips, New Zealand Spinach, etc." This may be good book knowledge but as regards New Zealand Spinach (having grown it for several years past I am able to inform the readers fully), it is not the most satisfactory time for planting. For the home vegetable patch it is one of the most desirable vegetables, combining all good qualities and having not a single bad one. It is slow to germinate and therefore the time to sow it is not June, May, April, or March but October or November before the ground may be expected to freeze. Then sow it thickly in a patch—say, three feet square. The plants will come up good and strong the following spring. Then transplant when of suitable size to a bed not less than three feet wide—say, in two rows six inches apart and alternately—say ten inches apart in the rows. They send out long vines resting on the ground fully three feet and over. Pick the leaves off separately, boil, and season to taste. From late June until a killing frost comes one can have a constant supply of this delicious vegetable. It is equally as healthful as the common spinach and grown in much greater ease—practically no care at all except a little weeding about the roots. It is a rampant grower not subject to disease or insect attacks. Of course, no one will grow chard any more—horrid nightmare—after having grown New Zealand spinach. Just pick the leaves and let the vines grow.—G. E. BEHR, *Englewood, N. J.*



TRANSFORMED FROM A BRIAR TANGLE AND AN EYESORE

Plenty of flowers the season through (and improving each year) from this redeemed plot at Batavia, N. Y., and the satisfaction of having plenty to give away to neighbors



—The Educational Value of Flower Shows”

MOST people might gain a good deal of information and often a deal of practical inspiration by visiting the important flower shows of each season, even if it involves a little journey. Perhaps all the better then for something of a vacation flavor may be infused. The great advantage is the opportunity of seeing the novelties displayed by the introducers. Standard and cultivation may also be measured—often alas to the point of shattering ones self-complacency as it is realized that “one geese are not swans” usually. Of course the Dahlia is in the height of its glory this month and New York City is the chosen place of the meeting for the American Dahlia Society from the 23rd to 25th at the Engineering Building. Dahlia enthusiasts on the Pacific coast are called to San Francisco September 4th, 5th, and 6th for the exhibition of that very much alive organization, the Dahlia Society of California. Dahlias will be featured with fruits and vegetables by the Massachusetts Horticultural Society at Boston, September 11th to 14th. The Rhode Island Society honors the flower at Providence September 18th and 19th. “Dahlias and other outdoor flowers” form the occasion of the Pennsylvania Horticultural Society show at Ardmore on the 16th and 17th; and a general fall exhibition is at Hartford, Connecticut, September 9th to 11th. Of course there are any quantity of minor and local exhibitions more or less pretentious which demand the cordial cooperation of near-by gardeners. One local affair with an almost national interest is that of the Short Hills, New Jersey, Garden Club on September 26th and 27th to which the public is cordially invited. At the opening of the show the members of the Garden Club of America will be entertained by the local body.

—New Developments in Urban Gardening Interests”

THE phrase “city gardener” has already carried a sort of patronizing, uncomplimentary significance, just as the term “book farmer” used to; but it begins to look as though e’er long the former would follow the latter into the limbo of obsolete expressions. One reason for the changed attitude will doubtless prove to be the City Gardens Club of New York City. This is the outgrowth of an idea conceived about a year ago but visualized during the last winter. Its purpose is to effect the greater beautification of the metropolis by planting and caring for growing things, and the activities of its members—all of whom are women—are directed along two general lines. The first involves the development of their own city backyards and the stimulation of friends and neighbors to carry on a similar work; and the second aims at the beautifying of the city through the planting of parks, plazas, and all available open, public spaces. The first plan is of course, not original with this club, nor with its founder, Miss Frances Peters, who was first attracted by the results that had been attained in many European cities and a few in the United States. Already the club has held, in conjunction with one of the monthly flower shows of the New York Horticultural Society, an exhibition of photographs, plans and sketches showing what has been done, and suggesting what can be done, in developing the inter-block areas of New York which for the most part are still uninviting vistas of board fence, clothes poles, unkempt yards, and, occasionally, an emaciated, spindling tree.

To carry out the second object, a committee on open spaces is urging each member to take charge of one spot, such as the triangle at the juncture of two avenues, the space in front of a public building,

etc., where beautification by means of planting is possible but has not been carried out. The women who brought the City Gardens Club into being are well known and active in social and civic affairs generally, and include Miss Peters, its president, the secretary, Mrs. John A. Dix of 119 East 79th Street, Mrs. James S. Metcalfe, Mrs. James Lees Laidlaw, etc. There should also be mentioned the two honorary members—Secretary of Commerce, William C. Redfield and Dr. N. L. Britton of the New York Botanical Garden.

—New Peonies From Out of the West”

THAT all the good things do not necessarily come from the East has been of recent years more or less definitely brought before gardeners in several ways, but in none more forcibly than through the work among Iris and Peony—the herbaceous plants that seem to be almost ideally fitted constitutionally to the widest distribution in our country. The Northwestern Peony and Iris Society (Minneapolis) is doing valiant service in fostering its particular culture and as was noted last month, its recent annual exhibition conferred honors on certain novelties. The names and descriptions are here appended and are official:

Victory Château Thierry (Brand 1919) 1st Prize. An immense flower of a soft even shade of pink. Flowers produced on stout, medium length stems which hold the great blooms rigidly erect. Foliage large and clean. Petals uniform in shape, very broad and evenly rounded on the edges. Type, semi-rose. A very beautiful and distinct peony.

Myrtle Gentry (Brand 1919) 2nd Prize. Type not definitely established but probably rose. A most beautiful peony resembling very much a first class bloom of L’Indispensable in shape size and color but not subject to water-logging as is that wonderful variety. Large, symmetrically formed blooms produced on long stiff stems. When cut in the bud and developed inside has the wonderful coloring of Tourangele.

Mabel L. Franklin (Franklin 1919) Not yet exhibited. Full rose type, color two shades of light pink, perfectly blended, the outer petals being of lighter color than the centre. Very vigorous grower and a free flowering variety. Blooms of immense size and possessing an enchanting fragrance and wonderful substance and lasting quality. Inner petals delicately margined at edge with lavender. Stems long and stiff holding the immense blossoms erect. In a class with Therese.

—Seed Growing at Home”

ALTHOUGH “there is a general belief . . . that the seed obtained north or south or somewhere away from home is better than home grown seed,” many experiments have shown “that in nearly all cases the contrary is true,” says Bulletin 216 of the Maryland station. It assumes that this mistaken notion is based on facts that apply to “a few crops like potatoes, cabbage or spinach, that are grown extensively in regions not adapted to their seed production.” Viewing the moot question as to whether the individual gardener should attempt to grow or save any of his seed, the bulletin says with dispassionate scientific conservatism, “The conditions that favor the growing of seed elsewhere are: more favorable climatic conditions for some crops, less danger of crossing where grown on a large scale, sometimes freedom from diseases prevalent at home, better trained growers and more economical production where seed growing is the sole interest.

—Brown Patches On the Lawn”

WHICH are disfiguring annoyances and usually attributed to drought because they come in the summer time are in fact, caused by a fungus which attacks the grass and finds congenial conditions in hot muggy weather on ground which is kept too moist by heavy sprinkling or insufficient drainage. The best cure is thorough drainage. Persistent spraying with Bordeaux in amount just to moisten the grass without wetting the ground is resistant to the disease. Our Bermuda grass for the South and blue-grass of the North are immune to the disease.

The Month's Reminder

"Come with me, then, behind the scenes, where we are concerned only with the joys of plant increase and rejuvenation"

The Reminder is to "suggest" what may be done during the next few weeks. Details of how to do each item are given in the current or the back issues of THE GARDEN MAGAZINE—it is manifestly impossible to give all the details of all the work in any one issue of a magazine. References to back numbers may be looked up in the index to each completed volume (sent gratis on request), and the Service Department will also be glad to cite references to any special topic if asked by mail.

When referring to the time for out-door work of any sort New York City at sea level in a normal season is taken as standard; but at best dates can only be approximate. Roughly, the season advances northward fifteen miles a day. Thus Albany, which is one hundred and fifty miles from New York, would be about ten days later, and Philadelphia, which is ninety miles southwest about a week earlier. Also allow four days for each one degree of latitude, for each five degrees of longitude, and for each four hundred feet of altitude.

SEPTEMBER—THE "TURNING POINT"

 THE peak of the work for the current season's garden has been passed and a period of preparation for next year is upon us. Turn the old compost pile once more; it should be ready for use by next spring. The new one, started last spring can be added to all this fall; next summer will be its period for rotting and getting in good usable shape.

Get out hotbed sash for as many frames as you plan to use this fall and see that they are in good condition. Make any repairs that were forgotten or overlooked in the spring rush.

Build a fire in the greenhouse boiler and try out the system before it comes time to light up for good. This is a much better time to make plumbing repairs than when the mercury and the snow are falling simultaneously.

Trim up all out of the way fence corners, burn brush piles, weed, rake and roll the walks and drives once more, and put the place in shipshape condition before the frosty weather makes indoors too alluring.

If there are clumps of crab grass in the lawn—they can be recognized by their reddish brown color—now is the time to cut them out with about an inch or so of sod and add them to the compost pile where they will rot. Fill the holes from which they were taken with good soil, make it level with the lawn surface, and rake in some fertilizer and grass seed.

Clean up the greenhouse glass, especially if you are going to grow any vegetables there. They need plenty of light.

Hotbeds in which plants are growing must be handled carefully this month. The plants need all the air that is safe, but they must also be gotten gradually used to artificial heat. At the same time, the September sun is often hot enough to cause serious wilting if allowed to shine full force through the sash. Keep some shading material handy.

Early Fall Work With the Fruits

 Don't leave fruit on the trees after it matures. And in picking remove all diseased and imperfect specimens as well as the good ones. Throw them in a separate basket and feed them at once to hogs or burn them.

When you have gotten all the fruit from a tree, don't leave it without looking it over and putting it in shape to stand the winter. Clean up any broken or damaged branches, support the halves of any crotches that are likely to split under the weight of ice or snow, and save yourself both losses and extra work during winter and early spring.

Beginning the latter part of the month plant out more fruit of

Gathering Strength for a New Start

1. Plan well ahead. Prepare for some sort of winter garden, whether it be a well equipped greenhouse, a cool conservatory on the south side of the house or garage, or merely as many indoor window boxes as you can accommodate and take good care of.
2. Read over again all the planting reminder notes for March and April. They are all applicable to the fall planting season that begins about the middle of September and continues until frost.
3. Continue to care for everything that is still growing. Just because the season is waning, don't waste crops that need a few weeks more to become fully usable.
4. Keep the garden cleaned up at all times. Rubbish that can be disposed of day by day without effort will accumulate and present real difficulties by late fall.

all sorts—except strawberries and, in cold sections, peaches and apricots. You can keep up this work until the ground freezes.

Keep the newly planted strawberry bed cultivated and all runners cut out from between the rows. This is a good time to rake in some fertilizer between the rows.

If any of the blackberry or raspberry bushes are getting old and poor, better pull them out and burn them promptly. As noted above this is a splendid time to replace them with new stock. You can make cuttings, too, if you want to propagate any plants that you think particularly well of. Currant cuttings can also be taken; and similarly new plants can be set.

Fruits will keep well and for a surprisingly long time if conditions are right. Are they, in your cellar, pit, or other storage place?

Keeping Up the Supply of Flowers



If you are really interested in getting better results yourself, attend all the flower shows you can and study what other folks are doing or have done. Then try to find out how they achieved their success. Another way to learn invaluable facts—and one of the best—is through the experience gained by exhibiting a little yourself. You don't have to win a prize or even recognition in order to gain a lot from the personal contact with other flower lovers.

Get together all the old burlap and other cloth, or mulchlike material of any sort, that you can, and put it in a convenient place so that you can cover your tender plants the evening of the night that the first frost strikes. It is likely to be a light one of brief duration, so the plants saved from its sting should be good for several weeks more without further coddling.

Later on, of course, you will want a permanent winter mulch for the perennial beds, etc.—and, come to think of it, now is a good time to look about for and store up this material too.

If you ran short of permanent beds—that is beds for permanent, hardy flowers, this past summer, now is a good time to make more in preparation for next season's needs. In doing this (as advised in early spring), dig deep, put in ample drainage material, add plenty of well-rotted manure, and mix thoroughly; then leave unplanted to settle for a few weeks. You might even sow a cover crop to be dug under next spring, just as is done in the vegetable garden with such good results. This is especially true if the soil is very light or very heavy, or otherwise in need of humus.

Order bulbs if not already in hand, and also shrubs that will be wanted for fall planting. Any bulbs that you now have can be set

out all through this month. The shrub planting had best be delayed until after the fifteenth when the chances of frequent rains are a little brighter. But the sooner the soil is prepared for them the better.

Plant *Peony roots*. Remember they are long lived and want deep soil, plenty of plant food in it, and good drainage underneath.

Continue to *save seed* from the best of the perennials as long as you have a place to put it. It can be sown all this month, either outdoors or in a hotbed for future transplanting and subsequent indoor or garden culture.

Lift and *pot any outdoor favorites* for a second supply of flowers indoors. Do this in at least two steps: First cut back the plants and root-prune with a sharp spade. Then a week or so later really lift them out of the soil and put them in pots. In all such operations spade up a much larger ball of earth than the pot you plan to use will take; then with a pointed stick comb away part of the soil so as to leave as large a mass of fibrous roots as possible. When in the pot, work the new soil down around these with a stick. Lifted plants in pots should not be allowed to check or wilt for even a minute. To prevent it, put them in a shady place at first protected from strong winds, and sprinkle frequently. After a week or so bring them in to a little brighter light, and gradually accustom them to increased warmth and the glass covering of hotbed or greenhouse.

Bring in the soil and *fill the greenhouse benches*, providing, of course, that these have been cleaned and disinfected as urged last month. While you are at it put under cover enough good potting soil for all winter operations and for filling flats and bulb pans early in the spring.

Keep the *Chrysanthemums* well supported and the side shoots nipped off. Use sulphur to keep them free of mildew. Bring in any that are still in pots outdoors.

Any *house plants* that have been plunged all summer, and that show signs of being potbound, should be repotted either into a size larger pot or, if this is inadvisable, into new soil.

Begin work on the *indoor window boxes*. Buy small plants from the nearest florist if you have not been able to start any yourself.

Make more *cuttings of Coleus* and other bedding plants. Remember always to use clean, healthy, well-ripened wood. You can start *Clarkia* seed now for indoor flowers this winter.

Things You Can Do For the Vegetables



You can *plant new asparagus and rhubarb beds* now just as successfully as in the spring. In fact you can save time, for a bed planted now can be safely cut a year from next spring, while one started next March or April ought really to be left for two years before it is asked to yield.

About all you can plant now for direct return—and that only if the season is moderately mild—is cabbage to be wintered in frames, and *corn salad, dandelions*, and a few other *hardy pot herbs* that can remain in the ground all winter to be used early next spring.

But if you have greenhouse facilities with which to carry on *winter vegetable growing* activities, now is the time to plant cauliflower for holiday season harvests and string beans for December or possibly November eating.

There is a chance, too, that you can mature one more crop of *lettuce, radish, beets, spinach*, and very *early beans* in hotbeds. They will need careful handling, however, in order that they shall enjoy the benefit of all the sunlight and ventilation possible without being caught by the first heavy freeze or smothered by sudden excessive protection.

Keep all ripe *tomatoes* picked promptly during the month, and all diseased or injured specimens cleaned up from around the plants. About the end of the month pick all full sized fruits that are just beginning to color and put them in a sheltered, sunny place really to ripen. Green fruits should then be used for pickle making.

Dig the main crop of *potatoes* if the vines have died, and sow the ground to rye at once. Unless you are ready to begin using this crop store it in a cool and *dark* place.

Speaking of *rye as a cover crop*, sow it constantly, wherever a little ground is left bare in your harvesting operations. For maximum results add some winter vetch seed. Use about a pound of the mixture to every six hundred square feet.

Pull the *beets*, twist off the tops and store in the cellar or a pit. Get the *onions* in before frost. Be sure they are thoroughly dry and well ripened before you put them away in sacks for the winter. Use loosely woven sacks, too, so that the bulbs will be well ventilated and kept from heating.

Handle *winter squash* and *pumpkins* with the utmost care. Decay organisms enter through almost imperceptible bruises and abrasions. Also leave about four inches of stem on each gourd NOT to serve as a handle, but to avoid leaving a soft, unprotected spot where it came off. These fruits keep best if kept for two or three days in a very hot room—at a temperature say, of 100 degrees F. or more—to dry out before being stored in a warm, dry place where the mercury never goes below 65 or 70.

Cut asparagus stalks any time now and burn them. Mulch the bed well if not already done.

Get plenty of *mulching material* together for use on other perennial vegetable crops as soon as the ground freezes.

Continue to *hill up late celery* as long as it keeps on growing above the level of the soils. But do this only in the middle of the day when the plants are dry.

In *harvesting the root crops*, don't touch salsify and parsnips. They are benefited by one or two good stiff frosts—in fact they can be left out all winter without suffering any injury, to be dug and used as needed.

Don't let *rubbish in the vegetable garden* accumulate any more than on the front lawn or in your work shop or private office. It is unsightly, it is a nuisance, it is an actual danger in more ways than one.

Tie the leaves up around the *cauliflowers* as fast as the flower heads begin to show. But do this only when both inflorescence and leaves are dry or you will get nothing but a rotted head for your pains (The cauliflower's of course, not yours).

Kale, like *parsnips* and *salsify*, is improved by a frost or two.

Wherever anything is still growing (and there ought to be a good deal) keep up the regular garden care just as if *winter were six months off* instead of two. Remember, weeds will grow just as long as, if not indeed a little longer, than the more valuable plants you are trying to raise.

THE AUGUST PEONY ARTICLE

To the Editor of The Garden Magazine

ON PICKING up the August GARDEN MAGAZINE I have been amazed beyond expression to find that the Peony article under the caption "Masterly Inactivity is the best thing for the Peony" is simply a copy, word for word, of a little booklet, the text of which I myself wrote, and which we send to every patron. I enclose a copy. With the exception of the first three lines of the article, as you print it, and a three line "interjection" by the Editor, there is not a line or word that is not my very own. There is no word, thought, or suggestion from any other specialist, nor—excepting three lines—from the "author." I am assuming that you are unaware of the facts and believe that you will do something in THE GARDEN MAGAZINE to mend this matter.—WILLIAM W. KLINE, *The Mobican Peony Gardens, Sinking Spring, Pa.*

—This article was not mailed to GARDEN MAGAZINE by Mr. Howell, its author, but came from one of the audience that heard his lecture. Only the material published was received, and this was accepted in good faith by the editors as "the substance of" the address, whereas it was instead merely material to which Mr. Howell referred.—Ed.



A Glimpse of One of My Festiva Maxima Blocks

PETERSON'S PERFECT PEONIES

Many years ago, when a boy, I had an ambition—an ambition still unsatisfied.

I then planned that when I grew to be a man I would plant at least one peony in every garden in the world.

I have since found this world to be much bigger than it seemed to me then and, while I have sold literally hundreds of thousands of peony roots, I realize that there are still many flower lovers who do not really know and love the peony as I have known and loved it for over 40 years.

And so that you may learn more of this flower and its marvelous development, I publish annually a beautiful booklet entitled

"The Flower Beautiful"

which you will find both interesting and helpful. The 1919 edition is now ready and it's yours for the asking.

Remember, please, I not only GROW nothing but peonies and roses, but I DO nothing else. My entire time, the year round, is enthusiastically and exclusively devoted to these two flowers.

GEORGE H. PETERSON

Rose and Peony Specialist

Box 50

Fair Lawn, N. J.

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WHY WE LEAD

BECAUSE of the study of, and devotion to, the Peony alone,—an undivided allegiance. It's significant.

BECAUSE our system of cultivation is unmatched in this country. Every root given individual and intensive culture,—as in a private garden. Ask those who have been here.

BECAUSE we do not send out a root until—regardless of its age—it has bloomed satisfactorily here the spring prior to its going to you. Some of the plants we deliver are three and four years old—with no advance in price.

BECAUSE there are not 2000,—nor 1000,—nor 500 distinct varieties; but scarcely more than 100; and we have "spiked the guns" of the duplicates at high prices.

There are lots of POOR Peonies; why not have the benefit of really expert advice. Our fame is nationwide. 'Most everybody everywhere knows of the ABSOLUTE SUPREMACY of our Peonies. Do you? One of the REASONS is because

WE GROW PEONIES —NOTHING ELSE

Suspensions of the other reasons will be awakened by our catalogue. Instant confirmation of them if you could visit our grounds and see the plants growing—the stock we send to you. Ask those who have been here.

"OUR REPUTATION HAS BEEN BUILT ON THE QUALITY OF OUR STOCK"

DISTINCTIVE CATALOGUE NOW READY

Mohican Peony Gardens, ^{BOX}300 Sinking Spring, Penn'a



Dreer's Reliable Spring-Blooming Bulbs

DO NOT miss the joy of having a bed or border of Bulbs next Spring. Plant them this Fall as early as you can and success is certain.

We import the very highest grades of the finest varieties and offer in our Autumn Catalogue splendid collections of Hyacinths, Tulips, Narcissus, Crocus, Lilies, etc., etc.

The Fall is also the time to set out Hardy Perennial Plants, Vines, Shrubs, etc. Our Autumn Catalogue also gives a complete list of seasonable seeds, plants and bulbs for out-doors, window-garden and conservatory.

Mailed free to anyone mentioning this magazine

Henry A. Dreer, 714-16 Chestnut St. Philadelphia, Pa.



Have a "Fleur de Lis" Iris Garden

Is there a little nook in your garden where you can rest and "chum" with the glorious flowers named after the Goddess of the Rainbow? Truly, every color of the rainbow may be found in the hardy Iris, or Fleur de Lis, a flower whose fascinating beauty must have been meant to bring peace and rest to humanity. Learn to know Irises at their best by planting

Childs Select Named Fleur de Lis

Like glowing velvet and scintillating precious jewels, Iris, in their season, eclipse in beauty every other flower in the hardy border. To enable you to know Iris as we love them, we offer postpaid,

20 best named Garden Iris, all different, for \$1.25
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Both collections, with 3 Iris Pumila, for \$2.25
In superfine mixture, 20 Garden or 10 Japan, \$1.00

We grow acres of Irises, Peonies, Lilies and other hardy bulbs and plants for all planting.

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JOHN LEWIS CHILDS, Inc., Floral Park, L. I., N. Y.

Rare Plants from California

My new fall catalogue offers, to people in the east, a large collection of exotic blooms—novelties entirely out of the ordinary—which are not obtainable from eastern growers.

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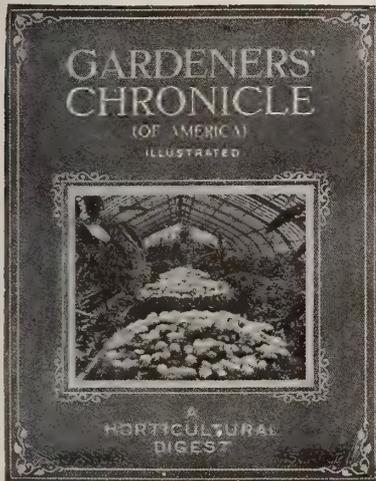
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1914 at Boston—Massachusetts Horticultural Society. Gold Medal for popularizing the Peony.

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In addition we have won over two hundred first and second prizes in keen competition.

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PLENTY of running water at the turn of a faucet for kitchen, laundry, bathroom, garden and lawn, will add more comfort to the home than any other improvement you could make. The installation of a Deming system means lightened household labor, healthier children and more beautiful grounds.

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RARE AND CHOICE

Peonies, Irises, Phloxes, Etc.

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"If the reader is interested in standard varieties of Peonies, do not fail to send for our descriptive catalogue of the best sorts."

OBERLIN PEONY GARDENS, Sinking Spring, Pa.

When the Winds Blow and the Snow Flies

you will appreciate a screen of Arborvitae, or Pines, or Spruces. Some of my large sized trees will give the desired protection this winter, adding to the comfort of your home and the beauty of the grounds.

*Write me to-day
about Evergreens*

I have an exceptionally fine collection of Evergreens for large and small plantings. My catalogue (which will be sent on request) gives full details, sizes and prices.

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Norristown, Penna.

The OPEN COLUMN

Readers Interchanges of Experiences
and Ideas

What Makes A Tree Hardy?—Pondering the question and working among trees will sooner or later bring to the attention a salient fact that apparently is the underlying cause for some species' ability to thrive where many fail. There is no tree that has actually proven itself hardy on the Northwestern prairies that is not a wet-wooded tree. This term may mean much or little, but for want of a better term we are compelled to use it and must trust to our discussion to give it a concise meaning.

Saw into a Cottonwood at any season of the year and the sawdust will not only be moist but unmistakably wet. Chop into a green block of this wood and the only time the sap will not spurt up is in winter when it is frozen. A Cottonwood is undeniably hardy in the Northwest. The wetness of Willow would seem to be demonstrated by the fact that when a live tree is felled, the log if left unmolested will send forth new sprouts. In one instance an eight foot log cut out of a newly felled Willow was left lying on the ground with the purpose of hewing it into a seat when time should afford the opportunity. On this log there grew more than ten sprouts that attained an average height of one foot and only withered when the available water in the log had been used up which was not until July. Since the log was lying on dry ground enough water must have been stored within to keep the sprouts growing, nourished of course by the stored-up food, through May and June.

Why does Elm wood split best in winter? Because then its abundant moisture is frozen and aids the axe in tearing the tough and stringy wood asunder. The White or American Elm will thrive on the prairies exposed to all the winds that blow; while the Rock Elm fails under similar conditions. The latter Elm let it be noted has a much drier wood than that of the White Elm.

The genus Acer gives us a further clue. The Soft Maple and especially the Boxelder have proven their fitness for prairie planting. The wood of both can be called wet with a fair degree of accuracy. The wood of the Sugar or Hard Maple is dry save for a short time during the sap flow in spring. It is not a tree to be recommended for the prairies. Maple sugar can be obtained from the Soft Maple and the Boxelder but in the case of both though more especially in that of the Boxelder, the syrup while well flavored and sweet to the taste has an almost infinitesimal sugar content. The sap, therefore, of these two trees must be much less concentrated than that of the Sugar Maple. As we might expect in the shelter of a prairie town, a Hard Maple will establish and maintain itself, but it can hardly be said to flourish.

Of Ashes, the Green will thrive in exposures where the White fails and the Green Ash has much the wetter wood of the two. The Black Walnut can be made to grow on the prairies. Of the family to which this tree belongs, its wood is the wettest. The Bur Oak will maintain itself in the Northwest and shows up to be a wet wood when attacked with an axe. Birches are fairly hardy and they have an abundant sweet watery sap. Indeed, this can be said of the entire Birch family and

(Continued on page 80)

Hardy Phlox

Is my Specialty

Are not approachable by anything else in the garden.



Are in bloom all summer, exquisite fragrance, here are varieties to give satisfaction. Independence, and Miss Lingard, white; Bountain, pink; LaVau, buff; Obergartner Wittig, lavender; Siebold, fiery orange; Prof. Schieman, light mauve; Mad. P. Langier, red. The above 8 sorts for \$1.85, post paid. Send for complete list.

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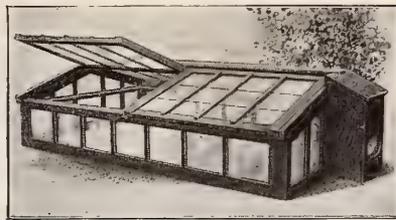
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Circulars and other information will be mailed on application.

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The only Double Glazed Sash That Can be Easily and Quickly Cleaned

YOU know the possibilities of hotbeds—the only means to keep your gardens growing all the year around, even when the snow is on the ground, and to enjoy vegetables and flowers fresh from the soil when ice locks up the ground. Then in the spring you can start your garden under glass, transplant and gain weeks of time.

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The Callahan Cut-to-Fit Greenhouse exactly fits your needs at great saving of labor and cost. Material comes with all necessary machine work complete, requiring only the necessary amount of hand labor in erecting. Members are cut to exact measure and shipped with plans. All so simple that any man with ordinary knowledge of greenhouse construction can set them up perfectly. Practical, up-to-date construction at low prices.

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Factory production makes possible the best building at the lowest price. Hence they have every approved feature, and are as durable as they are artistic. Quality construction in every particular.



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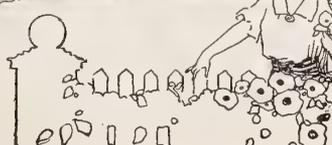


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Whatever kind of house you wish—cottage, garage, dog house, play house, bungalow or sun parlor—is listed complete in the Hodgson Catalog, which we will furnish promptly. Write today.

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Every clump a different variety.

\$5.00 prepaid

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Irish Fire Flame	Ophelia
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Send For Our Fall Planting List

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Built With Lock Joint Columns
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The Beautifier of Permanence and Individuality for Public and Private Grounds

Transforming barren spaces into spots of rarest charm and beauty.

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Catalogue and price list of a choice collection of Irises mailed upon request.

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A quarterly journal containing beautiful colored illustrations and popular descriptions of plants.

Published by the New York Botanical Garden, Bronx Park.

Supported by the income of a bequest by the late Judge Addison Brown, aided by subscriptions.

The third volume has recently been completed; the fourth volume will be issued during 1919; each volume contains 40 full-page colored illustrations.

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DISTINCTIVE FERN PAN \$1.50



is square with separate liners measuring 7x7 inches by 4 inches deep. Order as No. 495.

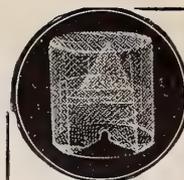
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So. Zanesville, O.

beside the Birches we also find the Hazelbrush and Ironwood able to hold their own in exposed locations.

It will of course require much experimental work to correlate cause and effect and bring our knowledge thereof on a scientific basis, but the fact exists and cannot be ignored. The hardiest trees on the prairies of the Northwest are trees of the wettest wood and a dilute sap.

Thus far in developing apples for the Northwest, the work has all been upon the fruit and the character of the tree has received scant attention. Of the trees' sap nobody seems to have thought. Yet all the varieties that have shown sufficient stamina to withstand the rigors of the extreme Northwest have been subject to blight. This fact itself gives evidence of a moist and rapidly growing wood. If then a strain of trees be developed with an abundant and dilute sap and the fruit be improved after the tree itself has proven hardy, the goal might be sooner reached than present indications promise.—C. L. MELLER, *North Dakota*.

Trachelium coeruleum.—Treated as a biennial the Throatwort, *Trachelium coeruleum*, is one of our most desirable summer-flowering plants for pot culture. While it may be very easily propagated from cuttings, the plants raised in this way are dwarfed and far less robust than seedlings. Seed sown in June or July will produce plants sufficiently large for 8 or 10 inch pots by the following summer. It takes just about twelve months from seed sowing to flowering. Seeds can be started in a coldframe and germinate very readily. They should be pricked off into flats or under a coldframe sash and later potted. A cold greenhouse or a pit used to store hard wooded plants will carry them successfully through the winter. In spring give them a light, airy position in the greenhouse and pot on as needed, being sure to use a generous compost. If bushy plants are desired some pinching can be done, but by far the best effect is produced by allowing the shoots to run up, then treated thus they will branch out and throw their much-branched panicles of flowers the whole length of the stems. The flowers are of a lovely blue shade, although a certain percentage will come pure white. The colors can be determined while the plants are young by the stems, the dark ones producing blue flowers and the green ones white. *Tracheliums* are of very easy culture and remarkably free from insect pests. The flowers have wonderful keeping qualities in water, and I don't know of anything which will keep better in hot weather. I have occasion to send them 500 miles per express frequently and no matter how warm the weather they always arrive in perfect condition. Plants of *Trachelium* are fine for piazza use and associated with white Speciosum Lilies are particularly charming. While old plants can be carried over I find seedlings much more satisfactory. In Great Britain this makes a good border plant in partial shade, but here, with our drier climatic conditions, pot culture is needed to see it at its best. As the plants seed very freely it is very easy to secure and sow. The natural flowering time is during the month of July and August, and the cloud-like head of blue or white flowers should appeal to every flower lover.—W. N. CRAIG, *Brookline, Mass.*



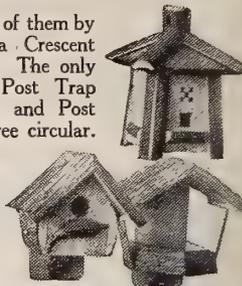
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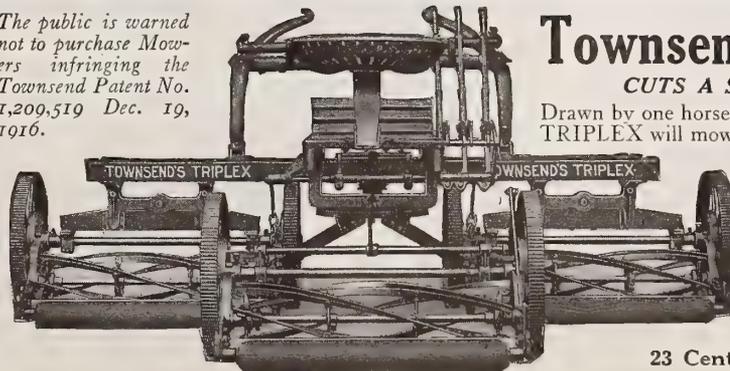
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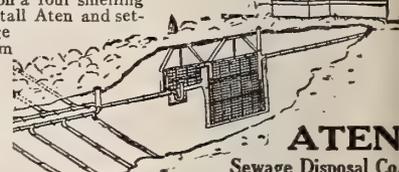
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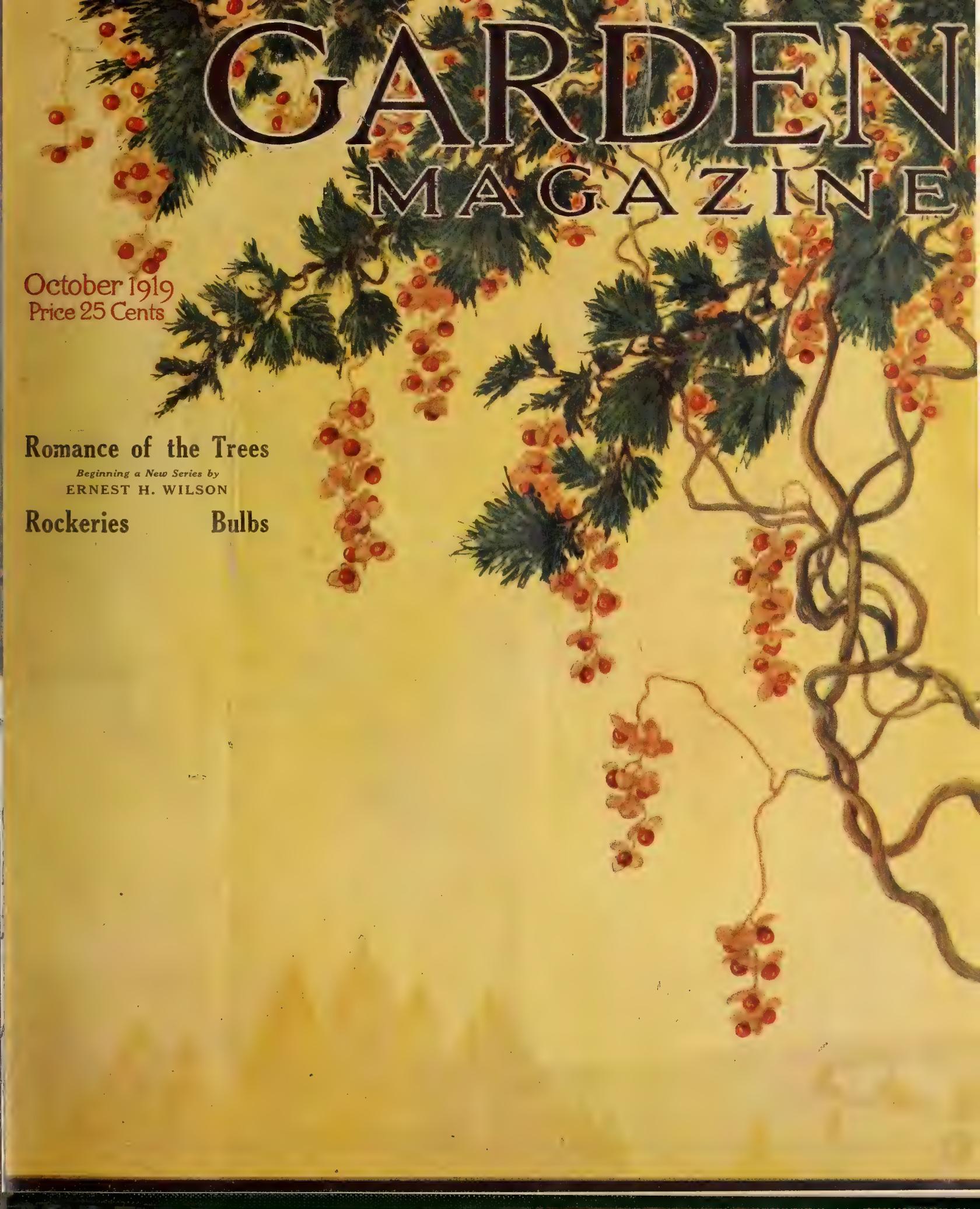
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GARDEN MAGAZINE

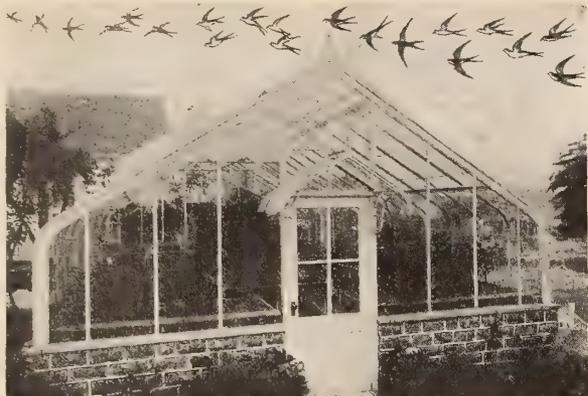
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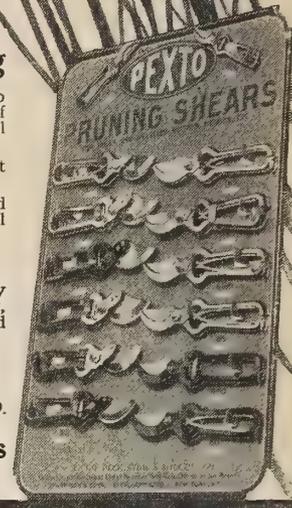
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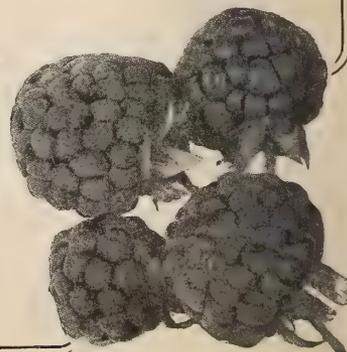
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THE GARDEN MAGAZINE

OCTOBER, 1919

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LEONARD BARRON, Editor

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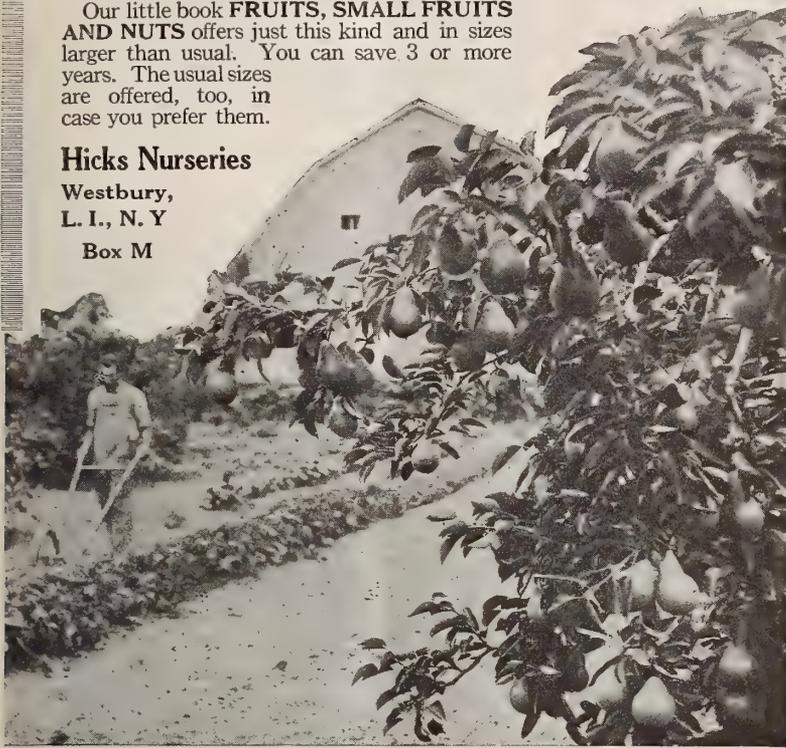
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are the chief points to consider in fruits for the home garden. If you plant pears, peaches or apples, you want the juiciest, highest flavored varieties possible, that do not require the coddling of the professional grower.

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Lancaster County, Pennsylvania, is famous the world over as the richest agricultural County in America. Lancaster, County Seat, is the centre of this wonderfully rich agricultural section.

Barr's Nurseries were located at Lancaster because of the particular and peculiar advantages for growing all kinds of nursery stock. Barr's Peonies are no exception to the rule.

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	PRICE	
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Ten leading varieties, representing all colors, three of each—30 Blooming size roots, 3-5 eyes—postpaid \$16.00—one of each variety—postpaid \$7.35. Princess Beatrice, Cameron, Wilhelmina, Baron J. Rothschild, Gloire de Charles Gombault, Festiva Maxima, Mme Bucquet, Edulis Superba, Canari, Duke of Wellington.

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Vaughan's Darwin and Cottage Tulips

PLANT THE BULBS THIS FALL



THESE majestic tulips are without a rival in Spring flowers. Their adaptability to our American climate due to their hardiness and vigor, their stately bearing and exquisite shades make them now the most extensively planted of all spring-flowering bulbs. Planted in beds, in clumps among perennials, or bordering shrubs, their effect in May is beautiful beyond belief.

**Forty Years
Successful
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During our forty years of dealings with the leading bulb growers abroad we have, by correspondence and periodical visits to the countries of origin, successfully established connections that enable us to, at all times, offer to our customers the best that the world produces. Last year when many firms disappointed on deliveries, Vaughan's Seed Store were there on time with full quantities. Leading Florists, Park Superintendents and Private Gardeners buy from us—*There's a reason.*

Twelve Majestic Darwins

- BARTIGON.** (24 in.) Glowing crimson scarlet. Doz., \$1.45; 100, \$11.00.
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REV. H. EWBANK. (20 in.) Wonderful lavender mauve. Doz., 75c; 100, \$5.00.
GRETCHEN. (23 in.) Pale flesh pink. Doz., 60c; 100, \$4.25.

- FARNCOMBE SANDERS.** (25 in.) Fiery rosy-scarlet. Doz., 75c; 100, \$5.50.
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Above prices do not include prepayment.
No. 1—Special Prepaid Offer. 12 bulbs of each of the above 12 varieties. Each separate, 144 bulbs for \$9.50.

Six Rare Cottage Tulips

These bloom in May almost simultaneously with the Darwins.

- MRS. MOON.** (30 in.) Giant golden yellow. Sweet scented. Doz., 75c; 100, \$5.50.
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No. 2—Special Prepaid Offer. 12 of each of the above 6 varieties. Each separate, 72 bulbs for \$5.25.
No. 3—The above collections No. 1 and No. 2 ordered together PREPAID for \$14.00.

Write for Vaughan's Autumn Catalogue, 56 pages; mailed FREE everywhere.

There are many beautiful bulbs and plants, which can only be successfully transplanted in the Fall that are often overlooked by those who do not realize the importance of Autumn-planting. Our Catalogue is a complete and helpful guide for this season.

43 G. Barclay Street
NEW YORK

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Plan and Plant Your Hardy Garden NOW!

No grounds are really gardened without a big showing of perennials.

FALL PLANTING

To Grow Hardy Perennials and Old Fashioned Flowers Successfully:

They should be planted in September, October, and November like Spring flowering bulbs. They make roots during Fall and Winter, establishing themselves for Spring and Summer blooming.

A PALISADE HARDY BORDER

A perfect picture in your garden to last for years will be the result if you allow us now to plan a scheme, whether of contrasts or of harmonies, to be carried out this Fall.

Our "Artistic" Border, 100 ft. by 3 ft. costs \$40.00 only. Consider what is "saved" by this system, and what is gained in true beauty.

Write for our Catalogue TO-DAY. The value of the book forbids its indiscriminate free distribution. Send 10 cents for it to-day, which we will refund on first order.

PALISADES NURSERIES, Inc.
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Offers a wide choice of objects, from simple fern dishes and bud vases to impressive jardinières and plant stands. Its predominating characteristic is refined elegance in designs and colors. A post card request will bring you the "Moss Aztec" catalogue and name of nearest dealer.

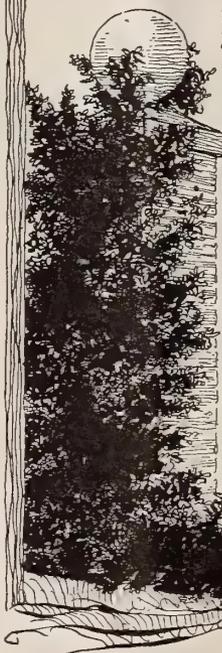
DISTINCTIVE FERN PAN \$1.50



is square with separate liners measuring 7 x 7 inches by 4 inches deep. Order as No. 495.

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POTTERY
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So. Zanesville, O.

Verdant the Year Round

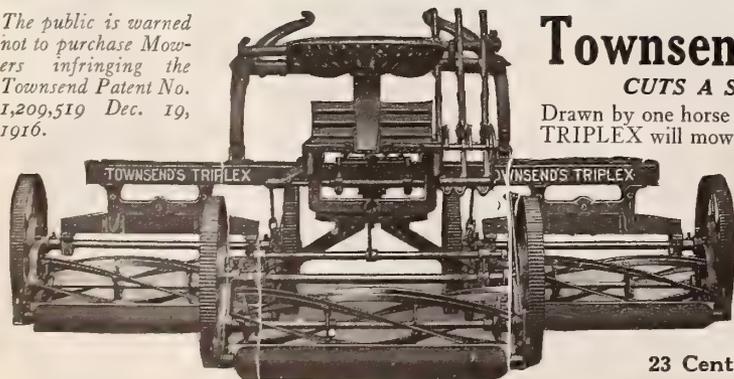


There is but one vine superlatively beautiful in winter; it is *Euonymus radicans* vegetus, commonly known as *Evergreen Bittersweet*. It grows rapidly, and adheres to any surface—brick, stone, or wood. During the late fall it produces many clusters of small red berries, which give it life all winter. The red berries and green leaves are particularly effective when snow covers the ground. For the house wall, for the garden gate, for any use to which a climber may be put, this vine is ideal.

- 1st size, 75c each; \$8 per dozen
- 2nd size \$1 each; \$10 per dozen
- 3rd size, \$1.50 each; \$15 per dozen
- Exceptionally large plants \$5 each

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The public is warned not to purchase Mowers infringing the Townsend Patent No. 1,200,519 Dec. 19, 1916.



Townsend TRIPLEX

CUTS A SWATH 86 INCHES WIDE

Drawn by one horse and operated by one man, the TRIPLEX will mow more lawn in a day than the best motor mower ever made; cut it better and at a fraction of the cost.

It will mow more lawn than any three ordinary horse-drawn mowers with three horses and three men.

Write for catalogue illustrating all types of Lawn Mowers

S. P. TOWNSEND & CO.

23 Central Avenue, Orange, N. J.

The Garden Magazine

VOLUME XXX NUMBER 3
OCTOBER, 1919



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AN IVIED CLOISTER OF THE MUSES

Rarely do materials in modern hands achieve the classic chastity that distinguishes this perfectly framed and ornamental structure



A HARDY MIXED BORDER

Herbaceous flowers—all but the little maid!



WHERE WATER RUNS DOWN HILL

Yet, captured with such cunning, pauses happily to be
a tiny mirror

THE ROMANCE OF THE TREES

E. H. WILSON

Assistant Director of the Arnold Arboretum

Earth's Most Venerable Brotherhood, They Take Tribute From the Changing Eras of Our Planet Whilst Races of Men Rise, Live Out Their Span, and Pass Into the Ages

"And out of the ground made the Lord God
to grow every tree that is pleasant to
the sight, and good for food, the tree
of life also in the midst of the garden,
and the tree of knowledge of good and evil."
Genesis II, V. 8

THOSE who have studied the folk-lore of primitive man tell us that the legend of good and evil trees is almost universal, and that trees are ever intimately connected with man's own story of his development. And rightly considered they are the noblest product of the Earth. Consider how they rear themselves against gravity for from 50 to 100, 200—aye to 400!—feet; how they resist the storms of every season, the winter's cold, the summer's heat. They are a most wonderful expression of life, adding year by year to their size—often through centuries—flourishing whilst generations of mankind come and go.

BUILT of myriads of minute cells piled on and around each other and differentiated into tissues of varying thickness and forms, all is wonderfully adapted to the work to be performed in the life economy of the whole organism. The big roots firmly anchoring the tree to the earth give off tiny rootlets that absorb water and various food salts in solution, which are carried upward through special tissues to the leaves. The leaves—the lungs and chemical laboratory of the tree—breathe in from the air during daylight a gas deleterious to man (carbon dioxide), break this up and exhale a part as pure oxygen, essential for the life of the animal kingdom. The remaining carbon and oxygen they combine with the water and food salts supplied by the rootlets into simple forms of sugar, which are immediately available as food to nourish the tree's growth in all its complicated parts. So much of these sugars as are not at the moment wanted are converted into forms of starch and stored away for the tree's future needs. No chemical laboratory in the world built by man, and fitted with all the wonderful appliances of modern science, is half so marvellous as the leaf of any one kind of tree. No system of collection and transportation devised by human ingenuity and skill is so perfect as that which serves each and every tree.

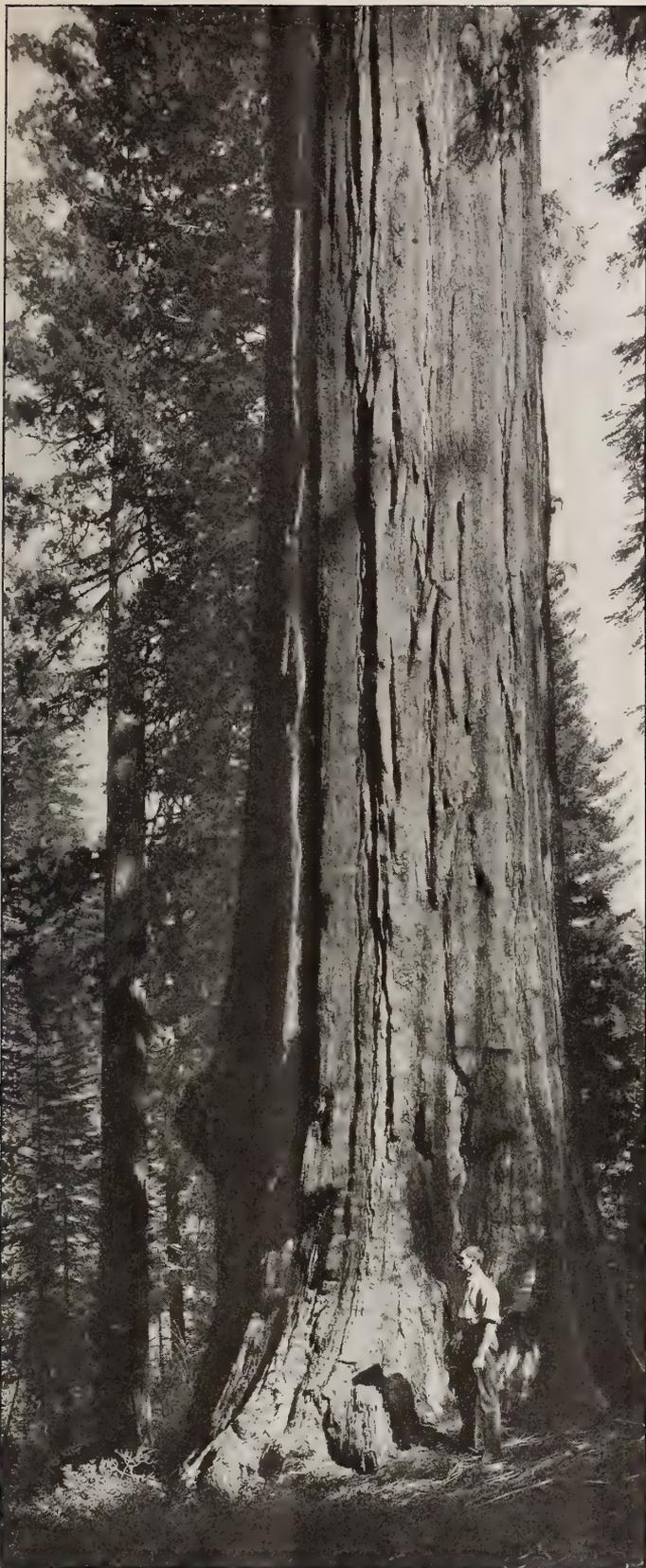
All who keep gold-fish in a bowl or in an aquarium know that green weeds of some sort must be kept in the water or the fish will die. Why? Because the fish inhale all the free oxygen in the water and poison themselves with carbon dioxide which they exhale, unless plants are present to take up this gas and in exchange give back free oxygen, thus maintaining the balance in nature. So on the grander scale. But for the presence of vegetation the Earth would be uninhabitable for the animal kingdom in all its forms. The two kingdoms—vegetable and animal—are interdependent; but the vegetable kingdom is the more ancient of the two.

THE fossil remains of plants and animals imbedded in the rocks of the different geological epochs of the world's life tell the story of the progressive changes that have taken place during the Earth's history, from its youth and adolescence to its present age. But trees by no means represent the oldest type of life forms in the development of the vegetable kingdom; on the contrary they are fairly modern. Geologists tell us that in the earliest phases of the world's history of which organic remains exist, the vegetable kingdom was represented by simple aquatic or semi-aquatic plants, and the animal kingdom by sponges, worms, centipedes and spiders. In succeeding ages land plants were developed. During the period represented by our coal measures (the Carboniferous period) and the lengthy epoch preceding it the whole Earth became more or less forest clad with a low type of vegetation mostly allied to our Ferns, Horsetails, Lycopods, and ancestral forms of the Cycad and Ginkgo families.

This earliest luxuriant land vegetation—that which went to form the great coal fields of the Earth—was probably adapted to physical environment alone, uninfluenced by the scanty animal life of the period. Reptiles and mammals were then differentiated, but the former, being better fitted to live upon the earthy vegetation and to survive in the heavily carbonated atmosphere, increased more rapidly. This increase continued through the next two geological epochs and culminated in the next, the Jurassic period, which is fitly termed the "Age of Reptiles." Rocks of this age are prevalent in the states of Wyoming, the Dakotas, Kansas and Texas; and from these rocks there have been excavated and sent to museums for preservation within recent years remains more or less complete of the largest, the ugliest and the most extraordinary forms of animal life the world has known.

THE development of vegetation reacted on the climate and on the animal kingdom and each induced constant change in the other. In due course reptiles gave place to mammals, birds were differentiated, and likewise insects in variety; Cycads, Araucarias, Ginkgos, Yews, Cedars, and other conifers came into being; and later, broad-leaf and coniferous trees similar to those of to-day.

It is not my purpose to trace this progressive change in further detail, but the fact I do wish to emphasize is that certain isolated types of the archaic forms of trees have persisted down through remote ages to the present day. Of



AN ALOOF GIANT IN MERCED GROVE, CALIFORNIA

Here in a restricted area this once world-wide species has been constrained to make its abiding place. (*Sequoia gigantea*)

such we may instance the Araucarias, now confined to South America and to Australia, New Zealand, and the adjacent islands. A familiar example of this group is the Norfolk Island Pine (*Araucaria excelsa*) so much in request for indoor decorative purposes in the colder parts of this country, and hardy in parts of California and the southern States. Other examples are the Cycads found scattered in many parts of the Southern Hemisphere and northward to the Tropic of Cancer; the Cedars of Lebanon, of the Taurus Mountains, Cyprus, the Atlas Mountains and the western Himalayas; and the Ginkgo of China, Korea, and Japan.

Many persons take it for granted that the types of trees with which they are familiar are found all the world over; others more discerning know that every tree has but a limited distribution, covering at most a number of degrees of latitude and longitude. They know that the Oaks, Elms, Maples, Pines, and Firs are different on the eastern and western seaboards of this country; also that they both differ from those of Europe on the one hand, and of eastern Asia on the other. If one looks into the subject all sorts of curious facts are unearthed. Some groups of trees are represented by many species, others are limited to one or two. For instance the Tulip Tree, Kentucky Coffee Tree, and the Sassafras are each represented by two species only, one of each here in the eastern United States and another of each in central China. As study follows interest it is clearly seen that some groups are in the heyday of their youth, others in their prime, others on the wane—not as individuals but as groups.

REASONING on these facts the conclusion is reached that in the progressive development of types of trees this is the natural sequence. It has been the same throughout the world's history. Types have arisen and disappeared, some completely; others have been altered and modified to meet climatic and other changes and have persisted through very long periods of time. The latter are, as it were, living fossils.

With two of these ancient types of trees I hope to deal at length in succeeding articles. As an explanatory introduction, however, it is necessary to enter a little into the subject of plant distribution in general—and although a popular magazine is not the place for a full discussion of such matters, they are of such importance and so suggestive that a few salient points cannot fail to interest as well as help in an understanding of the present phenomena of tree distribution. Savants have written much to explain particular cases; and as knowledge increases the whole question becomes more simple. The geological records, however, even of the Northern Hemisphere, are notoriously imperfect. But as investigations proceed many links are forged in the chains of evidence and abysmal chasms are bridged; and though the human mind, collectively or individually, will never achieve the infinite, it may learn enough to explain intelligently much that is still very obscure.

If we are to understand in the least degree the present distribution of plants, and especially the isolation of groups of trees—like the Honey-locust for instance (*Gledits*) and the Sweet Gum (*Liquidambar*) which occur in Asia Minor, China and Japan, and North America, each separated by thousands of miles of land and sea—it is necessary that we try to picture some of the changes time has wrought

in the climate of the Northern Hemisphere. Geologists are pretty well agreed that the two great oceans, Atlantic and Pacific, have not changed much in the aeons of time since this earth began to cool. Seas, plains and mountain ranges and areas of land have, however, changed vastly, though probably the depressions and elevations have maintained a fairly stable equilibrium—a sort of compensating balance.

THE Tertiary period—the geologic era immediately preceding the present—was one of great disturbances; the folding of the Earth's crust, due to internal cooling and consequent contraction, made vast changes in the earth's surface. Its close was marked by a period of great cold which wrought havoc among vegetation, and even to-day much land that in Tertiary times was forest, is hidden under enormous icefields. In those times most of the present Arctic zone was probably free of ice; at any rate Spitzbergen, Greenland, Iceland, the extreme north of the mainland of America and of Asia enjoyed a climate as mild at least as New England does to-day, and vast forests circled the whole of

to-day's Arctic regions, for the land connection was complete. In those times, too, the types of tree vegetation were similar throughout the whole Northern Hemisphere. Doubtless then as now species had a limited distribution; but the genera then, much more than to-day, were widespread. Tulip Trees, Magnolias, Sweet Gums, Ginkgos, Sassafras, Sequoias and indeed countless others grew in Europe, in America, and in Asia.

As the period of great cold came on vegetation was forced to migrate down the mountains and southward to escape destruction. And as the ice crept southward it destroyed the vegetation in its path; the trees of Greenland, Spitzbergen, Iceland and the regions separating North America and Eastern Asia all disappeared. On this continent they were forced south of the latitude of Philadelphia (which is about Lat. 40°N) and where there was no continuous land connection they were destroyed; while on the continent of Europe they were swept almost to the very fringe of the Mediterranean and so nearly destroyed that to-day there are only about three dozen genera of trees to be found there, and even the species are very limited in number.



THE GREAT OAK AT BLENHEIM, THE MARLBOROUGH ESTATE IN ENGLAND

The warmth permeating and living in every line and branch of this famous patriarch enfolds like a divine embrace, accounting for the veneration in which all ages of Britons have held these great trees



THE "CYPRESS OF MONTEZUMA" AT TULE, MEXICO, THE WORLD'S MOST FAMOUS CYPRESS TREE

A seedling when Ptolemy X reigned, a lusty tree when Antony and Cleopatra lived and loved, a centenarian when the boy Christ disputed with the doctors, this tree has a girth of 146 and height of 160 feet. It may be much older than the estimated 2000 years!

WE ARE not here concerned with the theories as to what particular astronomical changes induced the ice age; but it is important to realize that the ice did not descend to equal latitudes all round the Northern Hemisphere. Japan and China proper escaped glaciation and though the temperature must have been lowered, their vegetation suffered little harm. Of course there was a migration toward the south, and a reverse one at the close of the glacial epoch. The net result is that the flora of the Chinese Empire, and of Central Japan southward is to-day really an epitome of the world's flora of the Northern Hemisphere in preglacial times.

In China and in the parts of Japan indicated are growing to-day many peculiar types as well as all the principal known genera of trees from the other parts of the Northern Hemisphere—except Robinia, Laburnum, Platanus, True Cedars (*Cedrus*), Sequoia and Taxodium. And of the latter there are two very closely allied—*Taiwania* and *Glyptostrobus*. Fossils occur in Europe of many types which grow in the Orient to-day and recent dredging off the Dutch-English coast has added much to prove that the past flora of Europe was similar to that of the Far East to-day. I mean, of course, not specifically but that the generic types were much the same. If we picture to ourselves the onward, inevitable creeping southward of the ice, we can easily understand how trees and other forms of vegetation in its path were destroyed. Only those which were able to reach places of sufficient warmth to maintain life, survived. The greater the land extension toward the south the greater chance had vegetation; likewise where the country was broken by mountain ranges, advantageous regions were more easily found.

The ice in its progress ground off the tops of mountains and scoured out valleys to a great depth; and when it retreated the face of much of the Northern Hemisphere was changed. It disappeared from sea-level valleys earlier than from mountain ranges, and so isolated groups of vegetation. If we picture this, and remember that before the period of great cold set in the vegetation of the North was everywhere very similar, we readily understand how to-day are found here and there, groups of trees isolated by thousands of miles from their kindred. It is this that explains the separation of the Cedars of Lebanon, of the Taurus, Cyprus, the Atlas Mountains and of the Western Himalayas, and also the isolation of the Nettle Tree, Honey-locust, Sweet Gum, Walnut and others in the Cau-

casus region, in eastern North America and in the Orient. What were temperate regions of the North during Tertiary times are to-day the frozen North, and the land of this region capable of growing forests is infinitely less than it was then.

Deserts, seas, lakes, high plateaux and mountain ranges influence climate and therefore strongly affect plant distribution. Birds, animals, and air and water currents are all agencies in plant dispersal. Hence to understand why this tree or the next is here and not yonder, involves the study of a number of cognate branches of natural history. Complex indeed is the problem; but however little it is studied the marvels of the world we live in become more and more apparent.

BRIEF and fragmentary as this sketch is, it would be more incomplete without mention of the influence of man. At what period in the world's history he first appeared in his present form is much disputed; but certain it is that as soon as he became a reasoning creature, hunger led him to investigate the vegetation and taught him to appreciate what was wholesome as food. As he migrated we know that he carried with him the plants that were of service to his needs—and later such as were a delight to his higher being. But we know so little of the early peregrinations of the human race, or of where it had its cradle, that we can say nothing definite of that remote and most interesting period. In the mytho-

logy, folk-lore, and sacred writings of all races of which we have knowledge, frequent mention of trees is made, and invading armies devastated countries and carried off useful plants, fruits, trees and the like, as spoils of war. Alexander the Great is himself but a name in history in spite of his great conquests—yet a permanent beneficial result of these conquests remaining to mankind are the Oranges his soldiers are said to have carried back from India to the shores of the Mediterranean.



A FAMOUS SASSAFRAS AT WESTFORD, MASSACHUSETTS

Never so huge nor patriarchal as individuals but of peculiar appeal as one of the two survivors of its waning kind is our native "mitten-leaf." (*Sassafras officinalis*)

OF THE mighty migrations across Asia we know very little, though it is certain that for centuries the great highways of commerce of the Old World were across Central Asia. That the peach and the orange and certain of its relatives were carried from China to Persia and that neighborhood is certain; and that the walnut and grape were brought back is equally true. Possibly the apricot came with the latter. From the rich and famed China of old, plants useful and ornamen-



THE PEARSON ELM AT BYFIELD, MASSACHUSETTS, IS A FAMOUS SPECIMEN

Although the great Elms shading New England homesteads are tradition laden, even as the Oaks of England, theirs' is a tradition redolent altogether of homely things and practical, with never a hint of imaginative flight. They are domesticated, matter-of-fact and sedate. (Ulmus americana)

tal were also carried to Korea and Japan; even as the apple, the pear, the cherry—also wheat and barley—were brought here from Europe; and later the peach, apricot, almond, date, grape and the like. From this country the sweet potato, potato, tobacco, and corn were taken to Europe and to China and, later, ornamental trees and herbs.

In all this beneficent work man has been the organizing power and could any of the thousand and one common plants around us tell their story, it would fascinate the least attentive. This feeble pen is indifferently equipped—but the purpose of these articles is to show the intimate connec-

tion, the bond of brotherhood as it were, between ourselves—mankind in general—and certain groups of plants. Animal life, in all its higher forms at any rate, is dependent for its very existence on the vegetable kingdom; and trees will yield to all who heed their beauty and study them, mental enjoyment, healthful recreation, and full content as well.

EDITOR'S NOTE—This article is introductory to a series that Mr. Wilson will contribute during the coming year. Each will deal specifically with the life story of some one plant. The article to appear next month tells of the Ginkgo or Maiden-hair tree, that has been saved to us by the priests of Asia.



Cosmos, the Beautiful

MY garden's full
 Of gaily fluttering wings
 Fragile petalled butterflies
 Lovely things!
 Some of pearly white,
 White as snow I think,
 Some of deepest rose
 And a wondrous pink.
 On their tall green stems
 Dancing, swaying;
 Bowing altogether
 In a game they're playing.
 Waving very bravely,
 When the fall wind blows,
 A gallant happy farewell
 While summer goes.

HARRIETT W UHL

“POMPEY’S GARDEN”

MARY HARROD NORTHEND

An Inhospitable Spot in the Days of Long Ago When, for Pure Love of Them, a Slave Planted and Tended Here the Flowers of Bygone Generations. This Has Been Developed into a Garden of Unique Beauty Through the Use of the Very Rock That Made His Work Difficult

THE value of native stone for garden use is well shown in a small, formal plot which has been designed by Mr. Quincy A. Shaw on his estate “Pompey’s Garden” at Prides Crossing, Massachusetts. This little informal garden lies back from the main road and is interesting not only on account of its rock treatment but because of the tradition associated with the site. Long ago—long before summer guests had discovered the shore—there dwelt on this particular spot a farmer’s family who owned a slave named Pompey. Fond of flowers, this slave made on the rocky land an old-fashioned garden in which he planted the great-grandmother’s favorite plants. All through the countryside it came to be known as Pompey’s garden; and to this day the old name is kept, with the difference that now it applies to all the ground, and not simply to the spot where the slave tended his flowers.

There is no hint of it as we turn into the gravelled avenue that winds past masses of Rhododendrons and Azaleas, backed by lofty trees, on its way to the house. This is located on the crest of the rocky headland, far enough back from the water to have a restful stretch of green between it and the shore. There is no special planting here either, save masses of gorgeous Rhododendrons and Azaleas which, with flaming colors during the season of their bloom, lighten up the shade of the trees and the green of the grass. Locust trees intermingling send their pungent sweetness through the air; and all is so cleverly planned that it seems like Nature’s handiwork.

LEAVING the driveway at the left before reaching the house, one finds himself in a grassy little pathway which leads between trees to the garden. English stepping stones define this path to where it ends at the low stone wall through which one comes to the garden proper. A turn in it and there is a glimpse of the garden, at its lower level—an enticing aspect as one gazes through the half open gate to the still little pool, and on to the woody windbreak of trees that shelter the tender plants.

Here we have an example of stonework that is most effective. The stones, gathered on the ground, have been fashioned with the help of white mortar into the low wall, with long slabs to form a coping. Stone posts define the gateway and iron gates swing open on to the sward that encircles a broad flower border. Inside of this is a circle of velvety grass, centered on a very simple pool with a fountain statuette in bronze—a boy stooping over a turtle. There is no border around the curbing of this pool, but casual little patches of Iris give a dash of color in their season. Directly

opposite the entrance is a second gate opening into the grove of trees that lead down the hill to the water’s edge.

IN THE border have been planted bulbs and flowers for a continuous bloom, which commences in the early spring with the dainty Lily-of-the-valley. This is followed by Anemones and later on come Foxgloves, with Lupines, Dictamnus and a host of others, and Iris and Heliotrope to add to the color note and shed a fragrance in the summer air. Back of the wall is a planting of Rhododendrons, Azaleas, and Laurel, the Azaleas ranging in color from deep orange to flame. This makes a charming background together with the stone, which runs the scale of color from soft gray to brown and from red to green.

At the farther end of this lower garden, which is only twenty-five feet square, is a recess into which a seat has been fashioned by supporting a stone slab on large rocks, the back being the stone wall. Here this is topped with the low-lying branches of a Hemlock at the rear. Irregular slabs pave a perfect semi-circular floor under and before the seat, and here on a hot day one comes to rest and enjoy the multi-colored blossoms, the play of the fountain, and the gossip of the birds that cluster about to drink or bathe and preen themselves.

DIRECTLY opposite this seat is the entrance to the upper level, which is by stone steps that are flanked on either side by ornamental Bay-trees set in green wooden tubs. The upper garden is forty feet long and twenty-five feet wide, and fragrant with Heliotrope and Locust scent, mingled with the salt tang of the sea. A straight path leading through it is interrupted by a solitary tree Heliotrope at its centre, which stands four or five feet in height. Around this the central beds group. At either side in two long Box-bordered beds that extend practically the whole length of the upper garden, are white Geraniums—an unusual planting of rare charm, its green-and-whiteness backed by the Ivy-covered wall where tendrils shade into the gray of the stone.

The centre of this garden’s design is four plots which surround the tree Heliotrope. Each one of these is outlined with low Box and treated with a well thought-out combination of plants. And against the wall, white Phlox, Peonies, Foxgloves, and Roses have been banked as a background.

TUCKED into one side in a niche purposely designed for it is a low wall-fountain hewn out of a rough rock. There are plantings of Sedums and other rock plants around it and on it and Forget-me-nots by its side; and the blue



and white of the flowers form a charming combination with the many-colored rocks. Just beyond is the tea house, an adjunct that is coming to be found more and more often in American gardens. This one is a simple wooden structure with a red shingled roof. It is furnished with inviting tea tables and chairs, and from it one overlooks the different levels that make up the gardens most delightfully, while taking tea. Through a break

THE WALL FOUNTAIN

Into a basin hewn from a great stone dives a tiny arrow of silver with such accuracy that not a ripple breaks the reflection on the shadowed water's surface of the blue and white and greens of the flowers that are clinging to the rocks above and all around



"THIS WAY OUT"

And down stone steps that lead from the spot where Pompey gardened through a woodland bit to the stretch of turf that borders the beach that borders the sea!

in the wall one passes to unexpected stone steps banked on either side by well placed shrubbery. These lead gently down the hill to a level space of grassland which stretches away until it actually meets the sandy beach! Could a more charming combination be imagined? Truly the slave of old chose a wondrously favored spot for his garden; and it is well that "Pompey's Garden" it still remains.

STONEMWORK OF UNUSUAL CHARM

Wall, seat, and pavement are conceived in such a sympathetic spirit and executed with such feeling and discretion that there is no sense of interrupting Nature in even the slightest degree—which is the rarest of accomplishments where such rigorous interruption occurs



BANKED WITH GREEN LIKE AN AMPHITHEATRE IS THE HEART OF THE GARDEN

But the game of the small arena is nothing fiercer than a bronze urchin's pranks with a turtle, at which the flowers nod perceptibly

THE GARDEN COLLECTOR'S CABINET

T. SHEWARD

Build the Rock Garden at This Season so That Winter's Action May Settle and Adjust Soil and Stone Work Ready to Receive Specimen Plants When Spring Comes

THE one possible provision in small space for specimen plants acquired from many places and climes and requiring widely different exposures and conditions, is made by the rock garden; hence it is in one way the most intensive of all forms of garden. Opposed to the limitations which such intensive purpose might be expected to impose on the gardener, however, is the fact that the plants which are thus to be given a growing place must have all of the conditions of nature duplicated as nearly as possible, else they will decline to live. Hence the rock garden unavoidably becomes naturalistic; and the aim should always be to give it the form and the lines and the union with its surroundings that nature gives to rocks which she has piled; this even while following in its inner construction a carefully detailed plan.



Every layer of soil must be packed to hold firmly



The "Moraine"

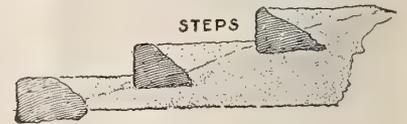
This last word in rock gardening requires a sub-surface water supply

Let the site for a rock garden be open and free; and before any rocks are placed well dug over and trenched, with leaf soil worked through it. Further soil for the rock pockets will be prepared by mixing with ordinary garden soil an equal amount of peat and leaf mold, with enough broken rock to keep it porous. Add to this for the lime-loving plants mortar rubble and grit or crushed limestone. In placing the rocks slope them in and downward so that the rain will settle toward the roots of the plants, always. Make all plantings in masses and colonies, putting those things that form rosette growth on a slant so that water will not lodge in their crowns in winter and cause them to rot. Sprinkle granite chips over

the surface of the ground after planting, to prevent undue evaporation in summer and damping off in winter.

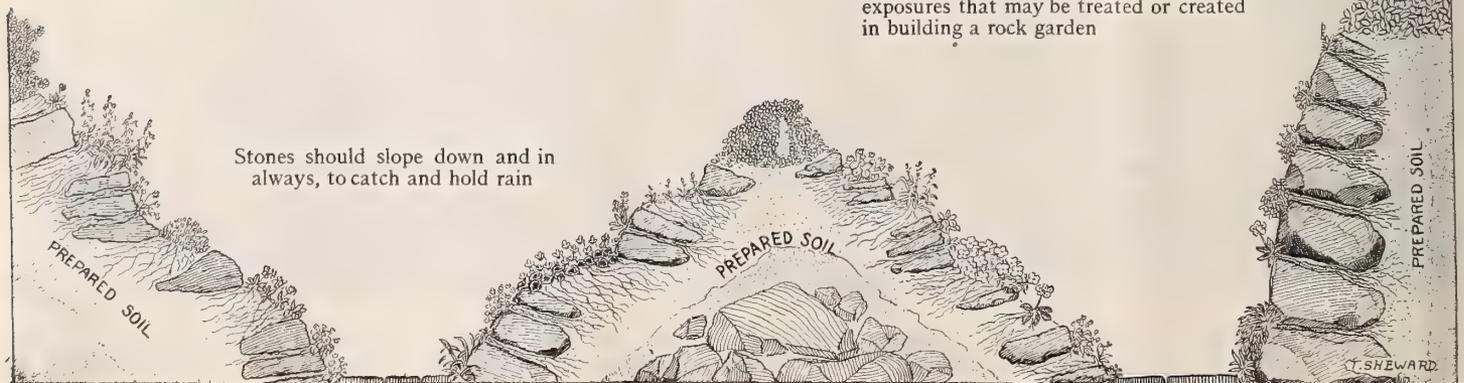
Where space is too limited, or a suitable site is not available for an actual rock garden, a retaining wall may be used as a substitute. This will of course provide only one exposure and will not afford opportunity for growing as wide a variety of plants; nevertheless a great many things can be planted in it that would not grow anywhere else. Tilt the first layer of rocks backward against the graded slope, packing the soil in firmly behind them and against them on their back edges; and with each succeeding layer be sure to do this, else the action of rain and frost will be likely to wash it down and out and bring the entire wall to grief.

"Moraine gardening" is the most modern refinement of rock gardening and is as yet hardly begun in the American garden. The conditions of a moraine are created by mixing a soil of rock grit, peat and leaf mold together, with an inch of granite chips spread on top to retain the moisture, which is supplied through a perforated pipe buried within. All of this should be laid on a bed of concrete where the soil is very sandy. Set here the plants that grow naturally in moraine situations, i. e. plants liking heat above but water always moving at the roots.



Steps have stone risers set into the Slope with treads all or partly of earth

In these diagrammatic details is a suggestion of the varying slopes and exposures that may be treated or created in building a rock garden



SOME COUNSEL ABOUT BULBS

GRACE TABOR

Though Hunting the Bulb Promises to Be an Exciting Autumn Sport, Just Now It Is With the Planting of Such as May Be Captured That We are Chiefly Concerned

TIS so very easy to overestimate one's requirements, when the pages of a flower catalogue present their superlatives, that the thought occurs possibly the present bulb situation is not so deplorable as it seems—especially so far as the garden is concerned. Not that spring has anything lovelier to offer than the bulb flowers; but with these, as with all other garden material, one should use reason—which is equivalent to saying one must use restraint. It is always the disposition made of mass rather than simply mass itself—otherwise quantity, in the case of bulbs—that distinguishes good garden design and execution from poor. And though a bulb garden may of course contain all kinds, it will never be a thing of real beauty so long as the standard is either many kinds or large quantity.

Of course one may have certain of the bulbs without having any garden at all, in the stricter sense of the word; for they take to naturalizing as ducks to water—providing they *are* naturalized and permitted to grow unmolested as they would in a state of nature. This means, of course, that their tops will not be cut away—at least not until they have finished their growth and ripened or died down. Hence it means that the place of their “naturalization” must be one that is unshorn till late June anyway—if it is in grass—for everything save Snowdrops or Squills. These being very early in bloom and very little fellows as well, are ripe early enough to be out of the way by the time lawns need mowing. Bear in mind however that Snowdrops—true to their name!—must have protection from the sun of summer—hence under the shade of trees or shrubs is the one place where they will find themselves truly at home. On these, however, we shall be short this year; likewise on the Roman Hyacinths and early flowering Tulips. Of the rest there is probably an abundance.

FOR bedding purposes dealers in bulbs will supply on request exact and careful directions as to the planting itself and the quantities needed to fill any given space, of any shape. Bulbs for this purpose, in addition to having been very carefully graded to insure uniformity of bloom, must have equally careful planting at

an exact depth. The labor involved is therefore considerable both now at the time of planting, and in the spring following the bloom; for beds that are as exposed and on parade as those wherein bedding is practised must of course be planted in their summer dress as soon as their spring finery loses its freshness. Generally speaking, therefore, this fashion of using bulbs is attended with many difficulties—not to say uncertainties under present labor conditions—and quite apart from the esthetic points which such handling involves, it will be well to consider thoughtfully before adopting it.

As to the choice of it at any time and under the most favorable conditions, the most that may be said is that it is a matter of personal preference, just as all other conventional bedding is. For the person who likes it, nothing else will serve; while for the person who does not, anything else is preferable! That it is suitable only to the extremely conventional and geometrical layout is obvious—and the presence or absence of this may indeed be the deciding influence, if one has any doubts about its appropriateness. Bedding as a matter of fact should be avoided like the seven plagues except in the geometrical parterre. Here it is really the only thing that insures continuous perfection.

Actually bulbs do not, as flowers, merit the isolation so often accorded them. They are quite as sociable as the other flower races, adapting themselves to the company of others much more graciously than some, as a matter of fact. Therefore, why continually think of them and deal with them as something different? As to habit and propagation they may be, to be sure; but this difference ends when the flowers begin, and their place in a garden picture is not—or should not be—influenced by it in the least. A clump of Tulips or Narcissus or Daffodils are as delightful in the midst of a mixed border as a clump of Phlox or Pyrethrums or any other favorite—and they do not moreover take up so much room that the spot left vacant by the ripening down of their tops will not easily be covered by the seasonal increase in the foliage mass of the all-season plants around them. Thus they leave no unfilled gaps.

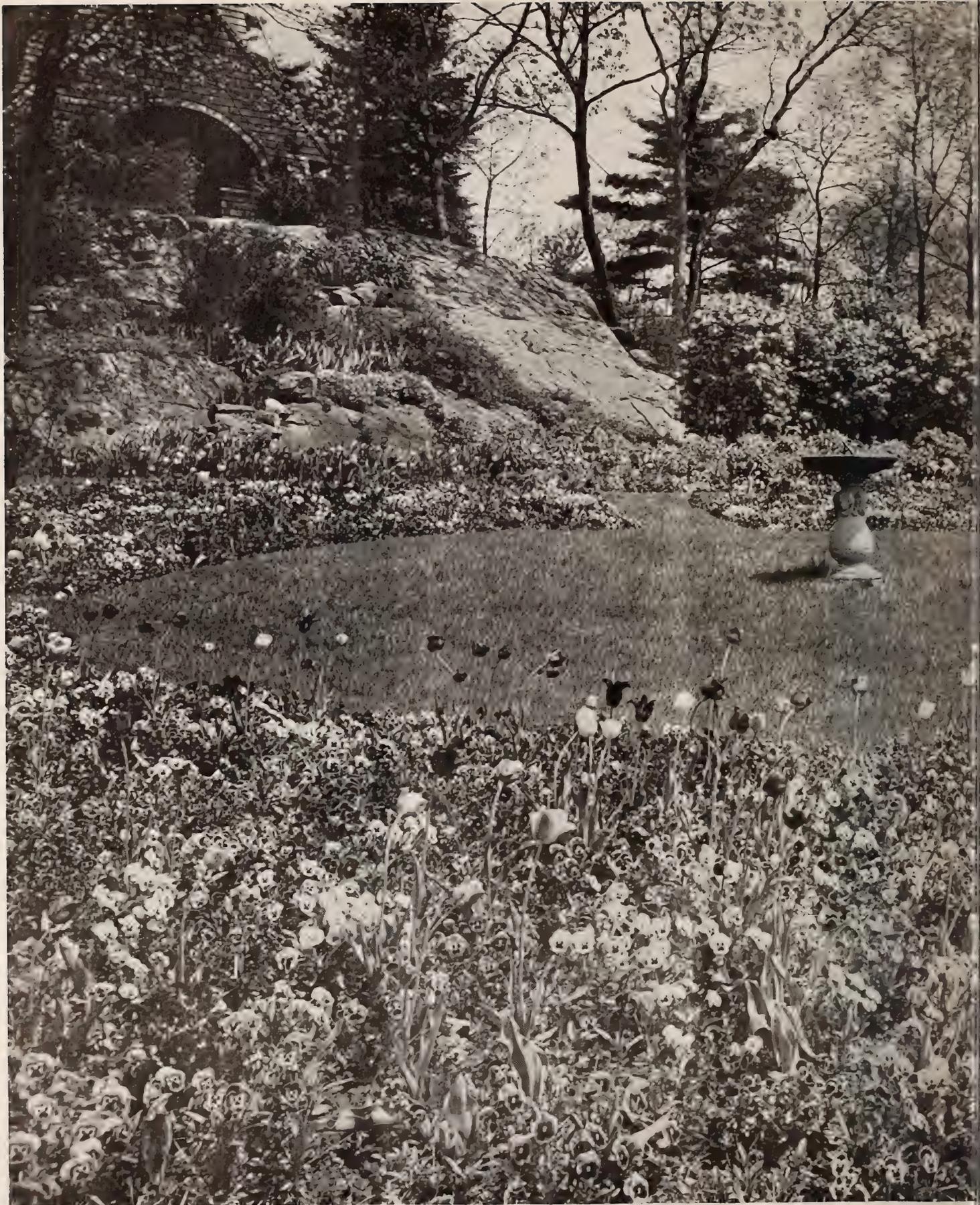
Practical Planting Points

Bulbs, like seeds, should themselves be the gauge of their distance below the surface, the safe and sane rule being to cover everything with three times its own depth of earth.

Gauge the distance between them by their width in the same way, spacing Crocus once their width, Hyacinths and Tulips twice their width, Snowdrops, Squills, and Jonquils three times their width, Lilies four times their width and Narcissus five times their width apart.

Always insure perfect drainage out of doors by setting all bulbs on an inch-deep bottom of sand or coal ash. Cover the earth above them with a layer of mulch as soon as winter weather comes on, but not sooner as this would induce premature growth.

For indoor winter bloom plant at once in a light soil, letting the top of the bulbs come just above its surface. Water thoroughly after potting, set away in a cool place and cover with light litter to keep dark until well rooted. Bring into the light and warmth as wanted for succession of bloom. Vigorous and abundant roots are the secret of satisfactory flowers indoors.

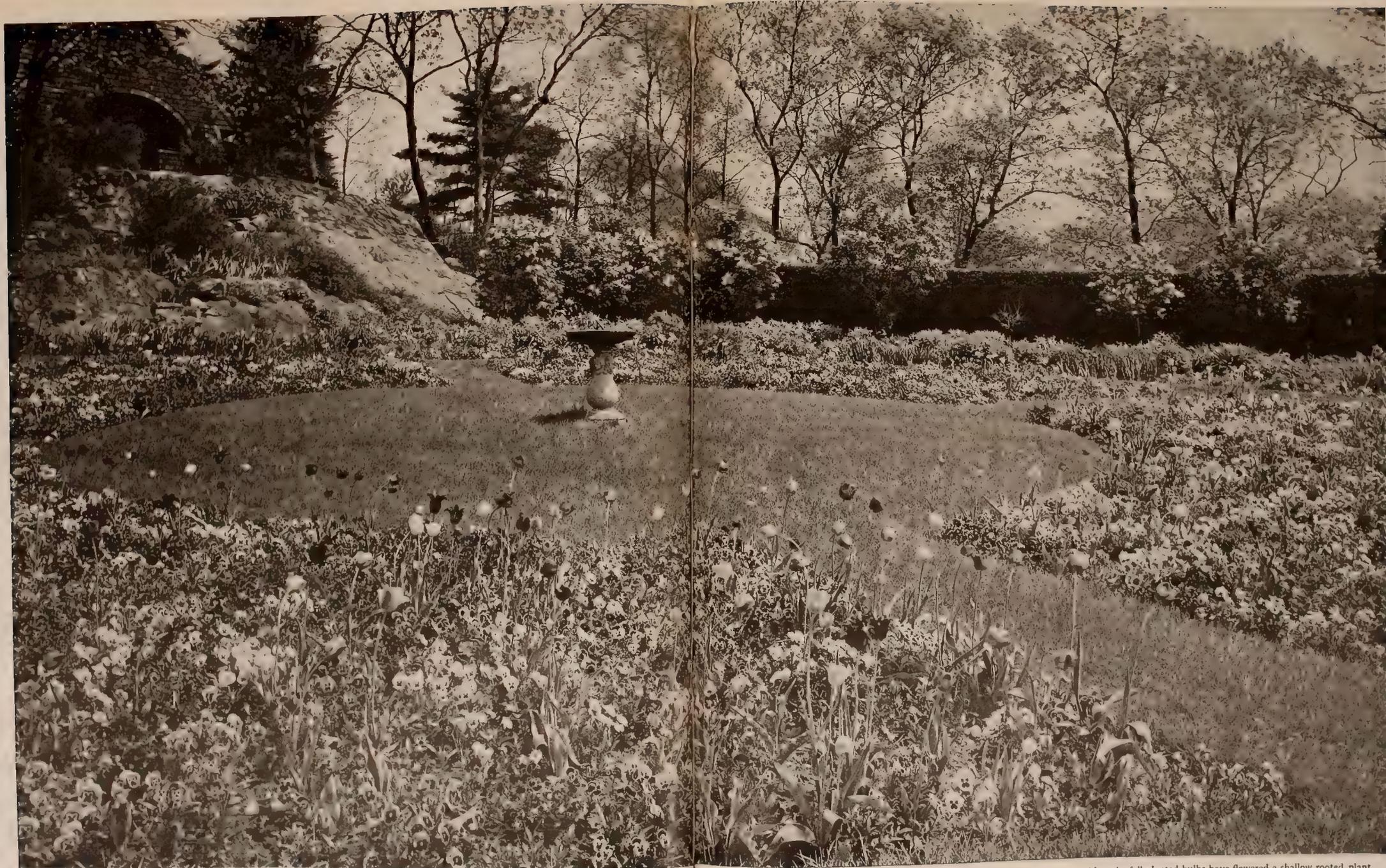


A SUCCESSION THOUGHT FOR THE BULB BEDS



After the fall-planted bulbs have flowered a shallow rooted plant like Pansy, Forget-me-not, or Alyssum makes a good second crop





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After the fall-planted bulbs have flowered a shallow rooted plant like Pansy, Forget-me-not, or Alyssum makes a good second crop



THROUGH THE GARDEN GATE

By Louise B. Wilder

Author of "My Garden" and "Colour in My Garden"

In every orchard Autumn stands
With golden apples in her hands.

Alexander Smith

Gardeners be Propagandists!

A RECENT motor trip that took in the most important summer resorts, towns, suburbs, and cities of four Eastern states left me—a stay-at-home gardener—considerably astonished at the fewness of gardens along the way. Not only were they few in neighborhoods where their being would be dependent upon the owner's desire for flowers and his willingness to work for them; but where the evidences of wealth would suggest gardens as a matter of course they were not! Not only were real gardens surprisingly absent, but there were innumerable places that did not show even a gay head of Phlox, or a clump of Peonies. This was particularly true of the towns and villages. Our trip was not a garden pilgrimage, and we did not get out and peer over walls in search of hidden beauties, nor enquire at gate lodges if there were gardens within; but the gardener's eye is ever alert for a ray of bloom, and had it not been for the tangle of Chicory and Chimney Pink that bound the roadsides, the flash of the Turk's-caps from the swamps and then the Sabbatia on Cape Cod—a sight worth coming many a mile to see—my eye would have had a dour experience as far as flowers were concerned. Here and there was a garden, that still marks the day upon which we saw it as different from the rest—a little blue and gray garden at Black Rock, a few wondrous visions through iron gates at Newport, a flower-smothered tea house at Provincetown, an occasional bright door yard—but only enough to emphasize the general lack.

Gardening, I am forced to believe, is not nearly so general as I thought it was. There are, it seems, hundreds of thousands of persons in suburban and country neighborhoods, in towns and villages, to whom a bare piece of ground presents no challenge. Who feel no urge to manipulate it and see something lovely arise before them. A majority apparently feel no urge even to hide the garbage can, or the unsightly chicken yard by planting a few shrubs. Many are entirely contented in the midst of a blank green lawn; too many are not even concerned with a lawn.

Of course there is no use scolding away at readers of the GARDEN MAGAZINE. That they all have flourishing gardens goes without saying; but is it not sad that so much of the world knows not this joy that we know?

Few to-day deny the good influence exerted by beautiful

surroundings, and who shall say that more flowers and more gardens would not as soon induce a wrangling world to peace as many another measure? A man concerned for his choice Asters, careful of his small alpine treasures is nearly always a contented man; he who lingers to see the opening of such an Iris as *Isoline* is not likely to go forth to take part in violence. Gardeners' dreams, of course—but maybe with a grain of truth. The influence of small things is incalculable.

So gardeners, let's be propagandists! Let us increase the membership of our garden clubs, try harder than ever to arouse the civic pride of our towns and villages; give away bits of our *choice* roots and seeds to our indifferent neighbor instead of urging upon him stuff of such a rampageous character that it will soon threaten to run him off his own place—and be ready to help all beginning gardeners to the best of our knowledge and ability. The gift we offer is pure gold and how true it is, as old George Herbert has it,

Who shuts his hand, hath lost its gold;
Who opens it, hath it twice told.

Blue Petunias

THIS summer I have enjoyed very much the so-called "blue" Petunias. Of course they were not blue but they were violet, dark and rich and without a hint of the family color—magenta. Here and there one of less pure color appeared but these were pulled out. On cloudy days their color quality was quite piercing. The flowers are large and more velvety in texture than are Petunias usually. Altogether these blue Petunias are a real acquisition. Here they were planted in large stone pots, but they would constitute a delightful edging for a summer and autumn border in violet and white. Such a border might contain Phlox *Wanadis*, *Physostegia virginica*, *Gladiolus Blue Jay*, *Campanula pyramidalis*, both the blue and the white, white and lavender Stocks, purple and white China Asters and Michaelmas Daisies of all sorts.

The new Rosy Morn Petunia—small and vivid pink, is also a delightful flower. Borders edged with it are kept gay throughout the summer and autumn. Petunias in the past have been ill used, poor seed planted and too often in mixed varieties. But now with these two fine kinds at our disposal as well as the frilly white ones, better things should be in store for them. No plant so sturdily defies a dry summer, none is better for window boxes and garden pots, none blooms more riotously by the sea. In its new varieties it is a flower for every garden, lovely and reliable; but it should be given sunshine and the seed is best started indoors in boxes of prepared earth during March.

Choice Summer Phloxes

ON ACCOUNT of having plenty of rain, I suppose, the summer Phloxes have been handsomer than ever,—the great wedges of bloom unusually full and the individual blossoms unusually large. Three varieties have given me particular pleasure here: Wanadis, white with a lavender eye that flushes out over the petals a little; America, a pure salmon-pink with a crimson eye, the flower heads and flowers very large; and Peachblow, a lovely soft pink very near the tint of a peach blossom. All these are lovely kinds for anyone who is going to add to his collection this season. Where the older Von Hochberg does not grow it should certainly be added. It is one of the longest blooming varieties that I know and of a dark rich wine color that makes itself agreeably felt among the Michaelmas Daisies, Heleniums, and Boltonias of the fall garden.

Most of us grow our Phloxes with too many stems. Four or five should be the limit, if we desire to have the flower heads in perfection. If it is not possible to divide the plants every two or three years, thus keeping down the number of stems, one may still remove some of the superfluous ones in the spring as is done with Michaelmas Daisies. The small shoots taken from the sides may be grown on in nursery rows for later filling in. Phlox seedlings, which spring up plentifully wherever the plants are allowed to go to seed, are seldom worth keeping as they seldom reproduce the color of the parent plant and are a real nuisance once they get firmly rooted. It is best to pull them out as soon as they appear, so that later when blooming time comes 'round the fine masses of pure color will not be spoiled by the poor colors of these gypsies that like nothing better than to come up right in the midst of a fine clump. Every year it is necessary to watch for and eradicate these undesirables or Phlox time in the garden will be far from happy.

Introductions to Some Beautiful Native Brambles

THIS summer I have wondered—
as I have every summer since I came to know the so-called Purple Flowering-raspberry (*Rubus odoratus*)—why so little use is made of this fine native shrub by landscape gardeners and gardeners in general, for covering rough banks in sun or shade, or growing over rocky areas. It is one of the handsomest of the Brambles and, having a natural range from Maine to Georgia and west through Michigan, is proof against most climatic excesses. The wand-like stems, three to five feet long, are covered with reddish-brown bristly hairs; the leaves, like large Maple leaves are slightly downy beneath and the blossoms, in shape like a wild Rose, but soft magenta in color, are borne for many weeks through the summer. Both the leaves and the flowers are fragrant. About here it covers many a rocky bank with soft green undulations, which when decorated with the clusters of soft magenta flowers give more than common pleasure to the sight. It adds to the beauty of the roadside hedge-rows and, where we are not too scrupulous as farmers, this flowering-bramble mingles charmingly with the burden of wild Clematis and grape that buries the stone line fences between the fields. It is offered by a number of our nurserymen and if rough banks are to be covered this fall few more suitable subjects could be found. Also it grows well under trees where the growth of roots is not too heavy.

There flowered this year in my garden on the first day of June, a small specimen of the Rocky Mountain Bramble (*Rubus deliciosus*), that I obtained two years ago from a Western collector. The little plant has weathered two winters, one bitter cold, the other of the trying freezing-thawing type and is apparently equal to either. The flowers were lovely, like large wild Roses, pure white, and even upon this small specimen continued to open for several weeks. Authorities say that this white-flowered Bramble grows to a height of five feet and is hardy in Massachusetts.

Lately I have been interested in reading of a tiny Bramble that would, if one could get hold of it, probably be a fine little shrub for the rock garden. It is *Rubus arcticus*, whose range extends across the continent in high northern and arctic regions, a wee little Bramble growing only five inches in height and bearing bright carmine blossoms. This Bramble is allied to the Cloudberry, a low creeping species found in the most northerly mountain regions as a rule but also in parts of the White Mountains. This plant (*Rubus chamaemorus*), would also be a fine addition to the rock garden could we but get at it, but though both of these are offered commonly in English catalogues, this at present is small consolation to us (because of Quarantine No. 37). Let us hope they will soon be collected by our own people.

Are Ants Injurious Insects In The Garden?

I WISH someone would set my mind finally at rest about ants. I am told that they do no harm in the garden, moreover that they destroy certain injurious insects and are altogether the friend of man and I try to believe it, but doubt keeps sifting in. This summer parts of my garden are infested with them and the roots of several plants that have been dug up have been found to be literally alive with them. This happened with some rare dwarf Irises that were taken up because they appeared to be ailing, and with some mats of *Sedum album*. The latter was not apparently affected by the crawling hordes, but then it would take more than a few thousand ants, whatever their powers and intentions to daunt that sturdy succulent. The Irises replanted in an ant-free neighborhood appear to have recovered their tone. The ants found among the roots of these plants are of a curious rusty color and not very large. Again, in a cold frame where I planted numerous small seeds, not one came up though they were attended with the usual care. Each time I hopefully opened the frames to look for little humped green backs or pairs of leaves all that met my anxious gaze was troops of busy ants evidently with some important matter in hand. Were they carrying off my seeds?

After reading a very interesting article in the "Standard Cyclopedia of Horticulture" about ants and their tender care of plant-lice, tree-hoppers, and certain scale insects, particularly the first named on account of the sweetish liquid secreted by them and relished by the ants, also their life history and economic importance and how to control them, I am still stupidly in the dark as to whether hordes of ants at the roots of my plants are doing them harm and if that pre-occupied cold frame procession was bent solely upon its own affairs or was engaged in laying up its winter stores from what I had hoped and intended should be my summer harvest. Can any one tell me the whole truth about ants in the garden?

TEXTURE IN THE GARDEN

THEODORA KIMBALL

A Foliage Element in the Garden Picture That Will Richly Repay Careful Consideration, Whether Planting Has Been or Is to Be Done, Inasmuch as It Is a Revelation of One of the Actual Fundamentals of Beauty

WE DO not hear very much about texture in the garden. Color and form have a literature of their own, and seasonal effects have been generously treated, but texture—perhaps because it is considered as a background for composition in color and shape, rather than an element worthy of independent treatment—has been overlooked. And yet what delightful contrasts and harmonies are possible in the shrub border, to take a familiar instance, between the soft mistiness of a Smoke Tree in bloom and the glossy brightness of Laurel-leaved Willows, or between the bristling fineness of the common Barberry and the rough Blackberry vine scrambling beneath.

IT MAY be, too, that texture has failed to receive the attention it deserves, because its nature and its relation to size and shape have not been well understood. Texture is really the result of the size and shape of small parts, but these parts are so small that one regards them as a continuous surface and not as separate objects in a composition. The texture of a leaf depends on its thickness, on the character of the veining, and on the smoothness or hairiness of the whole web; the texture of a shrub depends in turn on the character and disposition of its leaves; and the texture of a distant shrub plantation, on the form of the shrubs that compose it. The relation between the total form of a shrub and its texture, is only one of scale, and the soft textured Smoke Tree is seen to be, on nearer view, an aggregation of tiny but none the less clearly-defined shapes.

The texture of a tree or shrub is not only the result of the size, shape, and surface of the leaves, but also of their attitude and grouping on the twigs and smaller boughs, and their arrangement to make up the whole foliage mass. Leaves that are large, heavy, and stiffly set give a coarse texture and a certain robustness of effect. Small leaves, especially those

which tremble upon their stalks or boughs, give a plant a haziness of outline and an effect of delicacy. Yet the numerous closely set needles of the evergreen give a sense of solidity in contrast to the open texture of the larger-leaved deciduous tree. Glossy leaves such as those of the Laurel-leaved Willow, and leaves that are lighter underneath, like those of the Poplar, produce a texture having a certain sparkle and gaiety, and also a variety of texture effects as the foliage is ruffled in the wind. Similarly textures in herbaceous plants arise from the character of their foliage and from the size, set, and character of the flowers. A flower border seen at a little distance has a striking variety of textures.

WE GAIN our impressions of texture, however, sometimes as much by our sense of feeling as by sight; and the appeal to our attention of certain textures in a garden composition often comes largely from our memories of their character to the touch. And this tactual aspect of texture is valuable to remember, particularly in securing effects of contrasts; yet the most important considerations relating to texture in the garden are the scale relations of the textures of various trees, shrubs, and herbaceous plants to their respective sizes and shapes. An appropriate edging for the flower beds of a trimly-kept formal garden should be composed of small and close-growing plants, for example; and very often these plants must be clipped in order that the edging may have an effect of continuous texture rather than appear to be a series of individual plants. Again, interest may be held or directed and the importance of a plant may be diminished or increased purely through the handling of textures in the composition. A unity of total effect may be secured in a parti-colored flower border by the consistently fine texture of the gay and delicately poised blossoms. The unified sweep of a lawn is due not only to its greenness but largely



VIEWING LANDSCAPE AS A TAPESTRY

Finely wrought or coarse, as the planes of distance reveal detail or mellow it. View from the Temple of Arts at Bar Harbor, Me.



ONE OF THE REAL MASTERPIECES OF LANDSCAPE

This great transition vista at Blairsdene, the estate of C. Ledyard Blair, Peapack, N. J., weaves all the immediate and remote elements of landscape into a fabric of matchless texture harmonies. James L. Greenleaf, Landscape Architect

to the consistency of the texture of its clipped turf. This is one reason why the coarse leaves of the plantain or the dandelion pushing out among the fine grass blades are so unpleasantly discordant; and, conversely, why the little round-leaved clovers add to, rather than detract from, the pleasantness of the lawn.

JUST as colors grow softer to the eye as they are more distant, so distance softens textures; and we think of a tree as distant when we cannot see the shape of its leaves, but have an impression only of a tree form with a certain harder or softer texture. This fact may be taken advantage of by the clever gardener; and a small garden may be made to look larger from the important viewpoint by using the plants of coarser texture in the foreground and the finer and softer things as distance recedes. If we were looking at this garden we should instinctively feel, in the range of textures between foreground and background, a greater effect of space than we would if coarse plants were in the background to bring it forward and thus impress us with how very near it is after all. In just this same way a combination of bright colors and the coarse texture in the foreground, with softened, bluish tones and finer texture in the background will make a small garden seem considerably larger.

THERE is another way also in which a skilful handling of textures may be made to contribute to the pleasant effect of a landscape design. The appearance of newness in house and garden—inevitably associated in our minds with a certain harshness and rawness—may be mitigated by the use of soft-textured materials, approximating the softening effect of age. This result has been achieved with rather unusual success in the small place above, the work of Mr. Gordon Allen, architect, and Mr. Henry V. Hubbard, landscape arch-



FOLIAGE COMPOSITION IN THE GARDEN PICTURE

Here the arrangement properly violates the principle of coarse texture in the foreground to the end that the path vista by contrast shall seem longer

itect. For the exterior of the house hand-split shingles were chosen, set on irregularly and stained soft gray, so that the whole house showed immediately the agreeable texture suggestive of age. The terrace hedge is *Spiraea callosa alba*, with *Spiraea Thunbergii* on either side of the steps leading down to the garden walk; and these make a pleasing texture harmony with the shingled walls. The relatively fine texture of the old trees remaining from the pear orchard that once occupied the land, and of much of the shrubbery, carry out the general effect, producing—apart from their form—quite a different total impression than if Horsechestnuts for example, or Catalpas and bristling evergreens surrounded the house. The scale relation of the predominating texture to the size of the place, taken in conjunction with the scale of the low pear trees in relation to the new shrubbery, makes the place appear larger than it really is, as well as older.

When one gets to thinking in terms of texture, it is surprising how many new points of interest appear in shrubbery and even in flower border; and astonishing to see how much can be done in planting to make foliage composition of more significance. The essential of it all lies in seeing the landscape as though it were a flat surface—a textile, in other words, woven of the warp and woof of leaves and shadows and blossoms, and spread before the eyes as a drop curtain. For the purpose of studying the subject it is necessary to bring this sense of it very clearly up before one, and to observe with half closed eyes perhaps, as artists do, until things are seen in the mass instead of as individuals. While a leaf or a clump of leaves holds its individuality, you are not getting the "texture" of a planting; but as soon as the great surface made up of thousands of leaves, unifies and conveys to you an impression of softness or rigidity or roughness or whatever quality it may be that it thus reveals, you are.



WALLS HAVE TEXTURE TO DELIGHT AS WELL AS TREES

And when a tracery of vines brooders this background with color and with light and shade and the turf below gives contrast, you have the intimate seclusion which is the delight of English gardens. The broad expanse of smooth turf is an interesting and pleasing foreground



A TEXTURE CLOSE-UP

Here are examples brought near enough to reveal their detail and show the difference that different leaf forms give. The coarse vine and shrubbery growth in the left foreground contrasts with the smoothness of the clipped hedge while the shadows in the Arborvitaes at the right show as reasons for the deep quality in ever-greens

AMONG OUR GARDEN NEIGHBORS



WHEN the human animal is reduced to the lowest common denominator, by subtracting his means of subsistence, he is as true to type as any other genus in creation. The trend of the times is increasingly toward just this subtraction; not, through the increase in the cost of commodities—that is a result, not a cause—but through actual lack. And the sinister spirit of direct action, which boldly defined means “might to take gives the right to take,” is gaining until the lowest common denominator of the human animal is already discernible. And things must be done about it!

What can be done? Gardens can be made, for one thing—and more and more gardens. What there is about this most ancient of human occupations that accounts for its therapeutic value, the psychiatrists have not yet revealed to us, it is true; but that it has such value to a transcendent degree, especially in the case of mental or emotional disturbance, everyone is perfectly aware; just as everyone is aware that mental and emotional disturbances are shaking things to their foundations right now.

There is an increasing number of persons whose sanity is beyond question who are asking in all seriousness to-day whether the complete overthrow of civilization throughout the world is as impossible as it seemed a few years back. Still it is difficult, to be sure, to conceive the succession of events which would result in social darkness once more over the face of the earth; but there are straws that show unmistakably a wind blowing.

Prices do not mount continually and consistently in every country in the world, and in every part of every country, without some great basic reason more vital in character than the local or even the national profiteer. Attributing to the latter the full deserts of his monstrous villainy does not, after all, account for more than an infinitesimal portion of the vast total increase.

It is not the increase in the cost of commodities that should most concern us however, but the actual lack of them. The cost of everything comes back inevitably to supply and demand. Here is the crux of the whole situation. And we are running a greater and graver world-wide risk in not recognizing this, with regard to the world's food especially, and

dealing with it frankly and positively, than any local privations, however acute, can as yet possibly indicate. Because as yet local privations are mainly temporary with only the luxuries scandalously priced; and wages have climbed and are climbing and so that few are as yet actually deprived. But wage increase cannot go on indefinitely—no more can all the rest. Actually supply grows less instead of more, notwithstanding all the inducements to production that farmers and food producers generally are supposed to have; for shorter hours of labor continually shortened, reduce production—food production as well as all other kinds.

It is hardly possible that garden making is enough for us to do; but garden making is something. And if, instead of a land of gardenless homes such as Mrs. Wilder laments on another page, the house without its garden should become the notable surprise of a day's cross country journey, a great big move in the right direction would have been made. Gardens throughout the length and breadth of the land, gardens that shall yield sustenance for the complete man—food for his body and beauty for his soul—are one of the land's greatest needs. And it is a need that each one of us may do a little toward filling, if there is just the will (and the willingness) to do.

Next Month's Features

EXTENDING into actual practice the thought of really complete service all true gardeners at this time of the year feel very much as though they are approaching the end of a blind road, and but for the expectancy of spring the winter is a season to be merely endured. But this need not be, indeed should not be, for as outdoor activities wane the activities of “under glass” open up. But we have not learned generally how to use the glass house to best advantage. Something of its lure and wide opportunity will be featured in “All kinds of Greenhouses” in our next issue. There, too, Mr. Wilson takes up specifically the romantic story of one tree, the Ginkgo, which links the modern garden with pre-glacial times. Of timely practical interest in the November number will be articles on Moving Big Trees, Preventing Winter-Killing, and a helpful practical plan of carrying the growing vegetable garden into the cellar for winter, etc., etc.

THE OPEN COLUMN

Readers' Interchange of Experience and Comment

Fall Planted Elms

TWENTY Elms were set out as street trees in the fall of 1915. The trees now caliper on an average 4 inches at a height of three feet from the ground. Thus it is apparent that the trees were of a considerable size when set out. They were dug with a large ball of earth which was allowed to freeze solid before the trees were moved. The hole dug for each tree was just large enough to hold the ball of earth surrounding the roots. The trees were out of the ground several days and when planted were given no special treatment except an abundance of water in spring. This, their fourth year shows a loss of two trees with all the rest in thrifty condition. It should be stated, however, that all the trees were headed back severely.—C. L. MELLER, *N. D.*

When Is a Plant Biennial?

IN MY garden Columbines of twelve years' standing are still living, and flowering every summer. Lupins set out four years ago are as strong and as profusely blooming as ever. I have had three years' bloom from my *Anchusa italica*. Now the plants have disappeared, but last winter was a trying one for Northern gardens. It is interesting to record that I have never lost a Rose bush, either Hybrid Perpetual or Hybrid Tea, though I give them no more protection than the rest of the garden. This year I set out a few Teas. Under the severe conditions of our climate plants fitted to survive at all seem to develop strong constitutions.—ELIZABETH T. CABOT, *Dublin, N. H.*

Garden Pictures from Washington and Texas

season from planting. In the foreground on the right (not shown) are dwarf Phlox, then fragrant Grass-pinks, Columbines, and Roses. Leading from the cherry tree there are Roses and all colors of double Tulips on both sides. Between the cherry tree and the bird house are perennial Poppies and Goldenrod. To the left is a bed of blue and white Iris backed by a clump of old-fashioned Roses. Next is a Golden-glow and a bed of double Violets and between the apple and pear tree are Roses and Day-lilies. Mrs. Thomas



ROSES IN TEXAS

Amid the utility crops of onions and such like a ray of beauty is shed by Roses and other shrubs in this Texas garden

Peyton Steger, Bonham, Texas, sends a photograph of a small corner in her garden where white and crimson Rambler Roses grow on the arch, saying: "I send you this little picture because I've gotten most of my flowers and shrubbery from catalogues which I have found through *THE GARDEN MAGAZINE*. I find it to be the very best magazine in its line and it is a pleasure and delight to me each month."

Good Color Combinations

IN AN article by Louise B. Wilder in the July number of *THE GARDEN MAGAZINE* I notice a number of examples of magenta and blue. May I commend also as a fine combination Mullein Pink (*Agrostemma Coronaria*) and the blue *Platycodon*. While the Mullein Pink is more vivid than magenta the combination in my border is striking. Near them I have white Annual Larkspur, and 'tis often spoken of as a patriotic combination. May I say a few words in praise of *THE GARDEN MAGAZINE* and the pleasure and profit I derive from it? The men folks also profit by its many commonsense hints.—L. B. MUNROE, *Forest Glen, Md.*

Kerosene Emulsion and Snowballs

IN MANY gardens the Japanese Snowball has displaced the old fashioned Snowball, the Guelder-rose of our grandmothers. I always ask: "Why do you give up the big, soft, ball and the round headed bush for the stiffer horizontal branches of the interloper, even if its branches are closely covered with beautiful balls of white?" The answer is invariably the same: "The Japanese has such good leaves. The leaves of my old Snowball were all twisted up and spoiled by lice, so I cut it down." To my mind the old variety is so much better when it is given the care it needs, that I am sending this plea to the readers of *THE GARDEN MAGAZINE*: "Do not cut down your Guelder-roses, but plant more, only give the young leaves a good spraying with kerosene emulsion before they begin to curl and another spraying when you see any trace of aphid." It seems to me that the reason aphid ruins so many plants in our gardens is that the rules for making kerosene emulsion are too complicated. The usual directions require weighing out a definite amount of soap and dissolving it, which is a bother when garden time is limited. For years we have made kerosene emulsion with sour milk instead of soap and it is quickly and easily made in this way. If you need a pail of emulsion,



A THREE YEAR OLD FLOWER GARDEN

In the congenial climate of Washington state flowers flourish and bloom in profusion

put one cup of sour milk and two cups of kerosene in an ordinary twelve-quart bucket. Tip up the pail between your feet so as to collect all the liquid in one spot. If you use a garden syringe, put it into the milk and kerosene, draw it full and squirt it back with full pressure, continue this until the white mixture "blubs" and is like very thick cream. Then fill the pail with water and you have a pail of fine white milk which is death to all soft bodied insects which breathe through their bodies. (Of course the emulsion makes a film over their bodies and smothers them). If you do not own a garden syringe, the sour milk and kerosene can be beaten together with a Dover egg beater, and the result is equally satisfactory. A whisk broom is an excellent substitute for any form of spraying machine, if after being dipped into the diluted emulsion the broom is given a quick, snappy jerk which throws the emulsion in a fine spray. In France the grape vines were sprayed for many years with a brush. If you have only one bush to spray and need only half a pail of emulsion, use half a cup of sour milk and one cup of kerosene and fill your pail only half full. If the bush is young and small, one quarter of a cup of sour milk and one half a cup of kerosene in one quarter of a pail of water will be all you need. If you use only a small quantity, the milk and kerosene are more easily beaten together in a bowl with a Dover egg beater. It does not injure the egg beater for its more legitimate use. We usually make the kerosene emulsion for Snowballs and currant bushes at the same time and whenever one has a dose, give it to the other as a means of prevention.—FRANCES G. MARKHAM, *Dorrancetown, Pa.*

What is a Suitable Peace Tree?

TO ME the Tupelo that Mrs. Wilder (page 66 of March) suggests as a "Peace Tree" is hardly as symbolical as a sturdy, far-shading Oak but in its way nothing gives me greater joy. As I see it in the Arnold Arboretum, a not large, rather slenderly pyramidal tree marked by smooth limbs and foliage, or in the fall gorgeous in its coloring, it does not seem characteristic; but in the wild, by the windswept shore or on a damp high blueberry pasture it develops an unusual pictorial quality. The flattened head, the horizontal branch development and the bared and twisted trunk seem to carry one among the weirdly domesticated conifers of a Japanese garden.—R. A. S., *Mass.*

Verbascum Olympicum From Seed

LAST year, early in the season I sowed a package of seed of the Greek Mullein (*Verbascum olympicum*). The seeds germinated well and the strong seedlings were transplanted into rows in the nursery, where they have developed into large plants, but with no promise of bloom this second year. Four seedlings were allowed to remain undisturbed in the seed-bed, and one vagrant, uninvited, took up a home elsewhere. These five plants have all been blooming since about the twentieth of May and the stalks are now more than six feet in height. This experience leads me to think that transplanting, even though the seedlings are young and robust, adds a year to the period of growth, and that the plants had better be sown where the bloom is desired and the surplus seedlings removed.—ANITA S. REYNOLDS, *Greenwich, Conn.*
—Yes! Many plants are very sensitive to "shock" and cannot proceed about their normal course of life until they have overcome

anything that has upset the even tenor of their ways. Transplanting except out of pots at the proper time—is always a shock; and in a large plant of short life is really serious. We would be better off if we transplanted all young seedlings into pots (pricking off) and later on planting out from the pots without shock. Some progressive nurserymen are doing this even with herbaceous plants and it is the only way to insure a continuous planting season.—Ed.

Experience with a Soy Bean

IN THE June number of the GARDEN MAGAZINE mention was made of a new Soy bean, a variety named Easy Cook. As this is not yet available it may be of interest to know that one of the older sorts can be cooked without much difficulty. I refer to the Hollybrook Early which is sold by all the seedmen. I planted this variety last year with success. It certainly resists drought to a remarkable degree. Its bright green foliage was in marked contrast to the yellowing vegetables about the row during the very dry weather of 1918. I have been using the shelled beans during the winter and spring, and do not find them difficult to cook. I allow an hour and a half for the soaked beans if they are cooked by a steady fire, but often start them on the stove and finish in the fireless cooker. I have had lima beans stored two years which it was almost impossible to cook tender. These soy beans do not, in my experience, take longer than navy beans if they are from a fresh home-grown crop. Of course, they do not get "mushy" or break to pieces, but that is rather an advantage than otherwise. One can have them thoroughly cooked and tender but not broken. Until we can buy seed of Easy Cook the Hollybrook Early is well worth growing. But I prefer to raise my own and know the age of the beans before I attempt to cook them.—A. H. BOTSFORD, *Edgemoor, Del.*

New Lamps For Old

MOST of the women who helped win the war have been demobilized, and might consider favorably the following suggestion as to a new job. Taking our own suburb as typical, it is essentially a place of homes and gardens. The large estates present no especial problem, but the man operating an acre or less does. He wants fruit, flowers and vegetables, cannot afford a trained gardener, and has neither the time nor the knowledge to do the work himself, or to direct common labor. All states have agricultural courses now, where it is possible to learn about soils, fertilizers, drainage, cropping, pruning, and fungicides. A woman with that training could act as overseer for many places, agreeing beforehand on the work to be done, the price charged, and bringing her own force with her to do it. She would have the fruit trees and Roses pruned and sprayed, the soil properly fertilized, hotbeds built, started, and cared for, drainage attended to, and shrubbery set out. The raising of poultry might also be added to the list. Some degree of uniformity in planting and color would be an advantage to any community, and a woman of taste and tact could work wonders. A supplementary occupation for December, January, and February would be necessary, but even so this work should have a strong appeal for those who enjoy being out-of-doors, and protest against the old life with its lack of a definite objective.—KATE B. BURTON, *Cleveland, Ohio.*



IT PAYS TO BUY GOOD BULBS

These two bulbs are about the same size but that on the left cost most and they gave different results. Judge a bulb by weight and solidity rather than bulk—the biggest is not always the best

The Month's Reminder

"Come with me, then, behind the scenes, where we are concerned only with the joys of plant increase and rejuvenation"

The Reminder is to "suggest" what may be done during the next few weeks. Details of how to do each item are given in the current or the back issues of THE GARDEN MAGAZINE—it is manifestly impossible to give all the details of all the work in any one issue of a magazine. References to back numbers may be looked up in the index to each completed volume (sent gratis on request), and the Service Department will also be glad to cite references to any special topic if asked by mail.

When referring to the time for out-door work of any sort New York City at sea level in a normal season is taken as standard; but at best dates can only be approximate. Roughly, the season advances northward fifteen miles a day. Thus Albany, which is one hundred and fifty miles from New York, would be about ten days later, and Philadelphia, which is ninety miles southwest about a week earlier. Also allow four days for each one degree of latitude, for each five degrees of longitude, and for each four hundred feet of altitude.

OCTOBER—THE MONTH OF GARDEN TWILIGHT

THE first two or three weeks of October can—and should—be as busy as any period of equal length the year around; but with its close there settles down over the garden the calm of evening, the quietness of slumber. Consequently—

Final Touches in the Vegetable Garden



Keep the celery growing and blanched as long as you can. It is about the only crop that is still really developing, and cool nights and warm sunny days are just to its liking. But be in readiness either to lift it and store it in a cellar, or to cover and mulch it where it stands, as soon as destructive frosts come close enough to be dangerous.

Lift the late cabbage and store away, preferably in straw lined pits, the same as roots and apples. To prevent rotting, place the heads *upside down* in rows, setting a second layer on top between every two below, and so on up.

In putting the potatoes into storage, keep the seed stock (if you save your own) *separate*, and make special preparations so that it will be entirely safe from freezing—and also so it will not tend to start into growth early in the spring.

As soon as the ground *crusts over* and the hardy plants show traces of frost in the morning, cover the corn salad, spinach and other salad plants and pot herbs growing outdoors with a thin coat of some light mulch. As the weather gets colder increase it, but *at no time* make it heavy enough to smother the plants. They simply want to be protected from the winter sun.

One exception in this mulching operation is kale—leave it *entirely unprotected* and it will get along all right. See future reminders for directions as to how to use it when frozen or snow-covered.

In clearing up the late crops *remove the stumps* of cabbage and cauliflower, the *haulms* of potatoes, and the *bean and melon and squash vines* along with the usable products. Anything that will quickly decompose and that is obviously free from disease and insects can go on the compost pile. Everything else should be *burnt* at once.

If you can spare some strong plants of asparagus and rhubarb for *winter forcing*, dig them shortly before the ground is likely really to freeze and pack them away in a frame where they can freeze. Then mulch them well and leave them till about *four weeks* before you want the forced shoots. Directions for subsequent care will appear on the December pages.

Keep cauliflower and cabbage in the hotbeds, frames and houses *well aired*. Those in the house will of course have to be protected

Last Call for the Gardener !

1. Make the most of every Indian summer day. Do everything you can, as soon as you can, for there isn't any assurance of "another chance" this season.
2. Do every job that must be done before the opening of another garden year, and every one that can just as well be done now. But don't bother with tasks that will have to be completed, or done over again, next spring.
3. See that everything is removed from the gardens except (1) growing plants that are wanted there, including perennials, winter vegetables, and cover crops; (2) litter that is being used or going to be used for mulching; (3) manure and any other protective or otherwise beneficial materials on or around beds, borders, shrubs and trees.

from drafts, but they will need and can stand more ventilation than almost any thing else there.

Make another sowing of cauliflower seed to give a *succession hothouse* crop.

Lettuce can be sown in flats if you can supply *coolhouse* conditions; that is a night temperature of about 45 degrees F. and a correspondingly moderate day heat.

Make a last hunt for large, hardy *weeds*. The best way to get them out is with a spud, which can be either bought or made.

Pull up all bean poles, tomato stakes, pea or other trellises and other constructional material and *sort it over*. Anything good for next year, clean and put away; anything one third or more decayed, or *at all infested with fungus or insects*, chop up and burn. Burn *at once*, moreover; don't simply throw it on the woodpile and forget it.

There is still a chance to *save seed* of some of your most successful crops (in addition to potatoes) such as tomatoes, squash, beans, etc. See that it is clean, and thoroughly dry before putting it away in tin containers.

Beans thus kept *must be*—and other seeds well may be—*disinfected* with carbon bisulphide in order that insects, unintentionally put into storage with them shall not destroy them before planting time comes.

And *don't forget to label* all such seed carefully, accurately and fully.

Plow or dig up your garden and sprinkle with lime *if* the soil is a heavy, stiff clay, or if it has been badly infested with white grubs, wireworms, and various other insects that spend their pupal stage in the ground during the winter. But don't do this *if your land slopes* so that the tilled soil will be washed down hill by winter rains. In such a case rely upon *cover crops* over winter, and the addition of lime, ashes and manure in the spring to lighten the soil.

Final Offices for the Fruits



Harvest the *winter fruits* and get them into storage. They are called "winter" sorts not because they are harvested then, but because they should be edible then. Whether they will be or not depends upon how they are treated!

For best results *wrap each apple and pear*—especially the latter—in paper (newspaper will do) and pack it away in a box or barrel. Good results can also be obtained by storing them in bulk in bins in a regulation fruit cellar, or in straw lined pits outdoors. But in every case put away *only perfectly sound* fruit; and handle it *more gently* than you would eggs—more as you would day-old chicks.

(If you want to know what *pit-stored apples* can mean, read Thoreau's essay on the subject.—Oh Boy!)

Presumably the brambles have received all the *pruning* they will need until spring; but if there are still any canes long enough to be *whipped around* and injured by the winter winds, cut them back now; and, in particularly exposed situations *stake* or otherwise support them.

In far northern localities, or in the case of the distinctly *more tender varieties* of raspberries, scoop out a little soil from beside each bush then bend it gently over and, while holding it down, cover it with earth. Of course do *not* do this while the weather is mild enough to stimulate the starting into growth of the covered canes.

Keep up the *planting of fruits* as long as space and material remain. As long as there is no danger of the plants drying out between now and winter it is best not to mulch them until the ground *freezes over*. Then put on a good thick overcoat, adding to it as the cold increases.

Clean up *around and under* the trees, especially if they are scattered about the lawn, around the garden, etc. While, as noted below, it is wasteful and wrong to burn the leaves, this may after all be the safest thing to do with those from the *fruit trees*, since these may carry the spores of diseases which can cause a good deal of damage.

Work Among the Flowers Indoors and Out



Dig up the *summer flowering* bulbs such as Tritoma, Gladiolus, Caladiums, etc., and the tender tuberous rooted plants such as Dahlia and Canna. Let them dry all day *out in the sunlight*, then cut the stems of the plants to about five inches in length, shake the soil off the roots and bring the latter indoors. They want a cool, moderately dry place, and may either be hung up there, or stored in soil or ashes. They do *not*, however, want to be kept either *excessively dry* or where they can be touched by frost.

Begin to protect the *tender* (these are mostly evergreen) shrubs with leaves kept in place by a rough netting frame, wrappings of burlap, a cape of other evergreen boughs, or any other convenient protective material.

You can keep on lifting, dividing and resetting *hardy perennials* as long as the ground is workable.

You can also continue planting operations involving shrubs, spring flowering bulbs, and hardy herbaceous stock as long as freezing weather holds off.

Drain or bail the water out of the *water garden* or Lily tub and lift the tender bulbs; dry them and store them away till next planting time. They should be kept in a practically uniform temperature of about 60 degrees.

The larger, *tender ornamentals* like Hydrangeas, Oleanders, Bay trees, Yuccas and others usually grown in pots or tubs should be brought in and stored in a light, dry cellar for the winter. They will *need no care* as they do not grow during this period.

Where it is necessary to bring in Azaleas or hardy forms of Rhododendrons the plants should be watered thoroughly, then *heeled in* in a cool cellar so that the roots will be kept from drying out.

Few if any of the annuals remain effective. Of course, make the most of these; but *clean up* the annual beds and borders, generally treating these just as you do sections of the vegetable garden—that is, manure heavily or else sow a cover crop.

If you expect to receive *more bulbs or plants* within the next few weeks, or if you want to do some extra early planting next spring, put the soil in the best possible condition, *then mulch it* with manure and coarse litter so that it will be kept from freezing until time to work in it.

If you still need *seeds of perennials* gather a few more soon. The handsome grass Pennisetum will supply seed that can be sown outdoors next spring.

This is a good time to make any *needful changes* in the layout of your garden. The ground is in good shape for working, there is no danger of injuring the chances of any plant to bloom soon—and any new beds, borders or sodded spots will have lost their *new appearance* and rough edges within a few weeks after spring growth starts.

Do you need more sods as a *basis for potting soil*? If so, get them in under cover very shortly or pile them in a convenient place where they will rot.

If you have some *especially attractive* Phlox that you want to propagate, lift a plant of it, cut off the roots, then *cut these up* with a sharp knife or scissors into small bits. Scatter these over the soil in a frame or hotbed just as you would seed and press them into the soil or cover them with a sifting of it. Each root cutting will produce a new plant that will flower next summer.

Start Hyacinths; Narcissi and other bulbs (or *start more* if you already have some under way) for forcing. This may be done in pans, ordinary pots, dishes of stones, or bulb glasses. Keep them in a cool dark place for from *five to seven or eight weeks* while the roots, (the size of which *largely determines* the size and vigor of the flowers) develop.

Greenhouse work will be all the actual gardening work there is, soon. Have a final cleaning up, *behind, under, and in* the benches, so as to start neat and clean. Prepare all the benches you expect to use—and a few over, for emergencies.

Give the final touches to Chrysanthemums or any other plants that you are bringing to *special excellence* for exhibition purposes.

Remember that the soil in greenhouse benches, pots and pans *needs weeding* no less than the space between the rows and plants outdoors. Wherever anything else will grow, weeds will.

Keep special watch on the *temperature*. The hot days that sometimes come in October are likely to run it up too high almost before you know it.

Clean up plenty of pots. The green mossy appearance on old ones is perhaps attractive but it is not desirable. To get it off soak the pots for a few hours in a solution of carbonate of copper (1 oz.) in enough ammonia to dissolve it—from a pint to a quart may be needed—the final solution to be made by adding to this nine gallons of water. Some preliminary scrubbing may be needed to get the pots clean of soil.

Have you manured the lawn? If possible use so *thoroughly decayed* a product that it is not likely to carry any serious amount of weed seeds.

Keep the window boxes growing just as you fostered the outdoor beds last April and May. Don't *crowd* the materials; at the same time, the best effect comes from masses of plants, both foliage and flowering.

Clean up all around the grounds. This means, however, *only use-less* materials—supporting stakes that are no longer needed, etc. The mulch of leaves around the shrubs, the piles of litter to be laid over beds and borders when the ground has frozen, and the dressing of manure *are essentials* and—to the gardening eye—are attractive signs of care and forehandedness, not eyesores.

Here, as in the vegetable garden, keep everything *growing steadily*, and as rapidly as possible and for as long as possible. The winter will be long enough without adding on unnecessarily wasted weeks at its beginning.

October is as good a month as April for *starting a lawn*, provided the season is normally long. Seed down as soon as possible, however, so as to give all the time there is for fall growth.

Special Reminder!—Look up your garden photographs, and send to the Editors any that seem specially attractive, together with a concise description. The most meritorious will be selected for publication in the GARDEN MAGAZINE



Have you a spot like this?
What have you planted to get the best effect?
A planting of *Osmunda Claytoniana*.

“Hardy Native Plants and Ferns. Their Cultivation and Uses.”

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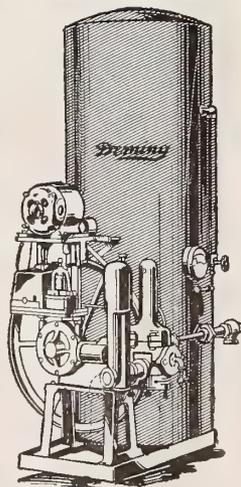
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Some Experiences with Aphids

FOR a number of years I have had more or less bitter experience in fighting aphids on flowers, vegetables and fruit trees. It seemed to me that when I killed any of the little pests that a dozen new ones came to the funeral and as usual a lot of ants, both big and little came also. Somehow it always annoyed me to see the ants enjoying themselves so hugely because of the aphids which I knew were damaging my plants. So in the early spring one year I determined to keep the ants off even if I could not stop the aphids. I purchased a can of tree tanglefoot and banded every tree. Well, I stopped the ants and much to my surprise I did not see any aphids. The entomologists had told me that I could not keep off the aphids that way, as they had wings and did not need to crawl up the tree trunks. But where there were no ants there were no aphids. Then one day I noticed on a small apple tree some aphids and also some ants. I examined the sticky band on the trunk and found that some grass had grown up and blown against it, sticking fast, forming a bridge for the ants who undoubtedly carried the aphids up with them. I removed the grass, sprayed the tree with nicotine and was no longer bothered with aphids on that tree. And of course the young growing shoots on the apples made a greater increase and the entire tree therefore gained when the aphids were kept off.

There is a black aphid which gets on sour cherries here. Although it apparently does not injure the trees much, it certainly can not do them good. I have one sour cherry tree that stands near a fence. I banded limbs of this tree to save tanglefoot. A water sprout that came out below the sticky band was so completely covered by aphids that it was black. This sprout was so badly injured that it did not live through the summer. No aphids appeared above the bands until the limbs, heavy with fruit and new growth, bent down and touched the fence. Then the aphids and their friends the ants appeared on that side of the tree and gradually spread over the whole tree. I saw on one peach tree one colony of aphids that must have been started from aphids flying up to the tree. This one colony was destroyed by nicotine and no further trouble was noticed. At intervals during the summer the sticky band on the trees had to be freshened. I used a band only about two inches wide and one-eighth of an inch deep.

It may be wondered, why, if the aphids can fly, that they did not get on the trees that were banded. In reading Farmers' Bulletin No. 362 on "The Common Mealy Bug and its Control in California," I ran across an apparently good explanation. Ants are found to carry and to protect the mealy bugs in the same way they do the aphids. Woglum and Nuels in this bulletin say, "Remarkable results have been secured by keeping the Argentine ant off of trees infested with mealy bugs by banding with a sticky mixture. In 1915 and 1916 trees that when first freed from ants were infested severely with the mealy bug became commercially clean without exception within a period of six weeks to three months."

It would seem logical to suppose that the same relation would exist between the aphids, the ant and the predatory enemies of the aphids, such as the ladybird, etc. Although the mealy bug does not fly and the aphid does fly, the fact remains that the aphid, like the mealy bug, seems to have so developed that it cannot long exist in large numbers when the protection of the ants is withdrawn.—S. D. CONNER, *Lafayette, Ind.*

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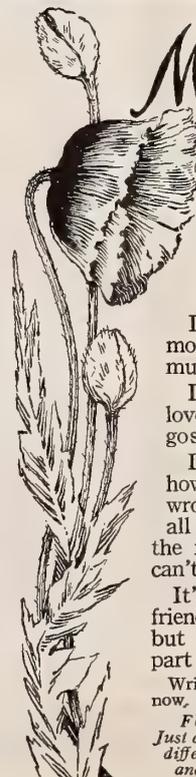
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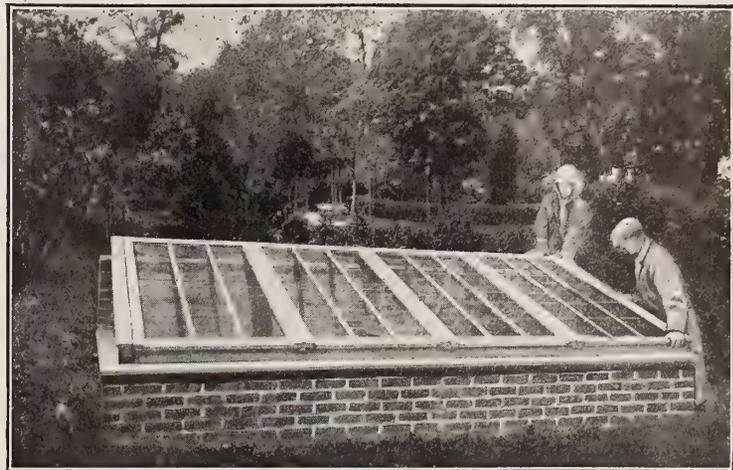
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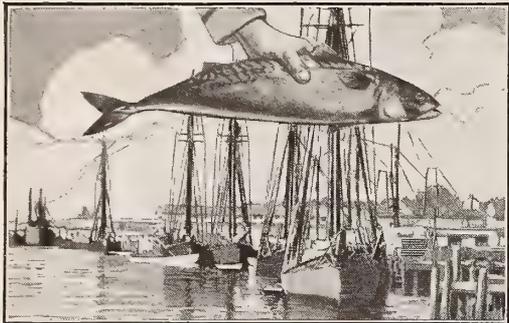
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EXPERIENCES AMONG THE FLOWERS

Alpine and Rock Plants as Edgings

IN THE March, 1917, number of THE GARDEN MAGAZINE, I was much interested in Montague Free's remarks about growing rock plants at the edges of the hardy borders. This has been my own plan for many years. All the borders in my garden are edged with field stone sunk part way in the earth, or built up into little low retaining walls. There, with their thirsty roots creeping among the cool moist stones, many a small and lovely thing thrives grandly, that would perish in the fat soil of the ordinary border. Most Alpines and rock plants are perfectly hardy but they are not able to withstand the extremes visited upon them in our climate—the freezing and thawing, baking and cooking, and above all the winter damp. Among the stones they are protected at least in part from those trials. When the rock plants begin to feel at home they usually announce the fact by sowing their seeds about and starting thriving colonies in the path close to the stone edging, and often mingling with the seedling of some neighbor plant with delightful results. Besides the stone edgings of the border, we use the cracks in the stone garden steps for the same purpose, ramming in sandy loam and then inserting a small bit of some pretty trailer which spreads along the joints, softening the hard lines of the stone work and bringing it into more sympathetic relation with its surroundings.

There are a few rock plants that grow happily in such positions. Those marked(*) I raised from seed. *Achillea tomentosa*, a tiny thing with dusty foliage and yellow flowers. *A. Clavennae**, tufted growth and white flowers 6 in. Poor rather stony soil. *Aethionema grandiflorum**; charming plants of loam; May and June; sunny position. *Alyssum montanum* forms a compact gray-leaved tuft only three inches high with yellow flowers in May. *Anthemis montana** grows about ten inches tall, has soft silvery foliage and white flowers in July. *A. Aizoon* (syn. *Achillea ageratifolia*), is very low growing and has silvery leaves and pretty white flowers. Sunshine and light soil. *Armeria setacea**—a charming tufted Thrift only three inches in height, with grass-like leaves and rosy flower-heads. Nice for a chunk. *Arenaria montana*, beautiful dark-leaved plant with large white flowers in late May. *A. balearica*, creeping moss-like plant starred with white flowers. Lovely for creeping over stones in shady places.

*Campanula pusilla**, pretty little tufted hairbell with lavender blossoms, 4 in. Nice in steps.

*Corydalis lutea**—This little Fumatory is splendid for growing anywhere among stones where it may be allowed to spread freely. Delicate fern-like foliage and yellow flowers all summer.

*Dianthus**—All the rock Pinks are delightful. Some of the prettiest are *D. neglectus*, *D. graniticus*, *D. sylvestris*, *D. dentosus*, *D. arenarius*, *D. cruentus*, *D. caesius*, *D. suavis*, *D. fragrans*.

*Erysimum rupestre** (syn. *pulchellum*) loves a sunny crevice and bears its fairy Wall Flowers in profusion in late April.

*Linum**—All the Flax flowers are delightful but *L. salsoloides*, a dainty sprawler, and *L. monogynum*, a nice little bush with white flowers are particularly happy in the stone steps or in crevices of the border edge. *Lychnis alpina**, forms a bright flowered little tuft. Full sunshine.

Silene alpestris, *S. acaulis*, *S. Schaftae* are all good for this purpose.

*Stachys corsica** is a compact little trailer with white pea-shaped flowers that enjoys a sunny spot.

Viola gracilis prefers light shade; lovely purple flowers in summer.

Other rock plants that grow happily in such a position are the creeping *Veronicas*, *Saponaria ocymoides*, *Papaver alpina* and *P. rupifragum*, *Viola cornuta*, *Polemonium reptans*, *Aubrietias* and *Helianthemums*.—LOUISE B. WILDER, *New York*.

A New Method of Treating an Old Friend

DURING the past summer numerous requests have come to the Boston Park management asking the name of the plant that has been so freely used both for bedding in temporary beds and also for permanent plantings among the shrubbery. All the inquiries expressed great pleasure at the novelty and beauty of the shrub and its arrangement and there seemed to be an idea that some real novelty had been brought out. In view of what had happened and the success of the venture the interest of the public was but a natural sequence.

The plant in question was not new, in fact it was a real old friend in a new field under new treatment which brought out unsuspected qualities which would not have been credited if the plant were shown in the accustomed way. It was our old friend *Buddleia magnifica* but treated as an annual and massed with tender plants in such a way that its wonderful flowers showed with unwonted splendor. At the Aquarium in South Boston in particular the plants were used in solid beds with bordering plants that would best contrast with the flowers. The plants are grown in pots at the greenhouses and the young plants are carried along in the cool houses and timed so that they will be in a condition to put out for the summer with the ordinary bedding plants. With plenty of nourishment the plants have flourished into a riot of bloom and it was the profusion and seemingly out of season blooming that excited the curiosity of the visitors to the grounds.

At Franklin Park a liberal planting was also made among the shrubbery and the pleasure it has afforded to the people has not been less than at the Aquarium.

This method of cultivation has been so successful that it is to be continued with no fear that even a superabundance of this beautiful plant will cause the public to grow tired of the gorgeous blooms.—L. J. DOOGUE, *Mass.*

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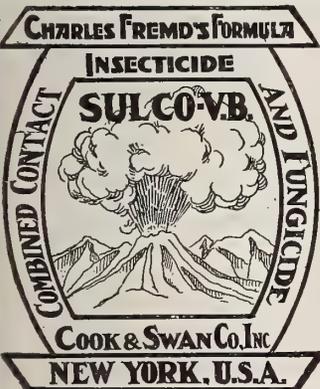
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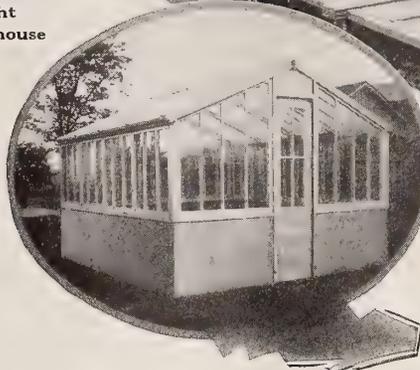
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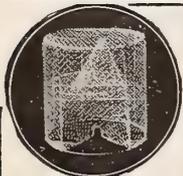
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Well, these Violets multiplied amazingly in Mrs. Bailey's garden; and one day, telling me how they came to her, she said: "I think I'll give you four plants, as that seems to be the proper number." I took them—and have had the same mysterious success; while not all my garden is edged with these beautiful plants, a good part of it is, and the rest of it might be, only that I am continually giving plants away, wanting to share with others the pleasure I have had with them. I know of no better plant for edging. It remains neat and green throughout the summer. In early July and about the third week in August, I clip the borders back a little so that they do not grow too high. Miss Harriet Keeler tells me it is the Viola striata, native to most of our Northern woods. It responds to cultivation so that the flowers are larger than in its wild state. When few plants are in blossom they are a glory of creamy loveliness; and the period of bloom is at least a month. On the twenty-fourth of last May (when they were at their best) I gave a tea to about forty ladies. The house was filled with these lovely white flowers. That White Violet tea seemed to give so much pleasure that I think I shall make it an annual institution—but not without expressing my thanks to the one who first wrote of this charming flower, and in this best of garden magazines.—NELLIE D. MERRELL, Cleveland, O.





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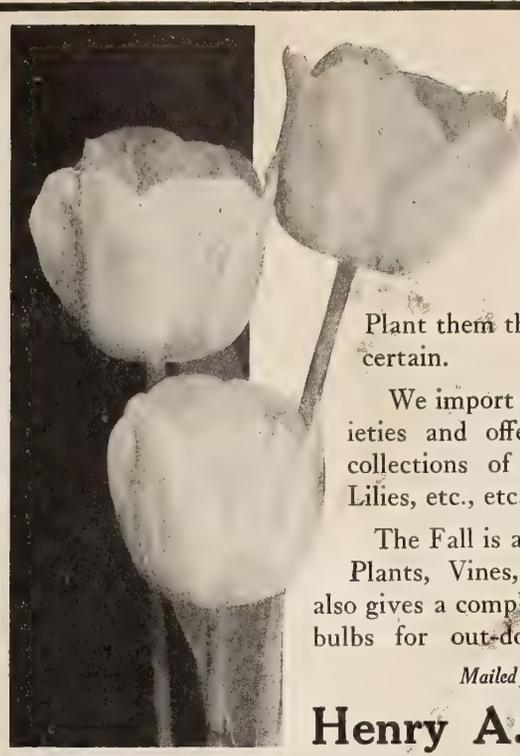
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November 1919

GARDEN MAGAZINE

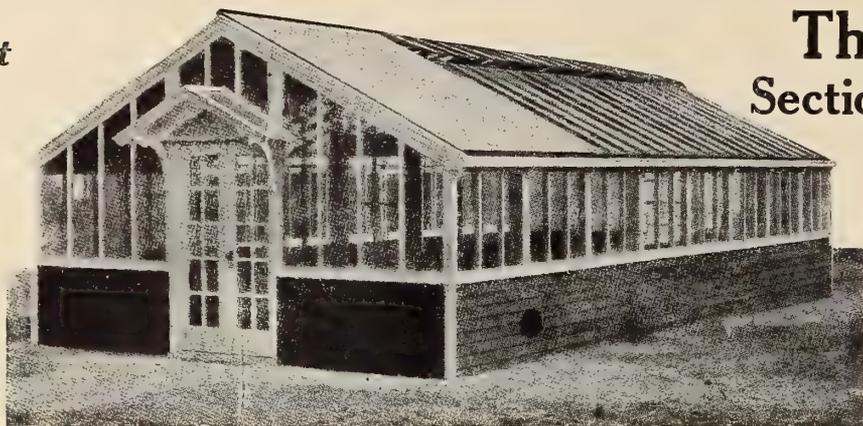
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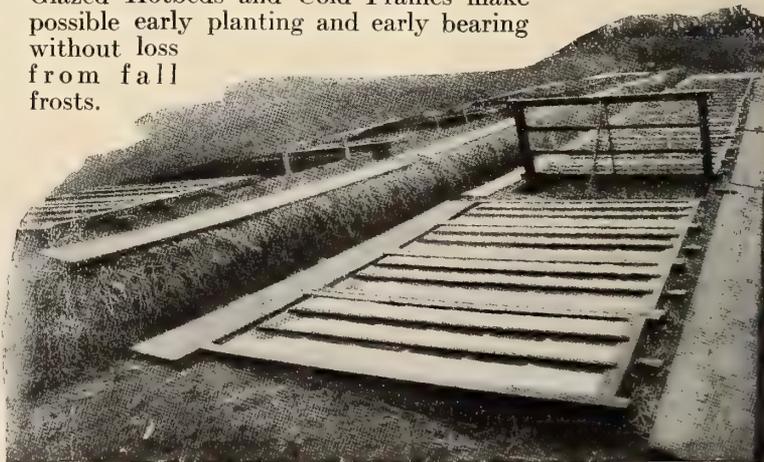
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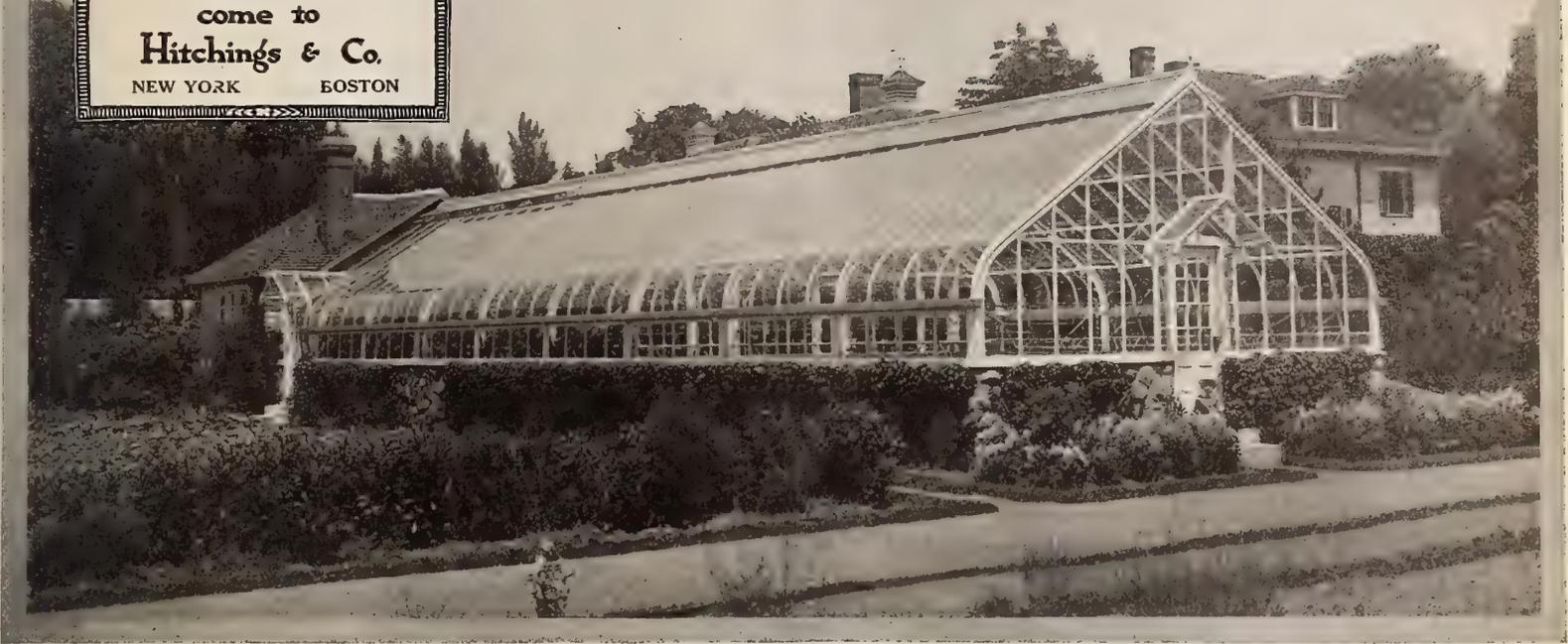
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THE GARDEN

MAGAZINE
NOVEMBER, 1919

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LEONARD BARRON, Editor

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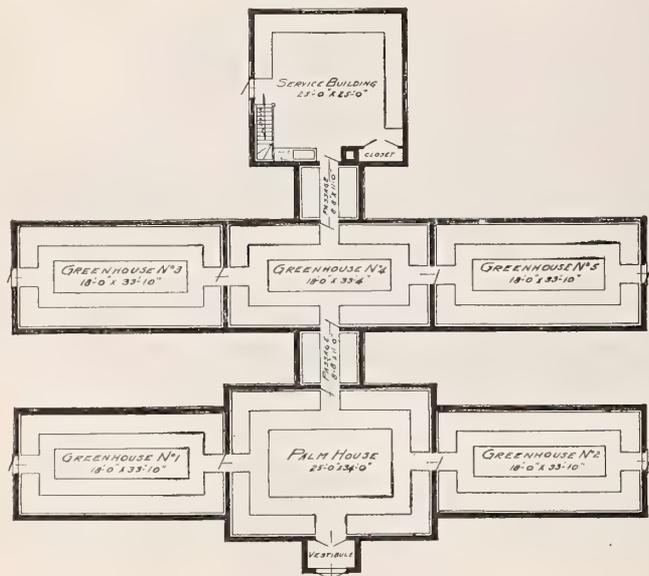
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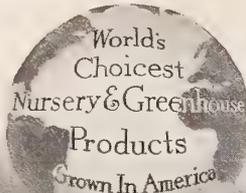
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The Garden Magazine

VOLUME XXX NUMBER 4

NOVEMBER, 1919

THE GREAT ORCHID OF THE WESTERN WORLD

Native to South America only, the Cattleyas are the showiest Orchids in the world, and this one—Cattleya Trianae, rose and purple and gold—is the most generally cultivated and familiar. Unless another is specified an order at the florists brings this, notwithstanding there are more than 15,000 genera and species now known. One of a greenhouse's advantages is the perpetual possession of these strange and delightful exotics—plants distinguished by a mysterious individuality utterly foreign to all other vegetation. The constant discovery of new forms is one reason for the collector's perennial interest and enthusiasm





Mary H. Northend, Photo

"STONE WALLS DO NOT A PRISON MAKE—"

Iron bars, wrought into a design of such simplicity and grace as this, open and emphasize the beauty of a vista by framing it, and at the same time set up sharp foreground lines by which its comparatively shallow perspective is deepened



Matte Edwards Hewitt, Photo

DISTANT SHORE AND BAY ARE A RECEDING ECHO OF
NEAR-BY CEDARS AND DOGWOODS

In this view on the estate of Robert W. De Forest, at Cold Spring, Long Island, interest is arrested by the dramatic loveliness of the foreground, yet is not oblivious to the successive planes of varied texture leading to an actual distance that needs no artifice to give it increase

TULIP BELIEFS THAT ARE ALL WRONG, AND SOME UNEXPLAINED MYSTERIES

SHERMAN R. DUFFY

They Are Not Short-Lived, Need Not Be Dug Up Each Year, and May Be Lifted At Any Time. The Phenomena of "Breaking" and "Dropping"

ALTHOUGH I was born in an Illinois prairie hamlet and of Irish and Welsh lineage, I am convinced nature intended me for an English clergyman. This conclusion is borne in on me most acutely this fall as I realize that it is thirty-five years ago that I planted my first Tulip bulbs. Had not nature's manifest design been thwarted in my case, I might have been a placid English clergyman famous for growing Daffodils and Tulips. There is nothing I more heartily and thoroughly enjoy than growing Tulips.

FOR years I have devoted my autumnal vacation time to inducting thousands of Tulip bulbs into the soil, gloating over their plumpness and sleek brown coats holding out the promise of May day glories while, I must confess, a fat and saucy squirrel would romp around me with greedy eyes as if he were saying to himself, "What a fine nut we have here."

I must add, lest I be suspected of being some rare old print effect, that I started with Tulips as soon as I was old enough to occupy an ingenu speaking and thinking part. I turn with envy from the ruffianly every-day life of the United States worker to the bulb growing clergyman of England with particular yearning after reading the Rev. Joseph Jacob's little book on Tulips, the only work in English, so far as I know devoted exclusively to this fascinating subject. Envy is further increased by some of the Rev. Engelheart's essays on Daffodils and by some of the magnificent specimens he has raised and introduced.

THERE is, we are told by abstruse thinkers, a reason for everything provided we can find it. Skunks and Rule 37 of the quarantine regulations which has been feelingly referred to in *THE GARDEN MAGAZINE* baffle my profundity in spite of all my search.

Just how this 37 rule affects the importation of bulbs, I am not informed. In fact whether it hits them at all or not I can't figure from reading it, but whether it does or not, it seems fair to assume that it will be used as an excuse for boosting prices because many fields in Holland were plowed up for more needed crops and production ceased in England and Ireland to a large extent during the war.

Therefore it behooves us in so far as we can to maintain our own stocks by growing our own bulbs; which is a very simple matter. I have grown my own bulbs for years and maintained the same stock, with few exceptions, without difficulty.

At first glance there is nothing more obvious than the Tulip when it blazes and flames in the May garden, but on close study it becomes one of the most mysterious of

garden subjects. In fact there is less real and exact knowledge concerning Tulips than any other popular plant that we grow. Its origin is shrouded in mystery. The Darwin Tulip's ancestry and birthplace are yet to be penetrated.

I ran across the Rev. Joseph Jacob's book only a few weeks ago. Many of the traits of the Tulip which had puzzled me I found were catalogued and discussed and others which had not come to my notice were spoken of.

Two subjects which had puzzled me I find have not been explained. First, why do Tulips "break"? Why is a Parrot?

I had often read of "breaking"; that is, an old established self-colored variety for no apparent reason would appear striped. In my stock of Tulips maintained for many years. I had noticed this characteristic in a late scarlet that I had never been able to identify which came between the Earlies and the Darwins. It came with yellow featherings running half way down the petals. It puzzled me for a time as I had never had such a Tulip, but knowing the bulbs I had planted, it became evident this was an example of "breaking." Last spring I had a more pronounced example.

I had a planting of some 200 Bronze Queen. About one third of them appeared with broad stripes of dark brown. One clump, all from the same parent bulb, showed the original Bronze Queen, a wide striped buff and dark brown, and a small blossom with finer stripes of dark brown. These Bronze Queens I had had only three years.

I HAVE found the Parrot Tulip the most persistent and long lived of all the varieties I possess. I have never purchased a Parrot since the original dozen I planted thirty-five years ago, yet they have multiplied and stick around although I do not particularly admire them owing to their floppy habit. I find from the Jacob book that the Parrot Tulip is always striped, a "Bizarre," and that its reason for being is one of the mysteries of the bulb.

There are so many myths in circulation in connection with the growing of the Tulip that I believe they should be exploded.

In the first place, one seldom looks over a bulb catalogue without finding the bald statement that the Tulip is short lived and that it is necessary to replenish the stock frequently. This is contrary to my experience as I have maintained a stock of Tulips for 35 seasons and have most of the original late varieties with which I started.

The Early Tulips I can agree are short lived, at least I find them so; as to the Late Tulips, the Cottage, Breeder, and Darwin varieties as well as the Bizarres and Bybloems, I can't agree, with one exception. I have never been able to keep Clara Butt. Yet friends of mine do not have the same

trouble. In heavy soils, I can readily believe that the Late Tulip might be short lived as it has seemed to me that the secret of longevity is drainage.

A liberal pocket of sand in heavy soils is essential and a raised bed also should be provided. My soil, being excruciatingly well drained, of light and sandy texture, maintains Tulips wonderfully well.

THERE is a lot of nonsense about the impossibility of moving the bulbs until they are thoroughly ripened and will stand the test of winding the stem about the finger without its cracking. A Tulip bulb may be dug even when in full bloom if it is desirable, and moved with safety providing it is lifted carefully with a full quota of roots and soil adhering and is given attention after being planted in the way of watering until it has ripened its bulb. I have done this often without damage to the bulb which has bloomed the following season.

Another fallacy is that the Tulip must be planted in full sun. I have finer Darwins and Breeders, as well as Cottage Tulips in partial shade. In fact the full development of the flower cannot be secured without some shade in the hot and drying Mays which we often have here in the Middle West.

RETURNING to the idea of growing a stock of bulbs with a weather eye to those who would reduce us to glorifying our own weeds into garden subjects, I shall briefly outline how I keep up a stock in the hope that it may encourage others, for there is a wicked waste of Tulip bulbs each year. I know gardeners who annually dig up their bulbs and throw them away to make room for summer beds and each year buy a new stock. We cannot afford to do that now.

For best results Tulips should be lifted each year but with a large quantity it is obviously impossible for any one not having the leisurely life of the wealth endowed (or of a clergyman) to attempt anything of the sort. I take mine in sections, figuring three years as the longest time to leave any particular section in the ground. A few perennial beds in which I have installed clumps of bulbs have gone for six years and the Tulips have done well and furnished as high as nine blooms to the original bulb last season. They need digging but so long as they remain healthy and produce, why not let them alone? Some Tulips naturalize themselves in this way and persist healthily for years, others will not.

When the bulbs are lifted they will grade from tiny little fellows to two-to-four blooming sized bulbs. It is necessary to separate them, keeping the blooming bulbs for regular plantings and taking the little fellows for nursery beds.

IN DIGGING the bulbs another peculiar and unexplained characteristic of the Tulip may be noted. They often let little bulbs down on strings underneath or to one side of the parent. The only bulb that I know of that acts in any manner resembling this is the Dogtooth Violet which plays hide and seek in an irritating manner when you try to locate it. These little bulbs are as valuable for propagating as the little fellows clustering around the parent bulb. Some varieties produce green bulbs in the axils of the leaves and these are also valuable for propagating.

Having separated the bulblets or offsets I plant them in long drills about two inches deep and two inches apart. I formerly figured that as these little bulbs were produced at the same depth as the parent bulb they ought to be replanted as deeply, but practice seems to indicate they do better at a lesser depth. This is readily explained when one stops to consider that a Tulip automatically buries itself, the new bulb forming under the old one.

The following spring after planting the seedling bulbs, so to speak, a few of them will give tiny flowers. It is best to remove these little buds wherever they appear and devote the entire strength of the plant to bulb making. By the second season a percentage of the larger ones will be fair blooming size and by the third year the greater portion of the crop will come into bearing.



A "BROKEN" OR "RECTIFIED" TULIP

Striped white on a red ground the Bybloem Tulip Lac Sans Pariel is a good instance of the ultimate destiny of any self-colored Tulip. Why it "breaks" and when it will do so none can tell

IT IS thus a simple manner to keep up a stock of Tulips, taking the offshoots

from varieties by name and labelling them in the rows. There is no difficulty or cultural trick about it that I have ever discovered, the one injunction being to avoid fresh manure and use only bone meal as a fertilizer; and if in the course of events muriate of potash comes down to a reasonable price, or any of the other salts of potassium, a sprinkling on the beds in the fall is beneficial to bulbs, particularly Daffodils.

Drainage for the little bulbs is just as essential as for the mature ones. In fact, I believe the main secret of Tulip growing is giving the bulbs free drainage so that they may never suffer from too wet feet. If it comes off hot and dry just after the Tulips bloom, give a good soaking with the hose.

TRANSPLANTING BIG TREES

EDWARD S. DRAPER

Landscape Architect

A Practical Means of Getting the Feeling of Age Into a New Home—Responsibility of the Owner's After-Care for Ultimate Success—Work for the Winter Season

EVEN one shade tree in association with a dwelling creates a certain impression of stability and "settledness" so generally felt that it needs no emphasizing. How many are the oldtime homes indeed where the branches of a patriarchal Elm or Sycamore, extending broadly to shade both house and dooryard, represent the only bit of planting ever undertaken! And yet where can be found, a more inviting and comforting aspect than these same old homes present, or one conveying more completely that substantial quality that is the very essence of the home? It is without doubt because this stability is so unreservedly felt that efforts—almost frantic sometimes—are made to dress up and adorn new developments as well as new homes with shrubbery and flowers, under the impression that these will quickly afford a modicum thereof.

But nothing can take the place of trees, or render the service that trees render both in the landscape picture taken as

a remote whole, and to the fortunate mortals who enjoy the intimacy of their immediate leafy presence. So it is subject for felicitation that the enterprise of handling a well grown tree is now well understood, and therefore no more the risky thing it was not so very long ago; for this means that at least one good sized tree will more and more often be brought to shelter the barrenness of the newly built dwelling and give it that coveted homelike atmosphere as soon as the grading is done, if one wishes.

Even in parts of the country that have been supposed to be unfavorable to the transplanting of large material it has been and is now being done—as witness the tree moving campaign that has been most successfully carried out during the past three seasons at Myers Park, a residential suburb of Charlotte, N. C. Here streets that were exposed to the full glare of the sun became overnight, as it were, shady avenues, while the grounds of many of the home owners underwent the same



EASING A TREE INTO ITS NEW HOME

Well headed, sturdy specimens grown in the open should be chosen—and handled like day-old chicks!



NO TREE NOR SHADE HERE LAST SUMMER!

But the one arrived in its sleep, during the long night of winter, and brought the other

transformation as the enthusiasm spread. One hundred trees varying from 6 to 20 inches in caliper of trunk at a distance of one foot above the ground were planted the first winter, of which only one died, and this directly as a result of lack of proper subsequent care.

For this work trees of a kind that develops feeding roots close to the trunk should be chosen, because these hold the earth in a compact ball during the operation of moving. Further, they should be native to the section—and preferably abundant, since this indicates that they find the local conditions especially to their taste. Obviously a long-lived kind should have preference over a short-lived, and the recuperative powers should be high to enable them to recover rapidly from the shock of transplanting. Many nursery firms now offer big “nursery grown” trees, which are specially suited to moving. The best time for doing the work is the month of December in most parts of the country, inasmuch as at that time trees are completely dormant, and the ground not hard. They can be moved however with perfect safety, weather permitting, from the middle of November to the last of March, practically throughout the country.

The trees in the Myers Park work were all handled by the “ball of earth” method, this being the method employed also with a high degree of success on the estate of Mr. James B.

Duke, Duke's Farm, at Somerville, N. J. It is found less expensive in some places than the method of wrapping the roots in burlap—which is a more usual mode of handling, in the North at any rate—and quite as satisfactory. The work is not completed with the transplanting however—far from it! The after-care is every bit as important as the method of removal. But of course the work must be carefully done and the loss to the root system reduced to the minimum.

The life of the transplanted tree actually depends fully as much upon the care which it receives for several seasons after it is moved, as it does upon the way its removal is accomplished. Until it is well established it must be thoroughly watered and kept mulched—and five to seven hundred gallons of water per week is little enough to administer to it in dry spells. For the surface of the ground may be soaked with water, and yet the feeding roots three feet below the surface remain quite parched! The one sure test for the condition of the soil is to take a long shanked augur and bore down into the ball of earth and then withdraw it. If no earth sticks to the augur the conditions below are too dry and should be remedied at once.

Frequently sections of drain tile are sunk vertically into the ground around the tree at the circumference of the earth ball, and water given it by filling these as often as may be required



FULL GROWN TREES ON THE MARCH AT MYERS PARK
Traveling much as a piece of field artillery, on trucks especially made for tree moving, which unlimber when the “firing position” is reached

to give the necessary amount daily. Be sure if this method is adopted that the pipe does not slope towards the trunk of the tree and carry all the water toward the centre as a consequence, instead of down to the tips of the roots where the fine, hair-like feeding roots are located.

In moving trees the bark is frequently bruised, and this shows in the summer as sun scald, or splitting of the bark, with running of the sap. The injured tissue must be carefully cut out and the wound painted with tar. Good results follow wrapping the trunk with straw or burlap the first season to protect from drying winds as well as too much sun.

The question of costs will of course present itself. Naturally cost will be greater proportionately where transplanting is limited to one or two or a few specimens than where

wholesale operations are carried on. But there is no reason why coöperative projects should not be undertaken, in which a group of owners joining may reduce the expense to each to a minimum. Considering the results of planting even a single large tree on the average plot and in the place that is literally "crying for shade," it is doubtful if the same sum of money can be spent in any other way to as great advantage.

So it is highly gratifying that the idea is taking vital hold upon various communities as well as individuals. At Trinity College, Durham, N. C., for example a tree moving force was organized and many large trees found their way to its campus to give shade to the present generation as well as to those to come. And in the summer-residence sections of the North big tree planting is really a well established practice.

OBVIATING WINTER LOSS IN THE HARDY GARDEN

H. H. GREENE

Blanket the Frost In With the Plants Instead of Smothering the Unfortunates Under a Mulch Prematurely Applied

WHAT constitutes a hardy plant? Why do "hardy" plants winter-kill? At what season does this occur? These are perennial questions and yet quite easy to answer with a little thought. Hardy plants die in winter because we won't let them be really hardy, but fuss around them and over them, and literally, cook them with heat and moisture.

What we call hardy plants are perennials and biennials—which live over from one season to another, the former usually for several years, the latter only long enough to flower and ripen seed. Nature intended them to endure the winter. Why then, should they winter-kill or succumb to the winter season?

In this article we must assume that all plants are of equal hardiness inasmuch as many plants which are perfectly hardy in our Northern states are not so here (Louisville, Kentucky) or south of Mason and Dixon's Line, and vice versa. And as the practice of mulching plants is general, the matter must be discussed along general lines.

Practically all winter covering is put on several weeks too soon. When the leaves begin to fall people proceed to pile them on their bulb beds and hardy plants and as soon as the first hard frosts come they begin mulching with manure, etc. These are the very worst things they could do. At that season no "hardy" plant is dormant except it be some early flowering kind such as Bleeding-heart which has matured by midsummer. As the cool moist weather of autumn comes on the majority of hardy plants are making strong root growth. The crowns are soft and green. They are making their own preparations for the winter season and growth does not cease until winter sets in.

By applying a mulch in early fall we simply smother the plants. They may endure the covering until on toward

March but then, with the constant freezing and thawing and the melting snow and rains, the crowns of the plants, already in an unhealthy condition from the heat of the mulch put on early in the season, proceed to decay. Many die and we wonder why with six inches of manure over them they did not come through safely!

Do not put any covering over your plants until late November or December. Wait until the frost gets in, then mulch to keep it there.

Plants also die during winter through lack of drainage. The hardy border is often made gradually and the ground is rarely prepared properly. It is advisable to throw out the top soil the depth of a spade, then dig the subsoil to the depth of eight or ten inches. In replacing the top soil add one fourth of its bulk of sand or fine coal ashes, and mix thoroughly. This will provide good drainage and prevent water standing about the crowns of the plants.

But here is another point. We plant such flowers as Hibiscus and Platycodon and because they do not appear with Larkspurs and Hollyhocks in the spring we assume they are dead, whereas these plants never start into growth until after most kinds are several inches high.

Such plants as Coreopsis and Shasta Daisy are termed hardy, yet we frequently lose them through ignorance of their requirements. After this type of plant has flowered, the heart or centre of the plant invariably dies and the plant is renewed through the rooting of the stems extending out from the centre of the old plant. Frequently these are not well enough rooted to hold their own and unless reset in the early fall, succumb during the winter just like newly set plants that, not having a firm foothold in the ground are heaved out by the alternate freezing and thawing if not kept mulched the first winter, *after* being frozen in.

THE GARDEN SEASON'S CLIMAX

W. FRANK PURDY

Transferred to the Autumn, the Roman Floralia At Last Reaches Us By Way of the Old Cornish Towns of England Where Its Merrymaking Is An Annual Feature

(EDITORS' NOTE: *Herein a weighty responsibility is laid upon gardeners and garden lovers by Mr. Purdy, who, as President of the Art Alliance of America is in a position to survey the situation impartially and advise impersonally, as it were. The possibilities which open up along the lines of his suggestions are so great that they can scarcely fail to inspire to larger and finer effort.*)

IS IT not the truth that flower shows and garden competitions as they generally occur, bore most people to extinction and afford actual entertainment only to a few prize winners among flower enthusiasts and advanced gardeners? One shrinks from saying so; but one says it nevertheless, for truth may as well prevail! Of course this few would be quite enough to entertain, no one will deny, if gardening were not so catholic an art. But it is so catholic!—the art of the simple and ingenuous and of the most highly sophisticated as well. Therefore it seems that the observation of its fête should be characterized by a breadth of concept that will provide entertainment for all the world and his wife and his children, whether these are flower enthusiasts or not. They are, of course—potentially if not already and actually; but how shall this enthusiasm better be awakened and developed than by bringing them all together for a merry time, in the presence of the flowers and fruits arrayed in friendly competition, amid ideal surroundings where all of the garden's allied arts contribute their portion to the beauty of the *ensemble*?

To develop a floral festival of this entertaining and merry character, commensurate with the importance which gardening and the garden arts have here attained, was the thought underlying the inaugural presentation on Saturday, September 20th, at Hartsdale, N. Y., of the Westchester Floralia. And the enthusiastic attendance from a wide countryside vindicated the experiment, absolutely. Through these pages I have been asked therefore, to tell something of the idea, and of what some of us who believed in it from its inception, confidently hope from it; and a little of what we also regard as the garden-lover's and the garden-maker's responsibility.

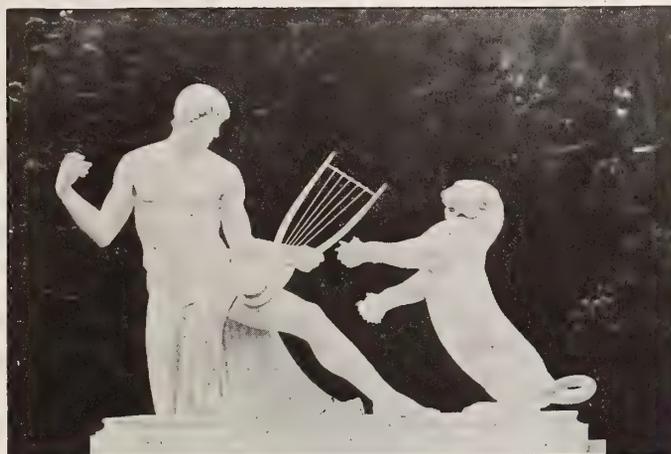
The idea is a very simple one, being only the bringing together of all those elements related in any way to the garden which make up our outdoor summer life, instead of limiting the affair to only one thing—and so highly specialized a thing as flowers. The garden and its flowers and its allied arts, suitably disposed in a garden environment, furnished

the beginning and (of course) the heart and life of the whole affair; and then there came the games, and sports, and dancing, and show of pets; and luncheon and later, tea, to create an interest as broad as the entire community, and to transform the whole affair into a glorified village fête and holiday.

Of the garden and the garden's allied arts I speak with a confidence bred of knowing what artists and artisans are doing here in America right now, for the garden. We are fast growing rich, as a matter of fact, in a living, vital, American decorative sculpture that belongs in American gardens precisely as the living, vital work of the Greeks belonged in its contemporary Hellenic settings; and we are fast building real American gardens too, as well as distinctive American homes in their midst. We are indeed at the threshold of great things; and no one can envision the future without a thrill that is almost as much apprehension as pride—the pride of course being quick-

ened at the great American art that we are inevitably one day to have, the apprehension arising from the possibility of this falling short of its glorious potentialities through some fault in ourselves of indifference, or oversight, or neglect.

BUT through just such brilliant festa as the Floralia we have our opportunity to see that indifference is routed. With garden sculpture in its proper garden setting, taking its place with the other garden materials—flowers, trees, shrubs, and so on—we have the motif for an annual function that will awaken the widest interest in the beauty of the outdoors, and in developing that beauty everywhere, by every possible means. We have no other reason nor excuse for the Floralia—nor for any flower show, indeed!—than first to attract, then interest, and then to inspire love and reverence for beauty in its highest and purest forms. This is perhaps a bold attitude—but why not? There is an actual responsibility here which escapes us, if we do not overcome the reluctance to exalt the importance of pure beauty which we have acquired during the long, intensive course of the purely utilitarian through which we have just passed. And this



IN DRAMATIC RELIEF AGAINST EVERGREENS

This winner of the first prize in sculpture, the "Orpheus" of John Gregory, executed for the garden of Charles M. Schwab, Loretto, Pa., and shown for the first time, is vibrant with the mystery of still music.

reluctance must be overcome, and a wholesome, fearless enthusiasm for beauty created and stimulated, if our age is to be saved from the destructive forces of base materialism.

Gardeners, it appears, are the people best situated to do this. Wherefore I am glad to see them waking up to it, and to their responsibilities. I shall be more glad when they all do; and when the evidences of such awakening become general. There is room and need for them even in the great indoor horticultural shows that are a feature of practically every large city's offerings, as well as in the less formal summer or autumn "shows" of garden clubs, or neighborhood or county groups. There are indeed greater opportunities for the truest kind of "welfare work" in the encouragement and stimulation to gardening which a dynamic presentation of the subject may embody, than lie in any other activity.

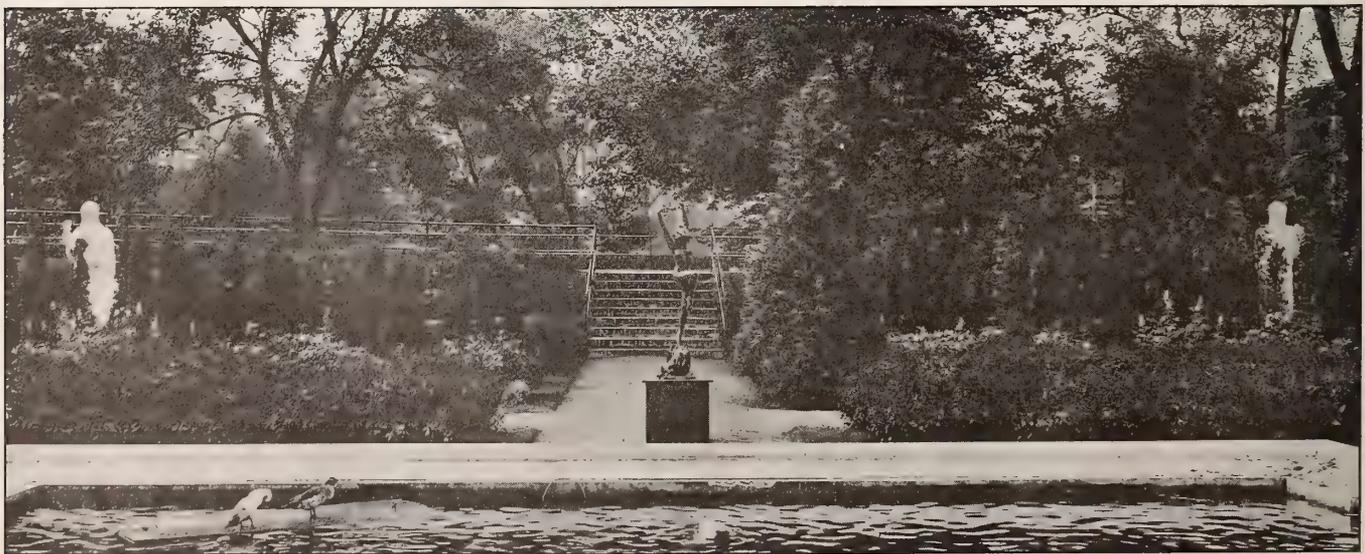
FINALLY, are gardens worth having at all if they exist only as detached appurtenances, if they are not a vital part of everyday living? It seems to me not. It seems to me they are only burdensome possessions under such aloof conditions; but unless the real fun of the garden is shown to the world when the garden's products are displayed for its inspection and praise, how is the world to know there is any fun in it? And how are all the people whom all gardeners agree they are anxious to proselytize, and make into gardeners as enthusiastic as themselves, going to be convinced that gardening is the greatest sport in the world, as well as the most catholic and democratic and finest of Fine Arts, when the most that the conventional flower show has ever given them has been an afternoon of vague discomfort and wonder at themselves for being unable to have a good time when they are expected to; or a not-so-vague disgust with themselves for going where there was so little with which to have a good time.

Small special flower shows for special fanciers of certain flowers are of course quite another matter, and quite as necessary to horticulture as any special display of pictures

or bronzes or tapestries or other *objets d'art* are to the general art world. But for the suitable summing up of the garden season it is proper that the gardening craft should realize the limitations under which the great majority approach such an affair, and the consequent necessity for broadening the scope of the year's great garden function so that it may include everything related, even remotely, to the art. The flower and vegetable competitions of the Westchester Floralia suffered not at all, be it noted, notwithstanding these rival attractions of sculpture, sports and games and pets, and marionettes, gypsies, Punch and Judy, and all the rest that brought in the carnival spirit and the general fun of holiday. Wherefore it is evident that they were not "rival" attractions, but just added attractions; which is precisely what we claimed they would be.

The world is indeed more than half Roman to-day; and though a full restoration of a Roman holiday would not be altogether becoming, it seems not only appropriate but intelligent for us to adapt their festivals to our times and temperaments—especially when they lend themselves as readily to our purposes of generally informing and inspiring as does this great celebration in honor of Flora, goddess of the flowers.

The Westchester Floralia was held under a general local committee, of which Mrs. O. H. Cheney, Hartsdale, was chairman. The general director was Mr. Charles W. Leavitt, the Landscape Architect, under whom the Flower and Vegetable competitions and sales were arranged. Sculpture show and competition was under Mrs. Harry Payne Whitney, Mr. James Fraser and Mr. Frederick MacMonnies. Other active members of the committee were Mrs. Clarence L. Smith (Scarsdale Garden Club), Mrs. John Carstensen, Mrs. J. E. Johnson, Mr. Frank Nairne, Mr. D. B. Metcalfe, and Mr. C. C. Hommann. Tennis matches, archery contests, quoits, a show of small dogs (under the Greenwich Kennels, with Mrs. E. C. Gude, chairman), a Punch and Judy show, palmistry, a magician, dancing, a sale of toys, and pony riding made up the "added attractions."



TERMINAL FIGURES BY PAUL MANSHIP, AS SUBTLE AS HIS WORK INVARIABLY IS

Also for the Schwab estate and here appropriately shown in true garden setting, which frames as well the madcap "La joie de l'eau" of Harriett Whitney Frishmuth, embodying the utter contrast in spirit

ALL KINDS OF GREENHOUSES

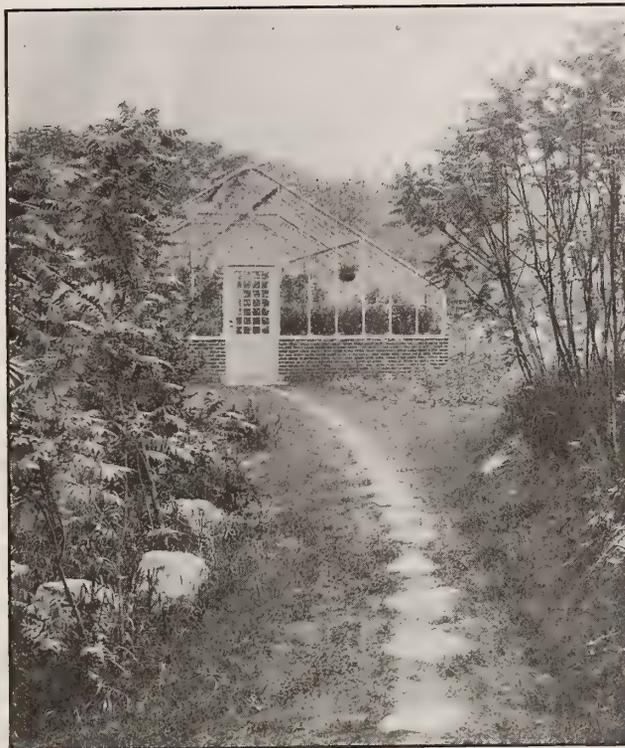
AN EDITORIAL PRESENTATION

Considered as Adjuncts to the All-round Garden, as Self-contained Features that Accommodate Rare Exotics, and as a Proper Indoor Sport for the Real Gardener During the Winter. Certain Limitations that Cannot be Overcome Because of Natural Laws

WHEREVER it is (and whoever its owner may be) a greenhouse is bound to be one of three things: it is a structure wherein certain plants are grown for the purpose of securing their flowers or fruit—in other words a flower or fruit factory; or it is a general laboratory attached to the garden, where plants are propagated, nursed to health when sick, and wintered if tender, and grown for use in the dwelling; or it is an indoor garden with all that the term implies of a place in which to loiter—as well as to potter about—a place of real charm and beauty as well as a suitable home for the plants which grow therein. In this last character it may be more a conservatory than a greenhouse, although a conservatory is not strictly speaking to be regarded in the same way as a greenhouse, since it affords a home only for plants grown elsewhere and brought into it for show.

Some of the elaborate winter gardens are of this type as well, being planned to be continually filled from growing houses built for the purpose. But the garden under glass is not of necessity carried on in this double fashion since plants will grow in it even as they grow out of doors in the outdoor summer garden, if it is planned to that end. For the fullest enjoyment of a garden enthusiast there is no doubt that this is the better choice, since the varied operations of both gardens may then be carried on supplementally and a variety of effects be enjoyed—not identical with each other by any means, but along parallel lines.

Actually there is a greenhouse for every kind of place—and person. And there is sound reason for every



UNOBTRUSIVELY PLACED YET DEFINITELY A FEATURE
Come upon in the grounds of Mr. Jere A. Downs, Winchester, Mass.
by way of a winding path of stepping stones bordered with Sumach

kind of place and person having one; for a greenhouse is not in any sense of the word an extravagance, save as it is made one in the manner of handling. To the large place it is an essential adjunct of both the ornamental and practical gardens; to the medium-sized establishment it is a valuable addition to these; and to the tiny plot of ground around a suburban home it is practically a multiplication of opportunity by two at any rate, if not by four or five. And going one step further it is a garden where there is no ground at all, since the roof of a city residence will furnish an ideal site. Similarly it may require the time of several men, or only one; or it may be its enviable owner's own particular hobby, sharing the heat of his house and not dependent therefore upon separate stoking; and occupying him in his off hours. If it is to be cared for in this way, however, it is well to say at once that it should be

small; for, like a garden, a greenhouse may easily be large enough to get out of hand and never be gotten in again!

The kind of greenhouse which is decided upon will of course govern its location very largely, and of course the converse is equally weighty. The purely working glass house should be placed where its relation to the garden that it serves makes for the highest degree of efficiency in handling the plants as they go in or come out; and apart from this consideration there is actually no other, as far as the building itself is concerned.

With regard to the garden's appearance and design, however, the location of a building of such aggressive character is of tremendous consequence, and demands the most thoughtful care. For

THINGS TO REMEMBER IN BUILDING

Standard Dimensions

Side benches 3 feet wide Centre benches 3 feet wide
Walks 4 feet wide
House 11 feet wide allows two side benches, one walk.
House 18 feet wide allows two side benches, two walks and one centre bench.
House 25 feet wide allows two side benches, two centre benches, three walks.
Length is usually figured in units of 25 feet.
(Centre benches may be 6 feet wide if desired.)

Things to be sure of

Foundation to below frostline
Cypress only, if of wood frame
Wood rafters 2" thick finished
Roof pitch 7-8" to the foot
Clear white glass, double thick
Heating plant 25% above requirements
Uninterrupted sun exposure always
Well considered inside plan
Benches on level with sill

Things to beware of

Meager and improper foundation
Incorrect roof pitch
Insecure framework
Wrong wood for framework
Framework too heavy or too light (if wood)
Insufficient capacity in heating plant
Color in the glass
Location too near a boundary screen
Benches set too low



THE PLANT ENTHUSIAST'S CONCEPTION OF THE SEVENTH HEAVEN!

Wherein he can potter to his heart's content, and raise a goodly amount of things useful as well as beautiful, if so the spirit moves him

improperly placed it may irreparably mar the entire garden picture; and yet, given proper thought may be an acquisition.

Fitting It to the Place

MUCH study is now being given to greenhouse design from an architectural as well as from a practical standpoint, and structures that are pleasing in appearance have been developed fit to assume a place in the garden scheme. So it is no longer necessary to hide even the strictly utilitarian building, if hiding it is difficult. But unless the greenhouse can be made an acceptable unit of the general scheme and not obviously an afterthought it is better not to let it appear at all, but have it obscured by proper planting.

On small suburban grounds it must of course take a relatively prominent place and may become in effect an addition to the house; and here is opportunity for all of ingenuity and clever devising that one may possess to bring it into such harmony with its surroundings as shall subdue it to an agreeable degree of unobtrusiveness. In this connection a transi-

tion from dwelling to greenhouse by means of a glass corridor will usually solve the problem of their relation to each other by separating them enough to allow each its individuality; which is far better than any attempt to weld them into a single unit. As a matter of fact they cannot be so welded, and the effort actually to bring them together usually spoils both, architecturally.

Sunshine to the fullest degree is of course requisite. Choose a site therefore where this is insured and permanently so. The angle of sunlight incidence at noon on the shortest day of the year is 22 degrees; therefore the greenhouse must be kept beyond this angle's distance from anything on its south side. Be careful also to choose a well-drained spot and a comparatively high one, for poor drainage and damp conditions generally are breeders of mildew; and with this handicap in surroundings it is practically impossible to maintain the proper atmospheric conditions under the glass.

These conditions being observed the points of the compass may be disregarded generally, though if fruits on trellises are to be grown the trellis should run north and south. This

will mean that where it is lengthwise the house itself must run north and south, but where it is crosswise the house will run east and west, bringing the trellis north and south.

Its Shape and the Frame

THE type of frame general to-day is the curved eave, whether the structure is an even span, a three-quarter span or a lean-to. And it hardly seems possible that any improvement on this frame will ever be made, since it is sensible (giving a maximum of light and especially in winter in shedding snow and ice) of simple construction, and meets every requirement both within and without. As to the form of the house there is no question about the superiority of the even span; and there is seldom any good reason for building anything else. The lean-to may of course be the only thing that will fit in certain restricted places, but if it can possibly be avoided it should be. Even when the greenhouse is to be attached to the garage or wing of some existing building, it may perfectly well be even span and stand end on

instead of being only half a house with excessive roof height standing side on. Plants growing in a lean-to are bound to "draw" because of the uneven distribution of light, and proper ventilation is difficult.

The three-quarter-span house has advantages on sloping ground over the even-span form, but elsewhere it has none and there is really no reason for building it.

The all-iron-frame house is naturally the most expensive to build, but as maintenance costs practically nothing and repairs are nil, its first cost is soon more than compensated; and thereafter it is daily a gain over the part-iron or the wood—the latter now seldom used. Greenhouse glass must be the pure white variety and here again, as with the material of the frame, quality is economy and the "double thick" glass which weighs twenty-two ounces to the square foot should be used if possible. Glass that is still heavier is often used in the modern houses where the framework calls for large-size sheets. Ground glass has been used for exotics but in general it is better to use the clear glass and depend for shade when it is desired upon light fabric drawn across the span. Summer shade for the roof must be provided for, and there has been nothing better than this same fabric screen devised. Whitewashing is of course freely practised, by commercial houses especially, but it is unsightly and does not, moreover, allow for the entrance of the sun when you wish it to enter. In practice the wash is put on the outside in early summer and the weather removes it by late fall.

Keeping Things Warm

THE very heart and soul of the greenhouse is its heating system. It will make no difference how perfect its appointments and its construction, nor how skilful its attendant, nor how beautifully it is planned, if its heating system falls short. It is then a dead thing—as dead as a tomb! In greenhouse heating as in all other, it is desirable to provide for greater capacity than the figures show will be actually needed, since it is always more economical to run a fire in check than under draft. Then too there may come, once in a decade or so, a season of untoward severity, during which only the excess heat that has been figured on will save the night, if not the day.

Unquestionably it is a wonderful idea, this greenhouse idea of turning summer into winter and temperate regions into tropical, and converting sunshine into flowers or luscious fruits, perhaps right against the calendar. Yet it is timely to remember right here and now, that this is not exactly what happens in a greenhouse. As a matter of fact, gardening under glass is not simply protected-from-the-weather gardening, wherein the work is carried on with the same materials as are used out of doors; but rather it is gardening with very special materials in most cases, as well as under highly artificial conditions. In the greenhouse three of the four factors of garden work are controlled, but the fourth is quite beyond control. Temperature, soil, and moisture are adjusted as delicately as necessity demands; but light still remains outside the reach of all our cunning—and what is more, light is diminished always however cleverly we may build, quite apart from the fact that normally light diminishes greatly in winter, just when we expect the greenhouse to be most active! So that while we control the three, and increase these howsoever we will, we diminish the fourth in

POSSIBILITIES OF THE UNHEATED GREENHOUSE

Prickly spinach sown now will germinate and carry through the winter.
Half grown lettuce from the garden will mature if brought in.
Cauliflowers not yet headed will mature inside.
Dandelions may be grown for winter greens from strong roots planted inside now.
By January 15 sow peas, radishes, lettuce and round spinach.
In February sow lettuce, beets and spinach.
Plant asparagus roots under benches, cover with 3" of earth, and cut in March.
Mushrooms may be grown also, as the natural warmth of late winter's sun suffices.
By January 25 sow Sweet Peas, Bachelor Buttons, Mignonette and Marigolds.
February 25 start any deciduous shrubs desired, also Tulips, Hyacinths, etc.
Bring indoors any spring flowering herbaceous plants for early bloom.

PLANT COMBINATIONS BY TEMPERATURE

COOL; 35°—40° AT NIGHT

Flowers—
Agave Calceolaria, Campanula, Chrysanthemum, Cheiranthus, Cineraria, Erica, Eupatorium, Genista, Iberis, Mignonette, Myosotis, Stock, Sweet Pea

Shrubs—
Cestrum, Chorizema, Lagerstroemia, Magnolia, Nerium, Punica, Rhododendron

Ornamental Plants—
Aucuba, Bay-tree.

Vegetables—
Endive, Lettuce, Parsley, Radish.

HOT (OR STOVE); 65°—80° AT NIGHT

Flowers—
Achimenes, Aristolochia, Begonia, Ceph-alotus, Eucharis, Euphorbia, Glox-ia, Lily-of-the-valley, Poinsettia, Nepenthes.

Shrubs—
Gardenia, Ixora, Lantana, Philodendron.

Ornamental Plants—
Adiantum, Alsophila, Anthurium, Areca, Asplenium, Banana, Bertolonia, Borassus, Caladium, Calathea, Caryota, Cocos, Corypha, Croton, Cyathea, Cycas, Davallia, Dicksonia, Dieffenbachia, Dracaena, Ficus, Kentia, Livistona, Maranta, Pandanus, Phoenix, Platycerium, Rhapsis.

Climbers—
Allamanda, Clitoria, Gloriosa, Hoya, Thunbergia.

Orchids—
Calanthe, Epidendrum, Phalaenopsis.

Vegetables—
Cucumber, Eggplant.

Fruits—
Citrus fruits, Muskmelon.

INTERMEDIATE; 45°—55° AT NIGHT

Flowers—
Agapanthus, Allium, Alyssum, Antirrhinum, Cactus, Cannas, Epiphyllum, Erythrinum, Freesia, Geranium, Gladiolus, Hyacinth, Iris, Kalanchoe, Ornithogalum, Oxalis, Pelargonium, Plumbago, Primula, Stevia.

Shrubs—
Acacia, Hydrangea, Lilac.

Ornamental Plants—
Alternanthera.

Climbers—
Lapageria, Passiflora, Wistaria.

Orchids—
Anguloa, Cyripedium, Odontoglossum.

Vegetables—
Asparagus, Beans, Beets, Carrots, Cauliflower, Lettuce, Mushrooms, Onions, Peas, Rhubarb, Seakale, Spinach.

WARM; 55°—65° AT NIGHT

Flowers—
Abutilon, Amaryllis, Astilbe, Begonia, Bouvardia, Cactus, Calla-lily, Celosia, Clivia, Cyclamen, Fuchsia, Heliotrope, Hymenocallis (Ismene), Liliun, Tropaeolum, Nymphaea.

Shrubs—
Aralia, Azalea, Camellia, Hibiscus, Rose, Spiraea, Swainsona.

Ornamental Plants—
Ananas, Araucaria, Asparagus, Aspidistra, Aspidium (Dryopteris), Coleus, Croton, Cyperus, Dracaena.

Climbers—
Bougainvillea, Cissus, Clerodendron, Jasminum, Smilax, Stephanotis.

Orchids—
Cattleya, Coelogyne, Dendrobium, Laelia, Lycaste, Oncidium, Vanda.

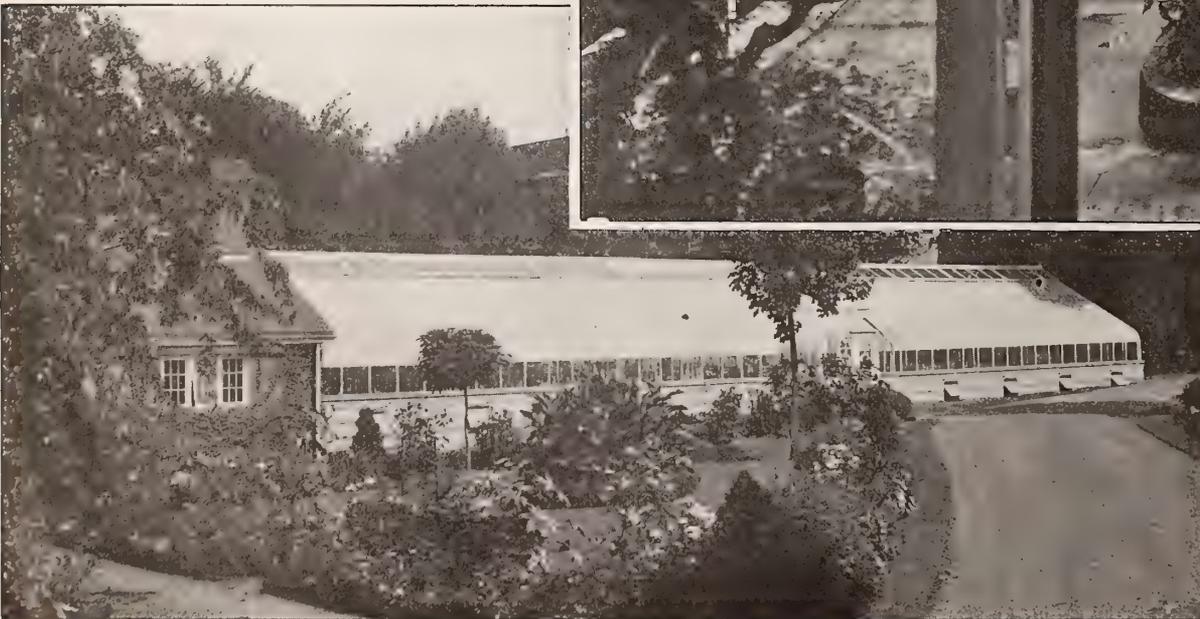
Vegetables—
Beans, Peppers, Potatoes, Tomatoes.

Fruits—
Grape, Peach, Strawberry, Nectarine.



Tiled walks edged with English Ivy invite to promenade in this glassed orchard of citrus fruits on the Massachusetts estate of Wm. H. Walker, at Great Barrington.

Such a structure as this at the residence of Mrs. R. Trowbridge, New Haven, Conn., becomes a garden feature through proper setting, and suitable approach and planting



Safe from the blustering Ides of March, such festal flowers fill their still sanctuaries in one of the Conservatories, DeLamar

“The Bridge
Earth and



Lush growth of Palm, Dracaena, Papyrus, Pteris and other ornamentals, mirrored in a pool whose banks are clad with Selaginella, produces a veritable tropic jungle

Though "Winter rules the inverted year" modern construction as represented by the greenhouse of Mr. B. C. Howard, Sherbrooke, Canada, is always free from snow



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—Herbert



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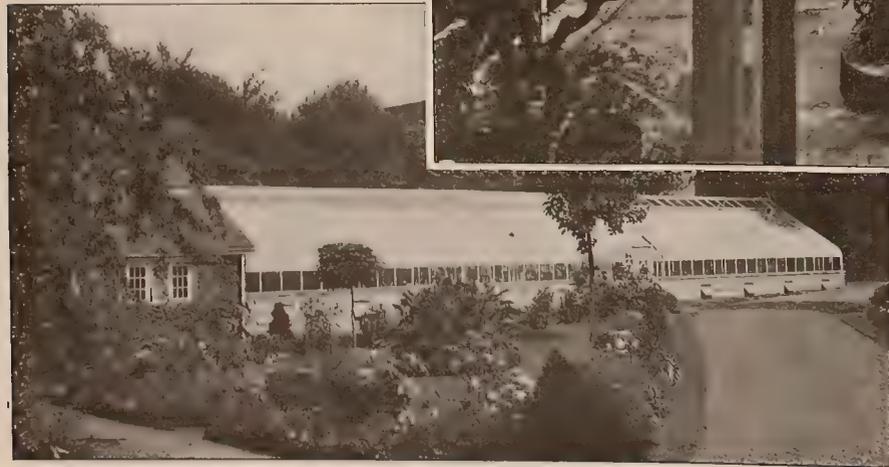
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Safe from the blustering Ides of March, Azalea, Acacia, Cytisus, Lilac, and such festal flowers fill their still sanctuary with color and fragrance. Vista in one of the Conservatories, DeLamar State, Glen Cove, L. I.

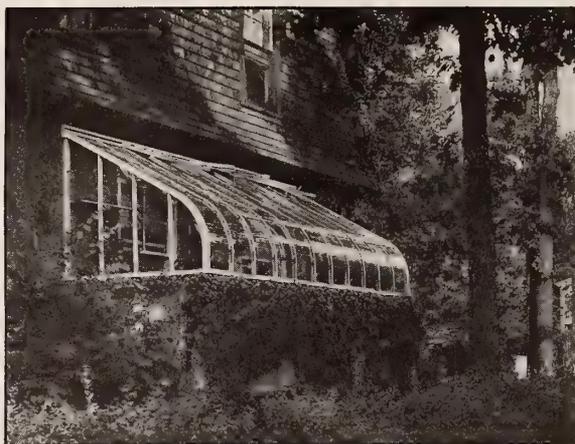
"The Bridal of the Earth and Sky—"

—Herbert

spite of everything; and create therefore something quite different from any outdoor conditions of anywhere in the world.

A New World Opens Up

REALIZE therefore that it is not the plants of our outdoor gardens that we may bring in and establish in gardens under glass—though it is true that a great many garden favorites will take kindly to this change of residence and oblige with the greatest abundance of flowers or fruits—but instead it is a whole world of plants of another character (many the result of careful and long breeding or selection) which must be as carefully studied as new worlds always are, in order that their requirements shall be understood and met. Moreover these plants come from widely different places, and require



AN INTIMATE LITTLE LEAN-TO GREENHOUSE

Well fitted into its position against the residence of Mr. P. J. Kinder at Wilmette, Ill.

a great deal more than simply protection from cold to enable them to grow so far from their native clime and condition: and they are not all of the same taste and temperament either—not by any means. Some like much moisture and heat, others need little of either, and still others come between and will be satisfied with no extremes. This necessitates careful selection according to the proposed temperature of your greenhouse; or else a series of “compartments” run at the different temperatures to meet these varying needs. In other words, do not expect to grow everything that may be fancied in any greenhouse at all, simply because a

greenhouse affords protection to things that are not hardy in your latitude. Remember to attempt growing only what you make definite provision for when you are building.



—**The Multitudes of Vegetable Varieties**” ANY ONE who has ever tried to have a vegetable garden and has puzzled over a modern seedsman’s catalogue looking for the varieties that will suit him, his soil, his climate, and his altitude—not to mention his family—will be interested in a step taken by the Vegetable Growers of America in convention at Detroit, early in September. A resolution was adopted calling for the simplification and standardization of the variety situation and calling attention to the vast number of sorts now offered for sale; that many of these are camouflaged duplicates of previously recognized varieties; to the ease with which any one can add new names to the already overloaded list; and to the expense, confusion, and dissatisfaction that this condition imposes on dealer and on customer. There are something more than 7,700 named varieties of vegetables listed to-day; yet a few years ago a careful compilation by Dr. W. W. Tracy, of the Department of Agriculture, showed that there are only about 710 varieties that can be called distinct and worthy! In other words, more than 90 per cent. of the sorts listed in catalogues are actually unnecessary! Dr. Tracy listed seventy-five varieties of beans, yet there are on the market 775 sorts; among the 352 varieties of sweet corn offered, only twenty-seven were reported as really different and deserving of perpetuation. Other figures were: for peas 506 and 48; for cabbage, 638 and 43; for lettuce, 546 and 47; and so it goes!

—Fewer and Better Seeds”

THE Vegetable Growers’ resolution suggested that the condition described above be remedied by establishing a key to all vegetable varieties, in which the names of the distinct, standard varieties would stand out in heavy type with those of the imitations, the inferior, and even the merely unnecessary sorts listed directly below them. The holder of such a

list, therefore, would (to create a fictitious example), note that the Extra Early Perfect Pea that he thought he wanted to buy was actually only a renamed strain more or less distinct from Gradus, which he knows from experience he doesn’t want. Of course the testing of the thousands of sorts now available, the determination of the true place and worth of each, and the preparation of the key will be a task requiring much labor and study, considerable time, very complete knowledge, and absolute fairness and broadmindedness. The resolution urges the American Seed Trade Association to cooperate.

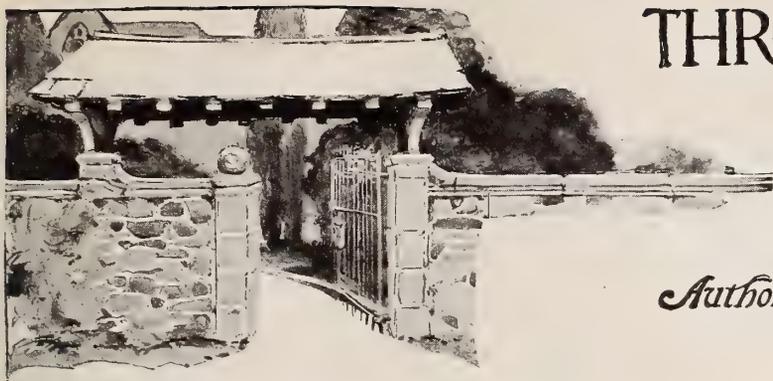
—The Cost of Living”

THERE is one spot of joy in the otherwise murky prospect. And that is the heightened satisfaction with which one can view his vegetable plot, no matter how small, and estimate what it has returned him in the form of luscious provender. Of course that is an old story, but like other oft-told tales, it has taken on new meaning these past months. This was discovered by taking home a few menu cards from several representative hotels, a dining car or two, etc., Just as an experiment to test the case fairly it was proposed to charge up a week’s meals according to an average of these prices. Within less than half of that week the budget was exploded. The normal habit of life involved, for dinner, perhaps two dozen ears of Golden Bantam corn (value in restaurant currency, \$3.00), the equivalent of two large orders of mashed potatoes (.50 at least), a heaping dish of string beans (four or five portions certainly at not less than .30 each), a salad of lettuce and tomatoes (about a dollar’s worth), and sufficient pie or pudding from our own fruits to match several twenty-five cent portions in quantity, and infinitely above them in quality. It was clear that in spite of higher prices for fertilizers, etc., last spring, the actual making and care of the garden hadn’t cost any more than ever, and had been just as beneficial physically. Need more be said?

THROUGH THE GARDEN GATE

By Louise B. Wilder

Author of "My Garden" and "Cosour in My Garden"



These are the days when skies put on
The old, old sophistries of June—
A blue and gold mistake.

EMILY DICKENSON.

THERE is no season of the year so full of charm—tender and wistful though it be—as that period of November known as Indian Summer, when the sword of the frost is miraculously stayed, lashing winds and low-hanging clouds disappear over night, and the world awakes to find itself bathed in mellow golden light, warm and beneficent. How grateful are we always for this "backward look" of the year before winter shuts down upon us. In the garden it is to me the very best time of all the year, not even excepting those first spring days when green things begin to venture tentative noses above the blanket. All necessity for effort is past; one may seek out a warm corner and bask in the sun, absorbing the very essence of the garden's sweetness.

Flowers that Brave the Frost

THE flowers, the gay, steadfast creatures that have braved frost and storm to say farewell at the very gate of winter, I love. Nor are these so few. Always there are blue and white Carpathian Hairbells in plenty, and *Tunica saxifraga* from chinks in the steps is a haze of pink bloom. Horned Pansies are enchanted at the opportunity to show themselves again and little sprightly gatherings of them are to be found in almost every sheltered corner. *Campanula muralis bavarica*, one of the most delightful of the small Hairbells, always shakes out a few bells at this season and *Nepeta* flowers freely. Johnny-jump-ups and Mr. Bowles little Black Pansy disport themselves anew and the little Yellow Fumatory (*Corydalis lutea*) bristles with yellow flower spikes. Sweet Marjoram is a plant good to have particularly at this season; its flat spreads of pink bloom endure many degrees of hard frost. It is often the very last blossom in the garden. Seldom is it that one may not gather a handful of China Roses at this season with sprays of Honeysuckle, and not infrequently a great white *Rugosa* or two; and I should be disappointed indeed could I not gather a few buds of the *Gloire de Dijon* for a last nosegay upon my writing table. Many annuals survive the first frosts with fortitude. Sweet Alyssum, Stocks, Verbenas, Snapdragons, California Poppies, Annual Anchusa laugh back at it gaily, and even French Marigolds and Petunias, in corners where they may crouch and hide a bit, are to be found bright and defiant.

A bouquet of little brown Chrysanthemums seems a finer gift than a basket of June Roses and how we treasure them until they are quite withered and dry! *Aconitum autumnale* is a good plant on account of its late flowering, as is Chrysanthemum nipponicum with its great white Daisy-like blooms. The Japanese anemone where it will thrive—it will not for me—is invaluable and such Michaelmas Daisies as *Novelty* and *Aster grandiflorus* may be counted upon late into the autumn. Autumn Crocuses are ever a surprise and an especial happiness to me. So frail and exquisite they seem to be out at such an uncertain season.

Zinnia Strains that Glorify this Flower

WHEN the Zinnia came out of Mexico late in the last century, it was acclaimed an important acquisition by the gardening world. Originally reddish purple or lilac in color with a yellow centre, it was soon to be had in almost every color save blue, and the central disc had disappeared in the multiplicity of tightly set petals. Soon there were mammoth forms, intermediate forms, and Liliputs, and every garden shone with borders of Zinnias that would have made a Joseph's coat look dull. More than this, it was given a friendly, vernacular name, Youth-and-Old-Age, which seldom happens to a new flower, but shows more clearly than anything else the warm esteem in which it is held. Of late years, however, this bright flower has lost ground. Gardeners have moved on since the days when any flower in any position pleased them so long as it grew robustly; sensitive folk are as offended by garish mixtures of flower colors as they are at other manifestations of poor taste, and the "mixed" packet of seed has small favor. Many strains of separate color are not to be depended upon to come true however. Few annuals are so entirely satisfactory as Zinnias—their sturdy form, clean foliage, unceasing bloom and hardy disposition place them in the front ranks of the indispensables. And moreover they may be transplanted easily even in full flower. Farquhar's Rose-Pink strain I have found to be satisfactory among Sea Hollies and Globe Thistles or about the clumps of gray Lyme Grass. Another strain safe to trust is Sutton's Primrose Yellow, a fine double answering to deep chrome in the Ridgeway color chart. It makes a handsome picture against the russet Heleniums (*H. autumnale rubrum*). The Zinnia known as Jacqueminot has always come true in my experience but its bright red hue is a little difficult to place in the garden. With the addition of a lilac strain and a good pale yellow we should be satisfied. Perhaps some reader can give the necessary information.

THE ROMANCE OF OUR TREES—II, THE GINKGO

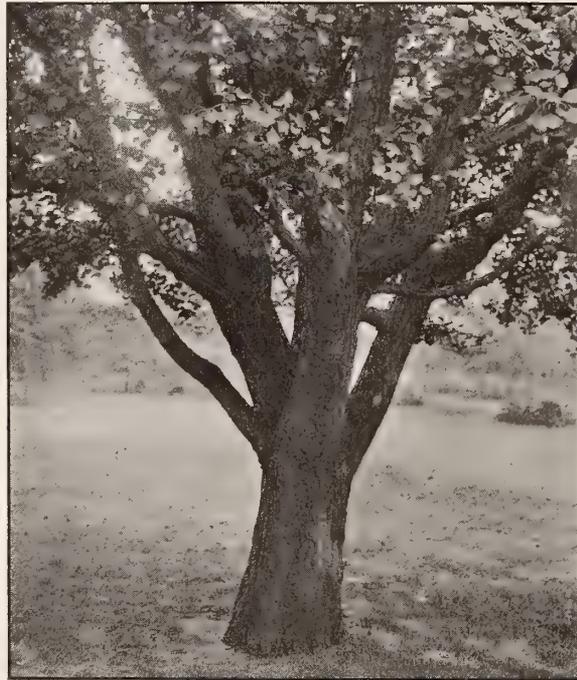
ERNEST H. WILSON
Assistant Director, Arnold Arboretum

The Oldest Cultivated Nut Tree, Now Rapidly Coming into Popular Favor as an Ornamental on Account of its Wide Adaptability, Hardiness, Freedom from Disease and General Character. It Forms a Direct Link with Life on the Earth That Was Extinct Even Before Man Appeared

[EDITOR'S NOTE: *This series of articles which will be continued in successive issues, introduces a new note in dealing with some of the best known and essential garden material. The purpose of these articles is to interpret the vivid stories that plants tell of themselves and of the life of the world. Next month will tell the story of the Cedar of Lebanon.*]

THIS sole survivor of an extensive family once rich in species and distributed over the temperate regions of both North and South Hemispheres in prehistoric periods of the Earth's history, is unique among existing trees. It boasts a whole catalogue of peculiarities and is not closely related to any living family nor group in the whole Vegetable Kingdom. Its leaves, it is true, resemble the pinnae of the common Maiden-hair Fern; but its plum-like fruit is not a fruit in the true botanical sense of the term but a seed somewhat resembling that of the Californian Nutmeg (*Torreya californica*) or that of the Cycads; it is fertilized by a motile sperm like the Cycads, Ferns, and Club Mosses; its shoots are of two forms like those of the Larches, and like them it loses its leaves in autumn.

But whilst it possesses these points of similarity with a number of plants it is closely related to none but constitutes a family of its own which forms an obscure connecting link between the Yew family, the Cycads, the Ferns and their allies. It is hardy in New England as far north as Hanover, New Hampshire, in Minneapolis, and in Canada, but does not seem happy in north Pacific states; is unaffected by summer droughts and thrives under city conditions as well as in the pure air of the country; is not known to be attacked by any pest, insect or fungoid, and lives to a great age. It transplants readily when of large size, as a tree on Boston Common testifies. The Japanese think nothing of moving trees 40 feet tall and more than a foot in diameter of trunk. An avenue of Ginkgo trees of this size was planted in 1914 on the boulevard leading from the terminal station in Tokyo and not one died. However, in this connection it must be remembered that Japan enjoys a more generous summer rainfall than North America does.



ESSENTIALLY A WELL-GROOMED TREE
An intimate view of the Ginkgo in Boston Public Gardens, showing the clean-cut character throughout

The fossil evidence is insufficient to prove the existence of members of the Ginkgo family in the age of the Coal measures (Carboniferous period) but there is a strong suspicion of their presence in the next (Permian or Triassic system) as fossils from Virginia show.

From the rocks of the Chalk Age (Cretaceous) of North America, Greenland, and Vancouver Island, species have been named which are probably identical with that living to-day. From the Tertiary period fossils of several species have been described from widely separated parts of the Northern Hemisphere and it may be concluded with approximate certainty that the present Ginkgo *biloba* flourished at that period; also that it was a common tree in the present temperate circum-polar regions of the whole Northern Hemisphere.

THE close of the Tertiary period was marked by a glacial epoch which, in Europe and North America in particular, destroyed much of the vegetation. In eastern North America the ice-cap extended as far south as Philadelphia (Lat. 40°N.) as the scarred rocks, erratic boulders and detritus amply testify. This ice-cap did not reach any part of China, Korea or Japan proper, though of course the climate there was very considerably modified by its influence. The glaciation of North America, Greenland, Europe and western Siberia probably caused the extinction of the Ginkgo in those lands, whereas in the Orient, thanks to the milder climate which obtained, it survived.

But to-day the Ginkgo, statements to the contrary notwithstanding, no longer exists in a wild state, and there is no authentic record of its having ever been seen growing spontaneously. Travellers of repute have searched for it far and wide in Japan, Korea, Manchuria and China but none has succeeded in solving the secret of its home.

THE earliest known mention of the Ginkgo in books is in a Chinese work on agriculture which dates from the 8th century A. D. At the beginning of 1000 A. D. the fruit was taken as tribute by the newly established Sung dynasty, being known as "Yin-hsing" which signifies "Silver Apricot," from its resemblance to the kernel of an Apricot fruit. In the great Chinese Herbal issued in 1578 A. D. the author calls it the "Ya-chio-tzu" which means "the tree with leaves like a duck's foot" and is quite descriptive. These old names may be in use in parts of China to-day though I have never heard them; the names in general use in the parts of the Flowery Land I travelled are "Yin-kuo-tzu" (Silver nut tree) and "Pai-kuo-tzu" (White nut tree). In Korea it is known as the "Eun Haing-namou," which is simply the Korean rendering of the Chinese name.

In Japan the tree is known as the I-cho and the fruit as Gin-nan, which again is a translation of its Chinese name. The tree reached Japan with Buddhism in the 6th century of the Christian era, and "Ginkgo" is simply the Japanese rendering of the Chinese name "Yin-kou." It is, of course, possible that the Ginkgo in those early days did exist as a wild tree in the forests of Japan, but it may be assumed with almost absolute certainty that in any case it was brought to Japan by Korean and Chinese Buddhist monks and planted by them in the earliest days of their proselyting. Many of the magnificent old Ginkgo trees in Japan are claimed to be more than a thousand years old and there is no valid reason for disputing the age asserted.

In China the Ginkgo as a planted tree is associated with Chinese civilization almost throughout the length and breadth of the kingdom. I am not sure that it grows in the hotter parts of south China, and where I have seen it most abundantly is in the western province of Szechuan (the province of the four streams). There I saw the most perfect specimen of a Ginkgo tree I have ever seen. It grows a few miles above the city of Kiating but on the left bank of the Min River; in 1908 was about 100 feet tall, had a symmetrical, narrow oval crown with branches almost sweeping the ground and a trunk 24 feet in girth. It is a male. I have seen others in China with rather larger trunks but never one quite so tall or so lovely in form.

It is in Japan, and in the city of Tokyo, however, that I have seen the finest average trees and the greatest in size of trunk. Every park, temple ground and palace yard has its Ginkgo tree, usually of great size. There are handsome



AT HOME IN WESTERN CHINA
With girth of 24 and height of 100 feet this dwarfs its Buddhist shrine. [The g's take the hard sound in Ginkgo]

specimens in Hibya and Shiba parks but the finest I saw grows in Koyenji Temple grounds and is about 85 feet tall and 28 feet in girth of trunk. In the grounds of the Zanpkuji Temple in Azabu, Tokyo there is a grand old tree with a trunk 30 feet in girth but the top has been broken off by a storm. In the Imperial Botanic Gardens in Koishikawa, Tokyo, grows the Ginkgo tree on which Professor S. Hirase carried out the experiments which led to his remarkable discovery of the motile male sperms in 1896.

AT MATURITY the Ginkgo is a stately tree 100 feet or more tall with a cylindrical, slightly tapering, trunk sometimes 30 feet in girth at breast height above the ground. Young free-growing trees commonly have their primary branches radiating in clusters (false whorls) from the stem, tier above tier; and the outline of the tree is distinctly spirelike. Very rarely does this habit obtain in ripe old age. Most usually the crown is made up of several massive, ascending and ascending-spreading branches and innumerable irregularly disposed but more or less horizontally spreading, often semi-pendent branchlets. In such trees the habit is loosely pyramidal to more or less conical oval. Round-headed trees are not uncommon but a flat-headed one I never saw. The branches are rigid and when clothed with leaves decidedly plumose in appearance. The bark on the trunk is pale to dark gray, somewhat corky and fissured into ridges of irregular shape. The wood is white or yellowish white and is not differentiated into heartwood and sapwood; it is fine-grained, something like that of a Maple, is easily worked but is of no great value. In Japan it is used as a groundwork for lacquerware and for making chess-boards and chessmen.

The leaves, quite unlike those of any other tree or shrub, are unique in their fan-like shape; they are stalked, have no midrib but many forked veins and no cross veinlets, the apex is irregularly crenate or cut, and usually cleft more or less deeply into two or more lobes. In bud the leaves are folded together not rolled up crozier-like as in the Ferns; in size they vary from 2 to 3 inches in width on the spurs, but on the free shoots and especially on those which freely develop from the base of the trunks of old trees, they are sometimes from 6 to 8 inches broad and are often deeply lacinate. In color the leaves are bright, grass-green when young; dull rich green at maturity; and in the autumn assume an unvarying tint of clear yellow before they fall. They are leathery in texture. In China the leaves are sometimes placed in books as a preservative against insects.

The trees bear either male or female flowers but the two sexes are never found on one and the same individual, unless deliberately grafted together. In some books it is claimed that the "male trees are pyramidal and upright in habit, the ascending branches of free and vigorous growth"; that the "female trees are more compact in habit, more richly branched below and the branches sometimes becoming even pendent." Personally I have not found it possible to determine the sex of the tree by its habit, and the Japanese, Koreans, and Chinese whom I have interrogated on this point assert that it is utterly impossible to do so.

The flowers are developed from among the leaves at the apex of the spur-like shoots, and appear at the end of April or beginning of May; the female is very like that of some Oaks (*Quercus glauca*, a Japanese species for example). The pollen is scattered by the wind and settles on the tip of the female flower, after which the cup grows up and encloses the "globose body." Fecundation takes place early in September, being preceded by many changes within the growing nut-like body which culminate in the development of a motile male sperm from the pollen and an egg cell in the female flower. The development of the embryo takes place early in November when the seed is full grown, yellow in color, and ready to fall to the ground. Often, indeed, the

development does not take place until the seed is actually fallen to the ground. Two or three embryos are sometimes developed in one seed. The seeds germinate in the spring following and the manner is very like that of the Oak.

The plum-like fruit is not a true fruit at all but is a naked seed. It is round, bright orange-yellow, about an inch in diameter and consists of a thin outer fleshy layer, like a plum, covering an oval-pointed "nut" from one half to three quarters of an inch long. On or soon after falling to the ground the fleshy covering splits and emits a most offensive—nay abominable!—odor. If the ripe seeds are handled or touch one's clothing the odor is not eradicated for a day or more. This penetrating offensive smell is due to a peculiar crystallizable fatty acid akin to butyric acid, first extracted about 1839 and named Ginkgoic acid.

The nuts denuded of their offensive pulp and washed, are pure white and are on sale in most of the market towns in China and Japan, and in a less degree in those of Manchuria and Korea, and after roasting are eaten at banquets, weddings and convivial gatherings generally, being supposed to promote digestion and to diminish the effects of wine.

We of the West owe our first knowledge of the Ginkgo tree to Engelbert Kaempfer who, as a surgeon in the service of the old Dutch East India Company, visited



PROBABLY THE OLDEST GINKGO IN AMERICA—
Planted in 1784 by William Hamilton at "Woodlands," near Philadelphia, the estate later becoming a burial ground



—THOUGH POSSIBLY THIS HAS THE HONOR!

Since it was pronounced "full size" in 1798. It was transplanted to its present place on Boston Common in 1838

Japan in September 1690 and resided there until November 1692, and during the time made an overland journey from Nagasaki to Tokyo. He returned to Europe in 1694 and published a book in 1712 in which he gives a good figure of the Ginkgo.

THE Ginkgo tree was first brought to Europe by the Dutch some time between 1727 and 1737, and planted in the Botanic Garden at Utrecht. It came to England between 1752 and 1754 presumably by seeds brought direct from Japan. An Englishman named Gordon in 1771 sent a plant of it to the great Linnaeus who adopted Kaempfer's name for the generic title of the tree, calling it *Ginkgo biloba*. In 1796 an English botanist, one Smith, renamed it *Salisburia adiantifolia* on the grounds that Linnaeus' name was "equally uncouth and barbarous". This act of pedantry was very properly objected to at the time, and later Smith's name was abandoned for the older and legitimate one given by Linnaeus.

The first tree to flower in Europe was a male in Kew Gardens in 1795. The famous Jacquin planted a tree in Vienna about 1768, and this when it flowered proved to be a male also. Of its first introduction to France an interesting story is related by M. André Thouin; "In 1780 a Parisian amateur named Petigny voyaged to London in order to see the principal gardens there. Among those he visited was that of a nurseryman who possessed five young Ginkgo plants all in one pot and raised from seeds received from Japan. The nurseryman valued them highly but after abundant hospitality, in which wine was not omitted, he parted with them for 25 guineas. Next morning he sought out M. Petigny and tried to buy back the plants finally offering for a single plant the 25 guineas received for the five. The Frenchman refused and carried the plants to France, where the tree was christened "*Arbre aux quarante écus!*"

Most of the older trees in France are said to have been derived from the above five but Sir Joseph Banks, in 1788, gave to Broussonet, who was then in London, a Ginkgo plant and he sent it to Professor Gonan of Montpellier Botanic Gardens where it was planted. In 1790 an English amateur named Blake, sent a Ginkgo plant to M. Gaussen de Chapeau-rouge who had a garden at Bourdigny, a village two leagues from Geneva, Switzerland, where he cultivated many rare trees. This tree is historical. It proved to be a female, the discovery being made by Auguste



THE GINKGO AVENUE IN WASHINGTON, D. C.
Which crosses the Mall and leads to the original
building of the Department of Agriculture

Pyramus DeCandolle in 1814. Scions from this tree were distributed over Europe by its discoverer and grafted on the male trees including those at Vienna and Montpellier. In fact all the fruiting trees in Europe up to 1882, are believed to have originated by grafting from the tree near Geneva. As a result the tree at Montpellier produced perfect fruit for the first time in Europe in 1835.

THE introduction of the Maidenhair Tree to America is said to be due to William Hamilton who obtained it from England in 1784 and planted it in his garden at Woodlawn near Philadelphia, where it grows to-day though the garden itself has become a cemetery. In the first years of the 19th century a Ginkgo was planted by Dr. Hosack at Hyde Park on the banks of the Hudson River. On the north side of the Boston Common grows a historic Ginkgo which is possibly

older than the tree at Woodlawn and probably came direct from China. It is said to have been a tree of "full size when Mr. Gardiner Greene purchased the garden in 1798." The site of the garden is now occupied by the Court House in Pemberton Square. After Mr. Greene's death in 1832, the grounds were sold and the tree moved to its present position in 1838. The city paid a portion of the cost and each of Mr. Greene's children contributed one hundred dollars. The tree when moved was 40 feet tall and 4 feet in girth of trunk. Those were times of great financial stringency and there was some opposition to the spending of public money on moving a tree.

As far as authentic records go the oldest Ginkgo trees in this country are the two in Woodlawn Cemetery, Philadelphia, planted by William Hamilton in 1784. The largest, a male, measures 7 feet 7 inches in girth of trunk, the other is female and measures 6 feet 6 inches in girth. Both are fully 75 feet tall and in vigorous health. Professor Harshberger, to whom I am indebted for the above measurements, thinks the Ginkgo in the old Bartram garden in West Philadelphia, Pa., is the older and the first planted in America, basing his opinion on the facts that this garden is older than that founded by Hamilton and that the tree is the larger, being 9 feet 3 inches in girth. Perhaps the best known Maidenhair Trees in America are those forming the avenue in the Department of Agriculture grounds, Washington, D. C. These were planted about 1870 or 1871. There are some ninety trees in the avenue and on the curves of the drive which leads into the avenue. The trees were all planted at the same time but vary greatly in size. The tallest tree is about 52 feet and a

good many of them are about 48 feet tall; in girth they vary from 2 and one half feet to 7 and one half feet.

On the massive lower branches of old Ginkgo trees thick, peg-like structures develop which grow downward and on reaching the ground develop true roots from their apex and give off branches above. The growths are often very numerous and are sometimes as much as from 12 to 16 feet long and 1 foot in diameter. This phenomenon is rare in China and Korea but is common in Japan where the growths are styled "chi-chi," that is, teats or nipples. Their true character is not properly understood but evidently they serve to prolong the life of the tree by developing new stems and branches. From the trunks of old trees many sprouts develop which sometimes form a veritable thicket of ascending stems. If the top of the tree be broken, as frequently happens in the long life of the tree, new shoots arise, grow upward, and make a new crown. The vitality of the tree is marvellous and

Mother Nature seems to have endowed it with a thousand and one means of maintaining its existence both individually and collectively. I never saw a dead Ginkgo during the twenty years I have travelled in the Far East. Japanese gardeners raise many seedlings in a pot or pan and use them for table decorations, but as a dwarfed tree the Ginkgo is not much in request in Japan.

Apart from the typical tree there is a form (*pendula*) with pendent branchlets, another (*fastigiata*) with upright-growing branches; a third (*variegata*) has leaves blotched and streaked with pale yellow, and a fourth (*macrophylla*) is characterized by its larger, more deeply cut leaves. The pendulous and upright forms are worth cultivating.

That the Ginkgo has been closely identified with Buddhist institutions from early times and planted by adherents and missionaries of this religion wherever they have obtained a stronghold in the Orient is beyond question. It may not be

too much to say that its very existence to-day is due to the adherents of this faith. Very probably they found it in some way associated with Taoism and other forms of nature worship which were current in China when first they established their faith there, and with the tolerant catholicism that characterized them, they adopted it for their own. Its edible nuts played no unimportant part too, it may be inferred, in inducing them to protect and plant it. The Ginkgo is in fact the oldest cultivated nut tree.



SYMMETRY WITH YEARS

The same tree shown on page 144, which has grown old enough to lose the adolescent awkwardness that distinguishes the young *Ginkgo biloba*



VEGETABLE ROOTS TRIMMED READY FOR PLANTING

Be very careful to cut away only the heavy top growth, leaving the crowns intact. Here, from left to right in order, are Swiss chard, beets, dandelions, endive and coffee chicory

TAKING THE VEGETABLE GARDEN INTO THE CELLAR

RAYMOND L. FEDDER

Indoor Gardening That Does not Mean a Greenhouse and from Which a Regular Supply of Salad and Greens Can Be Had Till Spring Comes Again—A Use for the Surplus Growing Root Crops

WINTER, to the gardener, is the enforced season of rest—at least to the big majority of home gardeners who possess nothing but their little plot of ground and the dreams of a greenhouse that never materializes. But the growing season can be extended all through the winter by any one who possesses a warm cellar; and at no extra expenditure of capital whatever except for the seeds.

Finer salads than ever grew in the garden outside, and as good "greens" as ever eaten can be had from the house cellar besides several other out-of-season luxuries and the fun of seeing things grow at a time when the Frost King does all the gardening without.

Trying to keep my endive beyond Christmas was a disappointment. I had tried light and heavy coverings over the plants—which either rotted or froze; numerous styles of "pits" which produced the same result; and digging up the plants and storing in a cool cellar where they wilted and dried up. And then I heard of witloof chicory and after two seasons' trial, liked it so well, that I grew no more endive for winter storing. And one thing after another I experimented with, invariably having good success, until I now have a regular winter garden in a small bed of earth and several boxes in my cellar. There I grow for salads, witloof chicory (which

I consider the finest salad I have ever eaten); coffee chicory, (almost the equal of witloof and with a milder flavor); and dandelions, which are the same as the best spring variety, but, coming in December, January and February taste much better. I grow beets, white or red or even sugar; they all succeed and the "greens" taste like the garden variety of beet greens along about the forepart of June. Also I have tried Swiss chard, which though not the equal of beets for sure and large crops, still produces enough to make it worth while; and I have discovered that the leaves of Swiss chard grown in a dark (or nearly so) cellar, being perfectly blanched, make a very creditable salad with a distinct flavor of their own. And for luxuries you can have rhubarb and asparagus.

THESE different vegetables are grown in the garden in the regular way, planting the seed in the spring and weeding and cultivating through the summer in an effort to produce the best roots possible. And in these roots lies the secret of the success of growing vegetables in a dark place. For it is there that all the energy and plant food is stored; and from this store the leaves are enabled to draw and grow without the aid of sunlight. Therefore, understand it is only root vegetables, containing a large amount of plant food, that

can be considered for this kind of gardening. And those I have mentioned above are what I have myself tried with success, though doubtless there are others, such as Brussels sprouts, which may be lifted from the garden.

DIG the roots of the chicories, beets, dandelions and Swiss chard the later part of October, or early November and the rhubarb and asparagus just before the ground freezes, cutting off the tops of the former about an inch above the crowns and in the case of the chicories (which have extra long roots) trimming the bottoms to a uniform length of about nine inches. We are now all ready for the planting.

I get far the best results by planting witloof chicory in a deep dry-goods box—sticking them upright about an inch apart into sand or even the regular garden loam—and then filling in over their tops ten inches or a foot more of soil. The leaves will grow up into this soil in the form of a compact bud, perfectly blanched, crisp, fresh, and tender, and free from all insect pests. It is served and eaten like lettuce and is to my way of thinking the finest salad grown. I fill two boxes in this way, placing one (which forces out in about five weeks) in the furnace room, and the main supply out in the cooler portion of the cellar in another box. This second box is usually ready to commence cutting at the end of ten weeks and will keep until the supply is exhausted. From witloof chicory we make one cutting and then throw away the old root.

THE other roots are planted in the furnace room upright in a single bin made from old boards—and filled with a foot of soil. Here I plant all the Swiss chard, beets and coffee chicory roots that I intend forcing. You cut off the leaves of these as they grow out without injuring the crown and they will keep on coming although the first crop is the best.

The dandelions force in only one month's time, and it is best to renew with extra roots kept in a cool place for the purpose; but not having the extra roots the old ones may be kept and will grow a medium sized second crop and even a third. The rhubarb is in the same bin occupying twenty inches on one end sufficient to supply a family of four with quite a few



THE ROOTS WHEN THEY ARE PLANTED

With their crowns just above the surface as they grew out of doors. For the space involved the cellar garden yields more abundantly than any other, hence may be called the most intensive of all



AND WHAT COMES OF IT ALL!

Greens and salads that are succulent, tender, and luscious from January until outdoor gardening begins

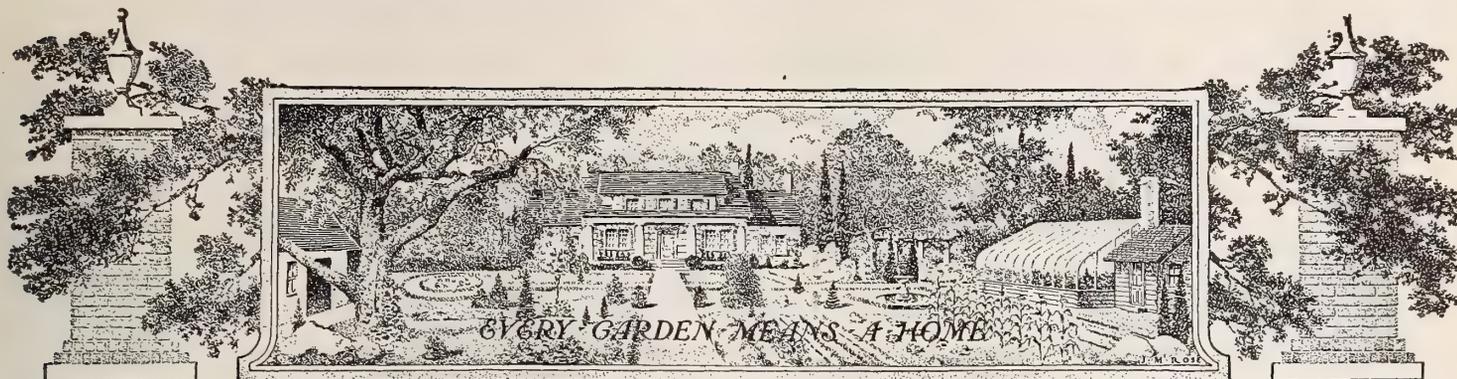
“messes.” This being put in later (about the latter part of November) arrives correspondingly later—about the latter part of January.

The beets, Swiss chard, and coffee chicory put in the first of November with a cellar temperature between fifty and sixty can be had from Christmas until spring; and the dandelions as often and as long as you have roots to renew the planting. Keep the soil in both boxes and bed just moderately damp as moisture is all that the roots require. And one other thing has to be looked out for in the bed—green aphid, which usually come along about the last end of the cellar garden season and can be taken care of in the usual methods that apply to vegetables so affected.

THE bed shown in the illustrations is 3 x 8 ft., and contains the following roots in the order named from left to right—Swiss chard 31, beets 34, coffee chicory 60, dandelions 120, rhubarb two big clumps. And from this bed we get four or five messes of greens for four people; salads (with the witloof chicory in the boxes, about 300 roots) any time we desire them; and five or six messes of rhubarb.

Rhubarb and asparagus roots can be purchased from the seed houses and nurserymen and set out in the garden for about two years, to become strong and thrifty. The other things on the list are usually available in the garden, excepting the witloof perhaps, but roots of that can be procured in the seedstores.

AMONG OUR GARDEN NEIGHBORS



THE winter of our discontent" is a phrase so apt that too often it is used as a smug justification for sudden cessation of interest in garden affairs during the cold months of the year. As a matter of fact, thoroughly appreciated by very many gardeners, the cold months bring a change in opportunity but not a cessation of it. Gardens are very different affairs from open fields, and although they have their highest flush of natural color and glorification in the summer days, there is much more in gardening than summer alone brings for the plant grower and the garden lover who will look for it.

As the year wanes and outdoor growth takes on the luxuriance and opulence of maturity, there is simultaneously an awakening of a world of wondrous beauty opening up to those who are willing to give the needed extra protection from the rigors of climate to hosts of gorgeous flowers and beautifully foliated plants that come to us from the tropics. From now on the real interest in growing plants shifts, to be sure, from the outdoors to the indoors; but the lure of under-glass cultivation opens up a really new gardening world through its groups of new material.

Garden interest is based on two things primarily; on the one hand there is the art of developing the surroundings of our dwellings into a picture or series of pictures as harmoniously beautiful as the combination of fine design and appropriate material can produce. On the other hand, there is the collection and maintenance in fine condition of all kinds of plants, either for their inherent beauty or intrinsic interest and value. The outdoor gardener depends very largely upon quantity in the production of his "effects" or pictures. Indoors the element of artistic arrangement is given less consideration and the cultural welfare of the plants themselves preponderates. Not that this is necessarily the case, indeed, as acquaintance with some of the finer greenhouses of many well kept estates shows (quite irrespective of their size). The garden under glass indeed can be given a spectacular splendor that is decidedly dramatic in its brilliancy and seeming extravagance, for the protection afforded by the glass roof over the growing plants makes possible a standard of perfection quite different from that which belongs outside. Plants are under better control, the flowers can be developed more uniformly, and complete freedom from the caprice

of the elements results in a quality and a production in quantity surpassing anything in the outdoor garden.

Whether all who love gardens "love a greenhouse too," as we have been told they do by one of the master poets, the fact remains that the glass garden opens up to the gardener, the greatest possibilities for personal enjoyment. The commercial florist and cut flower dealer could not exist a week without the products of the greenhouse, and the great revival of modern plant interest actually has origin in the time when travellers and traders began to send home to Europe from remote corners of the world the amazing plants that startled them in the course of their peregrinations. The greenhouse was of course the receiving station, and people began in that far-off time to vie with each other in the possession of these living curios from far countries.

Inasmuch as the greenhouse was necessarily associated with the garden, attention began little by little to devolve upon the possibilities of these "outlandish flowers," as Parkinson called them, for brightening the parterre and for garden uses. Many of the new comers were found readily adaptable to bedding and other styles of outdoor gardening—at all events in the summer time. And so—as is the nature of the human animal in all things—he went to the extreme, and indulged in a perfect orgy of riotous, garish, color splashes that some of these new exotics made possible.

This over-indulgence had its inevitable reaction and ultimately led to the triumphant evolution of the harmoniously balanced, garnished "landscape" garden that holds sway to-day. But may we not pause and ask whether we are not again showing a tendency to run into excess and over-indulgence in this contrary fancy, and thus to forget the beauties of some of these more tender plants that can only be grown in the glass garden? Surely we do not want to abolish everything that lacks the element of the wild!

To the real plant collector the glass garden is an essential, unless he is willing to be the victim of the climatic vicissitudes of one region, the incidents of which can never be foretold and which each year goes to one kind of extreme or another. Of course from the purely practical standpoint of plant production, regarding the greenhouse as a factory, and nothing else, there is little to be said for the greenhouse as part of the all-round garden; but it has perhaps become a sort of fashion

not to say as much for it as it perhaps deserves, considered as a jewel box in which to keep the plant rarities of the world.

The cover design of this month's number, showing one of the Passion Flowers that is perfectly practical to the open air in Southern gardens is impossible to Northerners unless given the little protection that a greenhouse may afford. That may be taken as but one illustration out of many that could be cited—plants that do not require excessive heat but do require the tempering of the winter by glass. Is it not true therefore that the greenhouse is actually a garden feature which may well be given consideration in all garden plans?

The Lure of the Old

THINGS of an age gone by we are apt to wrap around with a mantle of veneration, if not worship—sometimes just because they are old, quite ignoring the very forcible evidence that surrounds us that the new represents, on the whole, progress. Or, if not actual progress, at least some

effort to coördinate fact and time. Much of the old, just the same, has its ample justification in having been the fullest and perfect expression of its time. Whether this is true of old-time gardens is a fair question for debate, because garden art as such had to be superimposed on the primordial utility garden. Sometimes the transition was painful (as we look backwards); but even so since gardens are living organisms they "evolve" themselves into a higher destiny. This perhaps is the subtle charm of the old garden, which despite its faults (if it have any) is a thing to love after all. What the old-fashioned garden really is will be the subject of the December issue of the GARDEN MAGAZINE; there will be illustrations of some really old gardens, and a general survey of this alluring subject. While specifically the "Old Fashioned Garden" number there will also be a seasonal appeal in Mr. Wilson's "Romance of the Cedars of Lebanon," the most majestic of all forest trees. The cover design is a reconstruction of an old Elizabethan garden from an authoritative source.

THE OPEN COLUMN

Readers' Interchange of Experience and Comment

Cutting Down Delphiniums

SOME time in the spring someone questioned about cutting down Delphiniums after blossoming. We have very beautiful ones and always cut them down twice during the summer. This summer they grew to six and seven feet high and had wonderful flowers, the spikes of some were fifteen inches long. Four years ago in June we had nothing in the way of a garden—not even grass, but with the helpful information derived from THE GARDEN MAGAZINE we now have a very wonderful one. I have taken the magazine for many years and landscaped the whole place from various numbers.—MRS. S. D. COUGHRAN, *Worthington, Minn.*

Phosphorus in Fertilizers

I WAS much interested in H. N. Hutt's successful endeavor to improve the yield and size of his asparagus and would like to make a suggestion. He used acid phosphate, wood ashes and nitrate of soda. Wood ashes contains 6 to 7 per cent. potash and about 35 per cent. lime. Now, when acid phosphate is mixed with wood ashes, the soluble or available phosphorus reverts to an insoluble form owing to the chemical action of the lime and phosphate, and the value of the phosphorus is thus lost. As phosphorus is needed principally for the full development of seed and flower, it made little difference in the case of asparagus, the wood ashes still yielding the much more needed potash, so necessary for the development of stalk and fibre. This loss of phosphorus when acid phosphate is mixed with wood ashes, as seed and fruit crops—such as corn, beans, tomatoes, eggplants, etc., all of them needing available phosphorus, would be likely to fail if this mixture was used and depended upon to furnish the needed phosphorus. When wood ashes is the only form of potash at hand and phosphorus is also needed, I would suggest using the slower acting bone-meal. Any of the forms of potash, either the muriate or the nitrate may be used with acid phosphate, and while prohibitive in price for large operations, a single pound of muriate at 35 cts. a pound, or of nitrate at 50 cts., goes a very long way in a home garden and would prove ample for an ordinary bed. To this can be added nitrate of soda for leaf development, in the proportion needed for

the particular crop contemplated, and a perfect and quick acting complete chemical fertilizer would be the result.—LOUIS TOCABEN, *New York City.*

Habits of the Greek Mullein

I WAS interested to read in last month's number a subscriber's experience with the Greek Mullein (*Verbascum olympicum*). I have grown this plant for eight years and have never known it to bloom the second year from seed. It has been with me, as has the Chimney Bellflower, quite consistently a triennial, requiring three years from sowing to gather strength to produce its great flower stalk. Miss (or Mrs.?) Reynolds found that the plants left in their original places and not transplanted bloomed the second year like any other well behaved perennial. But this has not been my experience. My plants self-sow freely and many of the seedlings are left where they appear, but this treatment has so far not had a hastening effect upon them. Also I have never known the Greek Mullein to flower as early as the twentieth of May. Indeed though Miss Reynolds garden is considerably north of mine, my Greek Mulleins lag along, allowing the three other kinds that we grow here—*V. phlomoides*, *V. phoeniceum*, *V. densiflorum* and the white Miss Willmott to precede it and only lighting its great candelabra by the first week in July. All this only goes to show what tricks are played with the habits of a plant by varying conditions of soil and aspect. We dare not lay down the law too stoutly concerning the behavior of any plant.—L. B. WILDER.

A New Bush Honeysuckle

ONE of the most remarkable and beautiful of recent introductions from China is *Lonicera syringantha* Wolff. A specimen growing on the estate of Mrs. Bayard Thayer, South Lancaster, Mass., raised from seed by the Superintendent, William Anderson, is, at the end of six years, a bush 28 feet in diameter though only 4 feet high at the centre. The flowers are a beautiful lavender and foliage small, and it is one of the most striking recent acquisitions to our hardy shrubs. W. N. CRAIG, *Brookline, Mass.*

The Month's Reminder

"Come with me, then, behind the scenes, where we are concerned only with the joys of plant increase and rejuvenation"

The Reminder is to "suggest" what may be done during the next few weeks. Details of how to do each item are given in the current or the back issues of THE GARDEN MAGAZINE—it is manifestly impossible to give all the details of all the work in any one issue of a magazine. References to back numbers may be looked up in the index to each completed volume (sent gratis on request), and the Service Department will also be glad to cite references to any special topic if asked by mail.

When referring to the time for out-door work of any sort New York City at sea level in a normal season is taken as standard; but at best dates can only be approximate. Roughly, the season advances northward fifteen miles a day. Thus Albany, which is one hundred and fifty miles from New York, would be about ten days later, and Philadelphia, which is ninety miles southwest about a week earlier. Also allow four days for each one degree of latitude, for each five degrees of longitude, and for each four hundred feet of altitude.

NOVEMBER—THE MONTH OF REPOSE

IF THINGS have been done promptly heretofore now is the season when immediate attention is less essential, but don't lose touch with things; plants are still alive though dormant, and there is another year approaching.

In the Fruit Garden



Spread a coarse mulch with special care along the gooseberry bushes that were mounded for layering along about July.

The roots that have formed or are forming there are naturally young and tender and being near the surface are especially liable to winter injury.

Bury bunches of grape cuttings in slightly moist sand in a sheltered spot well below the frost line, or in a pit or cellar to callus during the winter.

Take a final look at the peach trees for borers.

Gather all "mummied" fruits from peach, cherry and plum trees; cut out all black knot swellings; and clean up and burn any such diseased specimens, also leaves, and other rubbish around them.

Protect young, newly planted fruit trees from thrashing by winter gales by staking, light pruning, or the placing of guards of wire netting, or building paper around the trunks to keep away rabbits and mice.

Winter spraying can begin. Lime-sulphur is the standard mixture; but one application of an oil spray soon will get the insects before they are established in winter condition. Before March give the regulation winter lime-sulphur. Do not use oil sprays on Sugar Maples and stop pruning by the middle of the month.

In the Vegetable Garden



As cold increases keep tucking in the covers on and around the perennial beds, but if the weather is phenomenally mild as it has been of late years in several instances, don't begin to pull up the cover-lids until the ground freezes.

Parsley and spinach covered with a screen or board sash and then some straw or other coarse litter will lengthen those crops for several weeks.

In the greenhouse succession sowings of beans and lettuce can be made and radishes added. As fast as indoor crops reach the flowering stage begin to give them doses of liquid manure. For the frames see that plenty of hotbed mats are ready.

Paint over any metal appliances that must be left outdoors over winter (such as plant stakes, vine trellises, etc.), it will give a longer lease of life. Put all tools away clean and repaired ready for use; and drain the hose before coiling up in a dry place.

Let These Things Be Your Guides

1. Mulch to prevent alternate freezing and thawing, *not to keep out the cold*. When the border and lawn can bear a horse and wagon the time is right.
2. Put tools away clean and with exposed parts greased.
3. Lay out your winter work leisurely: Any time between now and the end of February is suitable for a number of tasks noted for this and the next three months. Do a little something each week.
4. Be forehanded with winter spraying campaign: i. e. buy your apparatus and supplies now to use November to March.

Odds and Ends Among the Ornaments



Prevent rotting of the stems of Clematis that require winter protection by a mulch of sifted coal ashes, covered with as much litter as the season and location may require. Read the article on page 134 for general rules on mulching for winter protection.

Give all walks and roads a good rolling before the hard freezes arrive. This will also give you a better surface during the winter and better conditions to work with when spring opens up.

Don't manure a brand new lawn too heavily; you might smother it to death. It is too late in most places to

sow any more lawn seed, even though it might come through the winter safely and germinate well in the spring, but, grading and levelling can go on as long as the ground can be worked, and everything that can be done now is just that much effort saved out of next spring's programme.

Tree moving can be done all winter long. The frozen ball method is one of the simplest and safest, and its desirability increases with the size of the tree moved by it. The things to do now as parts of the process are: (1) Dig a trench around the trees to be moved far enough from the trunk to take in most of the root system, then fill this with coarse manure. The soil enclosed will freeze solid and can be lifted as a unit later on. (2) Dig the new hole for the tree and put some good soil in the bottom. In other words "make all ready."

If any of the dead foliage and flower stalks of perennials remain, they can be cut and allowed to lie where they fall as part of the winter mulch—unless infested with disease or insects, in which case gather and burn.

In the Greenhouse.



Azaleas are more valuable than they used to be and will repay proper care. Unless kept fairly cool (50 degrees F.), they are likely to start flowering too soon. Use tobacco sprays or stems as a disinfectant for the destruction of green fly in the houses. Flowers of sulphur made into a paste and painted on the pipes is the standard remedy for mildew. Sow some Pansy seed in a pan or flat that you may have thrifty plants for bedding out quite early in the spring.

Clean up the Palms and Ferns as soon as there is a really free day, by wiping each leaf with a weak solution of whale oil soap. Cactus want light, but little water.

If any pots have refused to yield to the ammonical copper carbonate treatment, to remove moss, soak them in a tub of water containing sulphuric acid, about one part to ten, overnight, and very little scrubbing with a stiff brush will make them "as good as new."

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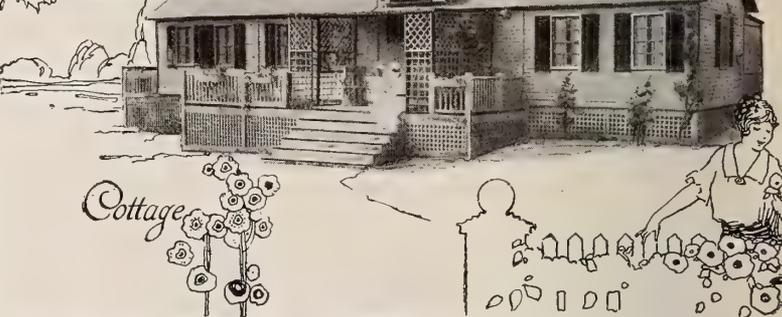
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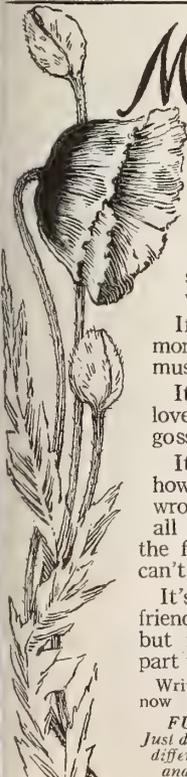
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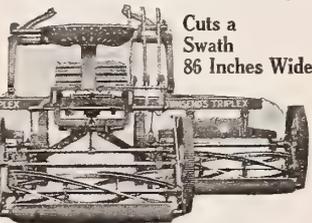
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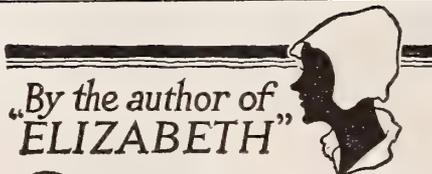
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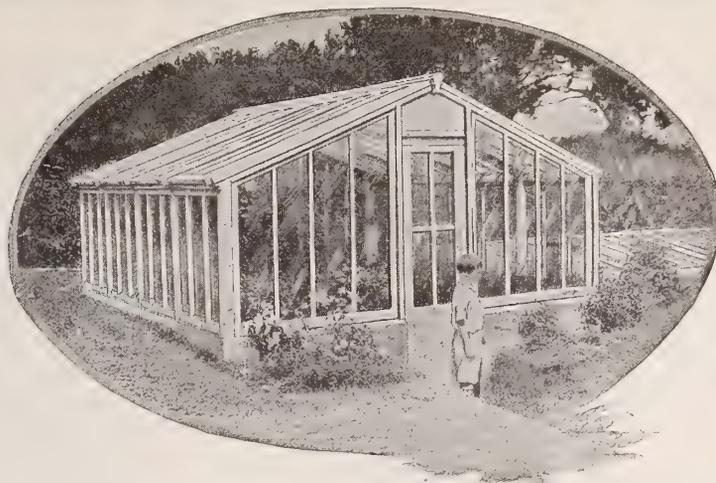
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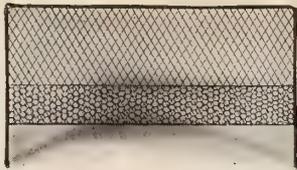
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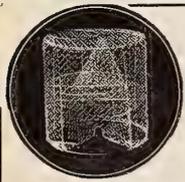
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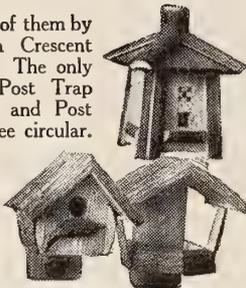
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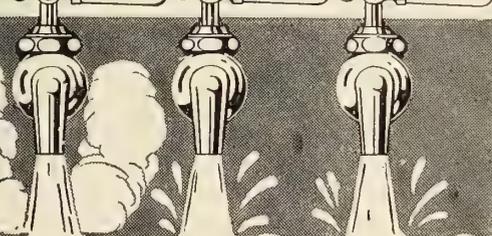
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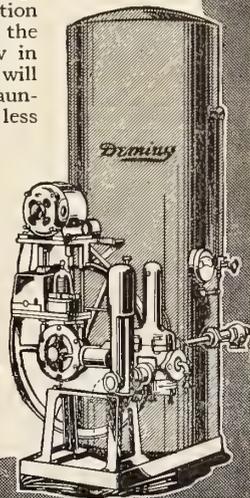
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Vol. XXX N. 5

Thomas D. Stone

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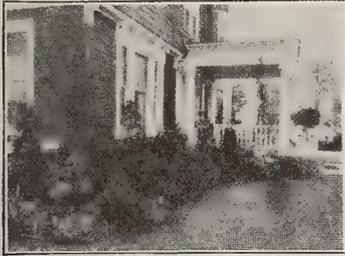
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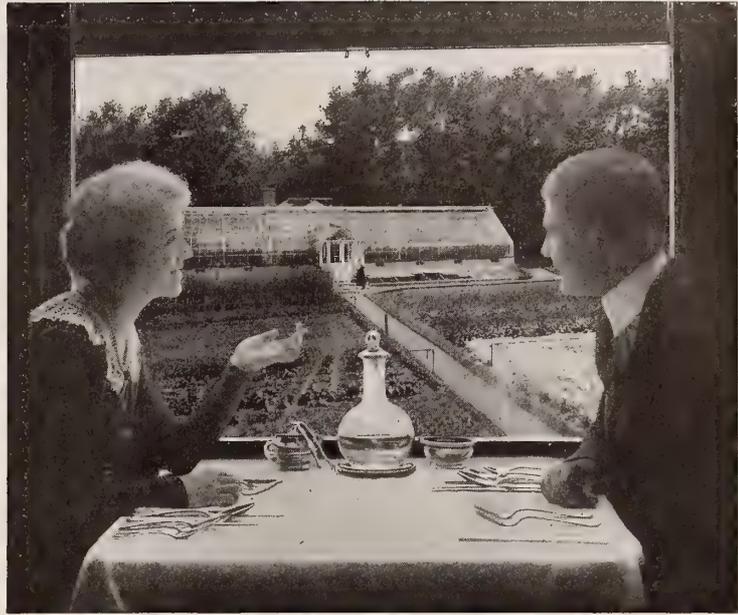
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The honeymooners were the Gaston Berkleys, who, now that I mention it, you may recall were married in one of the Back Bay churches in June, a year ago.

As the train whizzed along the North Shore section it happened they were in the diner.

I was sitting sort of incognito, just opposite. If not for which fact, it isn't likely any of us would really have known what prompted Mr. Berkley to send us a wire from Port-

land for a greenhouse catalogue; followed the next day by another wire for a price on house No. 530; and then another with go-ahead instructions.

Of course, it would be hardly fair to the Berkleys to repeat any of that table conversation.

But the above picture tells the particular part of it that particularly interests you right now.

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THE GARDEN MAGAZINE

DECEMBER, 1919

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LEONARD BARRON, Editor

VOLUME XXX, No. 5.

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CHAPTER XIII

WHAT BIRDS SAY AND SING

ANOTHER of our friends is the jay bird, a beauty in plumage, friendly in disposition, a good husband and father, but dangerous to the nests and eggs of other birds. His call note is high, clear, and rather antagonistic: "D'jay, d'jay," certainly an obtrusive and self-satisfied note. He asks no favour, courts no bird but his mate. He may utter this cry once or a dozen times. I always get the impression from it that he would not avoid trouble if he met it, and usually he finds it. Perched on a conspicuous branch in early spring, when other birds are singing mating songs, the bluejay sings: "Ge-rul-lup" over and over, making rather an attractive song of it. The bluejay notes that really are pleasing to my ear are those uttered by a number of jays having a party after nesting affairs are over, when they gather in the top branches of a tree and in soft tones tell each other to "fill the kittle, fill the tea-kittle," and there are times, when Father Jay perching near his nest looks at his mate with an expression of extreme devotion, and in whispered, throaty utterances says to her something that sounds to me like

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by Gene Stratton-Porter

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¶ "It is a book to be proud of, and I can hardly tell you how deep and complex a pleasure it has given me—something of the breathless satisfaction one feels on those rare occasions when one knows one's self following some path toward the magic of truth. Mrs. Porter's beautiful stories of her bird friends, some of them pathetic, some of them humorous, are a kind of education in the art of wondering at the fulness of life. They refresh the sense of amazement. What could be more touching than the story of the robin that stayed by her nest during ninety hours of rain? Or more entertaining than

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¶ "I cannot see that Mrs. Porter's great work with birds is any inferior to the studies of the famous Fabre with insects. If the essence of religion is an attitude of reverence toward mysteries too great for us to understand, then this book has in it the gist of many creeds.

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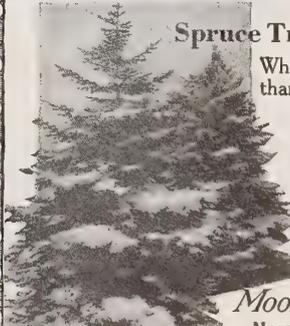
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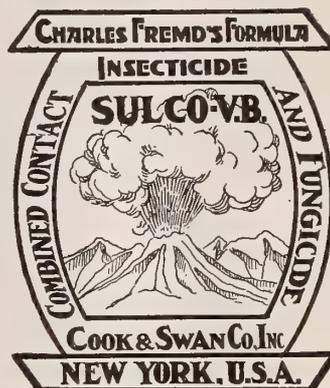
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The Garden Magazine

VOLUME XXX NUMBER 5

DECEMBER, 1919



UNDER A MANTLE OF
CHRISTMAS SNOW

The evergreens of Ratcliffe Manor are a warm invitation to its hospitable door which the great elm before it graciously seconds. The deciduous shrubbery of the left foreground hints at the diverse seasonal effect here when summer brings full leaf and flower



"FAIR CROWN IMPERIAL, EMPEROR OF FLOWERS—"

Ovid's Banquet of Sense—Chapman
 " for its stately beautifulnesse deserveth the first place
 in this our garden of delight, to be here entreated before all other
 Lillies." *Paradisus Terrestris—Parkinson*

"In the bottome of each of the bells there is placed six drops of
 most cleere shining sweet water, in taste like sugar, resembling in shew
 fair Orient pearls, the which drops if you take away, there do immedi-
 ately appeare the like; notwithstanding, if they may be suffered to stand
 still in the floure according to his owne nature, they wil never fall away,
 no, not if you strike the plant untill it be broken." *Gerard's Herbal*

And the ancient legend says that this lovely flower grew in the Garden of Gethsemane, white
 in color and with head erect, where it was often noticed and admired by Jesus in passing. In the
 night of the agony it alone of all the flowers in the Garden did not bow its head however, when
 He passed by; but very soon, overcome by shame and sorrow, the Crown Imperial drooped and
 blushed, and tears of regret and sorrow soon followed. And "so she has ever continued, with
 bent head, blushing colour, and ever-flowing tears."



"OLD-FASHIONED" GARDEN OF TO-DAY

Confusion of bloom in a tangle of abandoned informality, the popular conception of the old-time garden, is a pretty sentiment but not a re-creation

A CENTURY-AND-A-HALF-OLD AMERICAN GARDEN

LILIAN C. STREETER

Extant Example of an Old Colonial Garden Preserved for To-day, Whence Comes the Tradition of a Lost Larkspur, and Whence Seven Generations of Brides Have Taken Slips from an Ancient Damask Rose to Newer Gardens



FROM THE STAIRWAY
This living garden picture varies with the seasons

[EDITOR'S NOTE: Under the sympathetic care of the New Hampshire Society of Colonial Dames, to whom this rare example of a fine old garden now belongs, it is maintained as nearly as may be on its original lines, and such restoration as may be needed or desirable is promised. This account of it, the first that has ever been published, has been prepared by Mrs. Streeter, Chairman of the organization's Garden Committee, especially for the GARDEN MAGAZINE.]

NOTHING is known positively of the actual beginnings of this garden—whose brain conceived it nor whose hands executed the plan; but there is no doubt it was laid out when the house was built, for in “colony times” in Portsmouth town, the garden was as much a part of the home as the house, and as naturally taken for granted. And the beautiful colonial house was built in 1763 by Captain John Moffatt, being probably the first

of this type in the state—it is three storied—according to Mr. R. Clipston Sturgis, the eminent architect, who further says of it, “an unusually complete example, for it has a well designed exterior with good detail, a good setting on the street overlooking the harbor, and a well-laid-out garden terraced up from the house and filled with flowers, shrubs and fruit trees—an exceeding pleasant spot.” From the heirs of Alexander Ladd, who was a direct descendant of Captain Moffatt, the property came into the possession of the New Hampshire Society of Colonial Dames in 1912.

Though situated on busy, noisy Market Street and surrounded on all sides by shops, warehouses and dilapidated tenements, it was, when built, in the choicest residence section of the city, with other fine houses and gardens all about it; and the situation is even now beautiful, facing as it does the noble river Piscataqua, and looking across to the rocky wooded Maine shore opposite. Even the old gambrel-roofed sail-loft in the immediate foreground across the street, and the rotting wharves below have a certain picturesqueness that redeems them. Charming as the house is we must forego any description of it here, however, for it is only the old garden, the very heart of the home, that this article can consider.

THE view, approaching from the street, shows how absolutely the dwelling, with its office at one side and panelled fences, guards the lovely privacy of the garden from the outside world, in front. At either side and across the rear boundary upon High Street it is as effectively guarded by trees and shrubbery that preserve it inviolate. Although

we must speculate about its earlier years, we have since 1819—just a hundred years ago—definite knowledge of the garden; for in that year Captain John Moffatt's great-granddaughter, Maria Tufton Haven, who had married Alexander Ladd in 1807, came to live in the Moffatt house. And from that time we know that it has been loved sincerely and tended carefully, for a love of gardens and gardening is an inherent trait in the Ladd family.

In Alexander Hamilton Ladd, the son of Mary Haven and Alexander Ladd, who fell heir to the estate in 1862, this family love of nature and growing things was developed to an unusual degree; and there is no doubt in my mind that it is to his skill, care, and ardent enthusiasm that we owe most of the beauty of the garden as it is to-day. He devoted almost his entire time to it during the long summer days, and added to the original plot all the land north of the old office extending to the western boundary, laying out the lawn there and the curved path to the grape arbor, and installing the bee hives; for he was a scientific apiarist as well as gardener, and loved and studied his bees almost as if they were human. He planted many fruit trees too, and rare shrubs, and the magnificent old wistaria on the western wall of the house; and it was his genius that achieved the old grass steps leading to the upper level of the garden—a most unusual and difficult feature.



TRUE TO THE GRACIOUS TRADITIONS OF COLONIAL DAYS

A prim dooryard lies invitingly opposite the mansion, protected only by palings, but complete seclusion for the grounds begins promptly with the panelled fence at one side and the office, wall, and fence at the other

ONE of Mr. Ladd's hobbies was Holland bulbs, which he imported directly. He had thousands of Tulip, Narcissus, Crocus, Scilla and other spring-flowering bulbs, and many of these bravely survive to gladden the garden at every spring's resurrection summons. Under the white Spirea in the north shrubbery there are hundreds of the deep blue Scilla which flower with it and make an exquisite picture. Mr. Ladd also loved the beautiful Candidum Lilies and grew them in combination with pale blue Larkspur long before our later day gardeners advocated this lovely color scheme. These Lilies also survive and each June make our hearts glad with their beauty in the central plot, and under the drawing-room windows—and though his original Larkspurs have mostly run out they have been replaced. It is our torment though that we have never been able to find the lovely pale flower of his daughter's recollection, that blossomed in spraying "clouds of delicate blue!" This was what he used to grow—a very different thing from the long straight trusses of the modern Delphinium, evidently.

THE distinctive feature of this garden—and one of its greatest charms—is its different levels or terraces. It not only rises from the house in a series of four different levels to its western boundary on High Street, 300 feet back, but it is terraced along the sides also, and the flower beds are built up above the level of the paths in a delightful diversity and variety impossible to indicate or describe. The long central path forms the main axis of the garden, and originally led directly from a door in the rear of the drawing room (the western wall of the house) to the garden's limit where a gate gave on to High Street; but in later years this entrance was made into a window and a garden door opened through from the hall at the foot of the great staircase. An old brick path leads west beside the house from this door to the central flower plot, branching south from there to meet the main path, while the rambling earth path that encircles the lawn at the north where the bee-hives are, comes to an end before it. All of this, as well as the strip of land directly west of the house, and the bird sanctuary, is on the same level with the house.

Ascending to the first terrace by three old brick steps, we come to the main flower garden on the second level, where the large central plot, 26 x 40 feet in size, is further raised thirty inches above the level of its surrounding paths, the bank thus formed being edged with turf. The higher level of this bed is reached by two brick steps in front and turf steps at either side which meet the narrow turf path running through the centre. Old-fashioned red Roses still bloom all along the edge of this first terrace, augmented now by the modern Gruss an Teplitz (so like the old red Burgundy Rose of our grandmother's day, but far more decorative and fragrant). At the northeast corner of this terrace is a magnificent great Viburnum Opulus, which the birds appreciate in autumn, with its hundreds of drooping clusters of scarlet berries that succeed its white bloom.

The big central plot itself is a mass of pink, white, and purple bloom from June to October. Bleeding-heart, Columbine, and pale lavender Phlox divaricata begin the pageant, followed by Peonies, Pyrethrum, fragrant old-fashioned white Dittany, stately pink Poppies (modern, I know, but so lovely they are allowed!), white and violet Campanula



THE LONG CENTRAL PATH UP TO THE HIGH STREET
Where the old gate has been closed up and since masked by planting. The modern arches are being replaced by a copy of an old arbor. The herb garden is at the left through the grape trellis, the kitchen garden beyond it, the main flower garden at the right—but flowers are everywhere!

persicifolia, tall pink and white Foxgloves in the shade of the pear trees, and then early in July the pure white candidum Lilies, and heavenly blue Larkspur. And as the summer wears on masses of Phlox in shades of lavender, pale pink and white keep company with tall blue and white Monkshood that takes the place of the Foxgloves under the trees, speciosum Lilies bloom among the Peonies, and Gladiolus and the useful though prosaic China Asters in white, pink, purple, and lavender fill up the gaps left by the passing of Columbines and Campanulas. There is not a time during the whole summer indeed when this central plot is not beautiful, the centre and heart of the garden, seeming to draw to itself and concentrate the beauty and fragrance of the whole.

NEXT the latticed porch, raised about a foot above the path and turf edged is a bed where are Hollyhocks, tall Campanula lactiflora, the sweet-scented Valerian—greatly loved by cats!—Feverfew, Sweet-williams, Phloxes and at either end of the bed a great bush of the old white rose, Mme. Plantier, and the lovely pink-and-white Seven Sisters.

Five brick steps bring us to the second level which extends to the foot of the grass steps. The whole length of this path

from one flight of steps to the next, was originally covered by a grape arbor and summer-house with seats along each side—which beguiled to loitering to sniff the delectable aromatic odors arising from the herb garden just beyond. But this arbor long ago fell into complete ruin and was taken away. A grape trellis still extends all along the southern side of the path, however, and it is the intention of the garden committee to restore the arbor eventually. Along the edge of this terrace is a long bed of flag Iris under the pear trees, and next to this a raised grass plot in full sunshine which is bordered by Persian Lilacs with Peonies and Iris growing at their feet. The centre of this plot is the place where a sundial ought to be but so far as known there was never a sundial in the garden! On the other side of the path, next the herb garden, are goose-berry bushes; and just beyond them a magnificent great cherry tree, at the base of the terrace.

Up the old grass steps we go to the third level. And here, directly at the top of the steps, is the old damask Rose always known as “grandmother’s rose bush”—the chief treasure and pride of the garden. It is known to have been there since the garden was first planted, and seven generations of brides have taken slips from it to their new homes. As if in response to the romance and sentiment which cluster around it, it blossoms as freely and beautifully now as it ever could have blossomed in its youth—a living pledge shall we say to the eternity of love and life?

THE flower beds upon each side of the path here are in plain sight from the chamber windows of the house, and are therefore kept gay and bright with annuals chiefly—Poppies and Marigolds, Zinnias and Four-o’clocks—though there are some Peonies, Phlox, and Iris, and a border of stately Yuccas along the edge of the terrace. The path, and the land on its right ascending, are level from here to the garden’s limit, but all the plot opposite is raised seven or eight feet by a grassy bank. And here upon this fourth level, in full air and sunshine, yet unseen from the house, is the old kitchen garden, a plot about 80 x 50 feet in size. Fruit trees grow here, too, on both sides of the path—fine old peach trees, pears, plums, and cherries.

Sloping toward the east as it does and being so sheltered on every side, the garden is a wonderful place indeed for fruit or roses or tender shrubs to flourish. In former days the gardener’s cottage was situated in the northwest corner facing High Street, in an irregular plot now cut away from the original lot; and in a similar irregularity on the south was another cottage for servants. Both these parcels of land passed from the possession of the family some time ago however. And so only a high fence and a Lilac hedge all along the High Street boundary mark the end of the garden—and my story! But the latch-string of the garden gate is always out and a welcome awaits all true garden lovers who desire to enter.



A WINDING PATH CIRCLES THE SUN-DAPPLED LAWN WHERE THE BEES DWELT

Starting from the garden door at the foot of the great staircase it leads past the office and finally comes back to the old arbor which stands curiously on the slope of the first terrace, with which the garden proper begins. The trees furnish fruit as well as shade according to the prudent custom of the time, and the opulence of the Spirea, beneath which the Lilac spread a blue carpet, and of the Iris and Peonies is eloquent of their age

PLANT LORE AND OLD GARDEN ATMOSPHERE

STEPHEN F. HAMBLIN

Director in Plant Material, Harvard School of Landscape Architecture

One Secret of the Old Garden's Charm Which Has Been Suppressed by the Modern Aversion to Sentiment—Suggestions for Making Practical Use of Symbolism in Recreating the Old Fancy

ART in all its forms—architecture, painting, literature, and sculpture—owes a vast debt to associations and meanings brought down through the ages. Why should this inheritance have been denied the garden? To-day if the garden pleases superficially we think it has realized its possibilities; yet the symbolic use of plants in a garden is a phase of garden art richer in opportunity than almost any other, since it will transform the dumb composition into a story-telling creation.

Perhaps this is the text of the sermon—the garden should tell a story as well as be a picture. This it once did everywhere—and does in Japan to this day. But that is another chapter. The point is, however, that symbolic meanings associated with certain plants are common to all peoples, though only those of three races have greatly affected ourselves. These are the Jewish, the Roman, and the Saxon: and of these, only the Romans made any elaborate use of plant symbols in their gardens. With them certain plants were sacred to certain divinities, and were consequently planted about the temples of these gods; or in private gardens if it were desired to favor the god; and a fitness in attributes usually governed the association, the Oak being assigned to Jupiter, the Pine to Cybele, Lily to Juno, Olive to Minerva, Rose and Myrtle to Venus, Laurel to Apollo, Holly to Saturn, Cypress to Pluto, Poplar to Hercules, etc. Traces of these associations still exist in the Roses you send to your lady fair, the Holly we use at Christmas, and the Cypress or other dark conifer planted in the burying ground. Hyacinthus, Daphne, Narcissus, and many more were mortals transformed to flowers, and their story was a part of the garden. The Plane-tree was the civic tree supreme, used in groves in public grounds to excite contemplation, and in rows for walks in private gardens to furnish shade. Violets were grown for the *dies violae*, when they were strewn on graves—ancient forerunner of our Memorial Day.

WITH the coming of Christianity, however, what of this flower cult survived after the Dark Ages, was sternly forbidden as pagan. But the deep instincts of man could not be gainsaid; and thus it came about that Saturn's Holly became the emblem of Christmas, that Juno's Lily was given to Mary the mother of Jesus, and that the Laurel became the abstract emblem of learning, and the Olive a similar one of peace.

In northern lands other plant symbols and associations were evolved, but except for Scandinavian literature we know little of them. Our own plant lore is largely that of the ancient Britons, wherein the Oak represented strength, the Mountain-ash was a charm to keep off witches, and the Mistletoe a plant of haunting mystery. Shakespeare is rich in this lore, and much of it persists not only in the common

or folk-names of plants but in many of the scientific names as well.

All of these hazy traditions came over to our colonial gardens, and in early days many a garden was stronger on sentiment than on pictorial composition or color scheme. Changes came gradually to be made in the new land, such as *Arborvitae* in northern cemeteries where Yew was not hardy, and *Vinca* instead of Ivy on the graves, but the general form remained. To-day, however, little of even this remnant of mysticism survives, and this only among persons of the older generation and usually in remote hamlets. How may we restore it? Or rather how shall we reclaim in the gardens of to-day this ancient heritage?

SYMBOLISM cannot be made to order, of course—it only evolves in the slow processes of time. But drawing upon what has been done in all the past and using fundamental principles there embodied on which to build, we can make our gardens speak of all gardens and all men, as well as of the realities of America and Americans to-day. And we can make them rich in the story quality as well as in suggestive thoughts and great aspirations. This is a phase of garden making that can indeed be developed as rapidly as we will, accepting the suggestion furnished by the fact that it is religious symbolism that has maintained the strongest hold as a starting point. Plant a Pine tree, symbol of eternity—the largest, longest lived, and most easily grown of cultivated conifers—near every church. The genus *Pinus* is the most universal of evergreens and world over it is a tree of greatest significance. Hence it is particularly appropriate as an object of religious contemplation. It has been called the “northern Palm” and Pine branches have been used on Palm Sunday when Palm leaves were not on hand. Some churches have lately taken to setting the top of an evergreen tree upon the church lawn in December, decorating it for Christmas week. Why not plant the living tree permanently—a Pine preferably, or a Hemlock, Spruce, or other conifer if for some reason Pine is not suitable, to become a Christmas-tree for generations, as well as a visible symbol every day of the year of the never-ending spirit of Christmas?

The city hall, the public library, and other public grounds have usually only a limited space for decorative vegetation but even small space may be so planted that there is suggestion of the majesty of law or the dignity of learning. It is in private grounds, however, that more can be attempted, for here the associations need not be founded too literally on fact. Any fancy the owner may have that conforms to the standard and principles of garden concept may be indulged—just as the Roman private garden honored a chosen god.

IF MY garden is art, and art is an expression of self, then the combinations of flowers, trees, grass, walks, seats, sky, and sunshine must suggest universal truths passed through the spectrum of my personality. Let us have in every garden something of the seasons, the four quarters of the firmament, the hours of the day, the circling of the shadows, the sweep of the winds—or even local factors of legend, geology, or topography, indicated by the plants as well as the garden arrangement. We have a bit of this here and there at times, to be sure, but why not more and in a more definite manner?

Consider for a moment Japan. Here we find at once and everywhere religious symbolism in the use of Pagoda-tree and Ginko—the temple trees—likewise in certain plants associated with certain priests or teachers. It is the same idea as that of old Rome, though less elaborate. Further, the Japanese planting always preserves beautiful harmony—a red-leaved Maple being so placed as to be viewed in connection with the sunset, a Willow hinting the presence of a stream.

What beauty may be evolved for example when we learn to use red-leaved plants by the sunset seat, broad-leaved evergreens in the cool north corner, golden flowers in the sunny southern quadrant, blue and white flowers in the shade, hot red flowers for the sun's high-lights, white fragrant flowers by the spot of evening contemplation, and so on. And re-

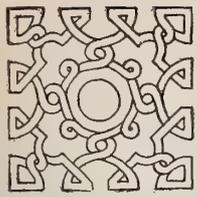
viving the custom of the Dutch around Manhattan and up the Hudson River, one great tree "near the door" dedicated to the master of the household, or to some family event—this to become as much a part of the home life, with seats beneath its shade, as the dining table or the fireside. From our long and varied list of plant materials we may surely find forms that are suited for special uses too, even as the wind-swept Pine suits Japan. A garden entrance might be distinguished with a pair of trees and shrubs of naturally columnar form; the walk intersections by low rounded shrubbery; exposed sites by low, irregular trees; sheltered hollows or open plains with trees having marked horizontal branches; running water with trees of drooping twigs or airy foliage; and still, quiet pools with restful leafage.

These are but a few typical examples of what we may do in garden planting without violating good taste or the established order of things. So new is this garden story notion (or rather so old and long forgotten) that much of real and perhaps helpful opposition will very possibly be encountered—but it is a real part of the art of the garden and should be reclaimed. So much is done in the garden for no reason at all—or merely to make a floral or other display—that surely a suggestion of reason and of things not visible on the surface will be welcome.



SWEET SOLACE FOR WEARY BODY AND MIND

"Come ye yourselves apart, and rest awhile." How is the suggestion of friendly invitation extended—by the rampant abandon of vine, or the mystery in obscure background, or the well rounded masses of herbaceous plants that seem like natural growth?



THE DEAR OLD-FASHIONED GARDEN!



GRACE TABOR

With Its Clustering Truths That Are Falsely Interpreted and Falsehoods Usurping the Place of Facts

Tile decorations from designs of the early seventeenth century for garden "knots," to be executed in Boxwood or similar material—the type on which Mt. Vernon and other old geometrical gardens were modelled

EVEN as the ancients lived unaware that they were ancients it is true beyond all question that the old-fashioned garden never dreamed it was old-fashioned! Nor was it old-fashioned! On the contrary, it was most modern—*le dernier cri* indeed in garden design, in horticultural methods, and in its assemblage of plants. Do we not therefore approach the consideration of it from an altogether mistaken angle when we overlook this? And is it possible, with so fundamental a concept unrecognized, to arrive at any true understanding of what the gardens of the fashion of a hundred years or more ago, may have been?

There is every evidence that no gardeners were ever keener for "outlandish flowers" than the fastidious and often extravagant gentry of our Colonial days. Travelers and missionary priests were forever picking up in the far "outlands" which they visited, everything in the way of plants or seeds that they could lay their hands upon, and sending these back home to eager patrons. One of General Washington's most delightful letters expresses his thanks for a gift of plants of this sort, and adds: "I feel myself particularly obliged by the offer to supply me with other plants from the Botanical Garden in Jamaica. . . and I shall certainly avail myself of the liberty you have authorized me to take, in requesting a small supply of such exotics, as, with a little aid may be reconciled to the climate of my garden."

Thus, the gardens of then were unquestionably richly stocked in new and rare plants; and the gardeners were busy with the difficult job of acclimatizing them—and not infrequently distraught at losing choice specimens, we may be very sure.

So, though we know that there were not the great number of varieties and hybrid crea-

tions that there are to-day, we have no warrant for limiting the number of collected plants; and the fact that an old garden shows us only Peonies, Bleeding-heart, Daffodils, and Snowdrops, for example, is no proof at all that it did not harbor fifty other things in the days of the fulness thereof. Everything indeed points to this being exactly the case—but very little remains as a clue to their identity!

IN ALL frankness let us acknowledge that we do not know, and cannot hope to discover, certain horticultural details (not in themselves important) about the old gardens. And then let us proceed to analyze the old-fashioned garden from a point paralleling our attitude to-day to the present day garden—that is, contemporaneously. Thus only may we hope to come at its true inwardness, since after all the old-fashioned garden is *not an actual entity* but rather *the embodiment of a set of principles*. And these principles were the product of their age—of the business, political, social, and domestic life of men, women, and children busy with living, just as we of to-day are busy about the same enterprise. The facts of the old-fashioned garden, in other words, are historical rather than horticultural. And the charm of these old gardens remaining to us—or the bits of old gardens remaining—lies in their manner rather than in their matter. Catch the manner, and the flowers of to-day will furnish the matter quite as well as did the flowers of a century ago.

First of all they were from within out, above everything else and regardless of whether they were great or humble, huge or tiny. So we must set ourselves in motion in this same way—from within out—and demand inexorably that the garden which we are about, to make shall be honest and



AN INTIMATE BOX-EDGED GARDEN AT COLUMBIA, S. C. So famed in the days of its youth for its strange and rare plants that Le Conte, Audubon and Agassiz, the great American naturalists of their generation, were among those who visited it and its creator Mrs. Hampton, the mother of the Wade Hampton who became a governor of the state

sincere, and expressive of sound principles in things as apparently unrelated to gardening or the garden as labor problems, economics, and the social and domestic habits of the household. Then as a second consideration we must remember that necessity ruled when the early gardens were made—not more than it always does in the last analysis but with a much more obvious sovereignty. No velvet glove disguised its iron grip, no soft delusions ever hid the grim visage of it, no one doubted for an instant that he would promptly starve if he failed to provide, not the money wherewith to buy food but the food itself. Likewise every household of necessity provided its own medicines—or went without; and its own wines and cordials, and its own preservatives—which, by the way, is what spices and seasonings probably were, away back in the remote past, instead of mere appetizers or adjuncts calculated to please and stimulate the sense of taste. So even these that are purely pleasure-giving elements to-day were in the category of necessities when ice boxes and cold storage were undreamed of. This was the time when the only gardens known—the culinary and the physick gardens—were plotted and planted with the greatest care and exactness; and were as far removed therefore from the happy casualness of present day popular conception of the “old-fashioned garden” as anything could possibly be. The old-fashioned garden as it is commonly visualized indeed, is a very modern thing!—for it does not adhere nor pretend to adhere to the stern lines with which economic necessity defined its regular beds—lines figurative and actual which *were in full force up to Revolutionary days or even later*. On the contrary this element is totally lost sight of, more often than not; and nondescript assemblages of vegetation wherein there is nothing faintly resembling the old garden, save a few doubtful plants, are foisted upon the world as “old-fashioned gardens”—purely on the strength of a lack of orderliness in their planting that is, above all else, the absolute antithesis of the old fashion.

For it is absolutely certain that without exception old-time gardens did have one common characteristic, whatever their size or their plants. This was the neatness and exactness that characterized the times—that sort of pompous elegance which prevailed in cavalier, courtier, and Puritan alike, during the age of knee breeches and powdered hair. It was a formal age and punctilious; and garden design reflected this, contrary though it is to our ideas to think of the old-fashioned garden as formal. Why we have developed the misconception regarding it that prevails none can say—nor how; presumably it is through careless observation of the untidy charm overlaying some old places, which we have mistaken for their original form and scheme; whereas it has actually destroyed such form and scheme as they were based upon, and left no trace of them as they actually were. As a matter of fact the gardens of “Mt. Vernon-on-the-Powtomack,” to give it General Washington’s own name for the place, reveal to us perfectly what the old gardens really were; and there is perhaps nothing in America more formal in general layout as well as in detail, than this estate! The charm of age moreover which permeates every part of it has not diminished this formality; but truth to tell, it is of such a peculiar character and the general scale is so magnificent that it does not oppress in the least, as so many modern formal designs do.

OBVIOUSLY gardens of this type must have been well cared for; and this leads us inevitably to the inference that they were never greater than their creator knew himself abundantly able to maintain. In other words, their size and character were limited, not necessarily by cost or money consideration, but by exactly the thing that is limiting us in so many ways to-day—labor consideration. It is fairly possible indeed to trace along the lines of garden development the labor conditions of each section, from the great estates of the south like Mt. Vernon and Monticello, developed under the labor abundance of slavery, to the restricted little dooryards of New England, kept spruce and tidy by the mistress herself as often as not, between the exactions of a vast number of other household duties.

But great or small all of these gardens developed from the purely utilitarian kitchen and herb garden, as the advance in civilization and its attendant comforts and conveniences relieved the intensity of the economic pressure upon the gardener and the garden space. And this is the kind of garden development that embodies a set of principles, since it is these very principles that set it in operation. Hence it is precisely this and this alone that will recreate for us the atmosphere and the charm and all the rest that we find in old gardens. To achieve it we may not even ask ourselves what kind of garden it will be that shall express what we are, as definitely as these old gardens express their creators; but rather we must go ahead honestly—as they did—and let our gardens become the expression of ourselves by making them in conformity with the spirit of our time.

Make no mistake. If we create gardens to-day under the guidance of conditions as we find them—labor, social, economic, and esthetic or artistic conditions—we cannot fail to produce just the kind of “old-fashioned” garden that we so extravagantly admire and seek to reproduce by going the long—and wrong!—way around. We may draw on the old if we please, as largely as we please—precisely as they drew on the gardens of an earlier time, embodying much in design that was as old as the gardens of ancient Rome—but we must use it as they did; that is, as wholly secondary to our own timely needs and purposes. This insures that there shall be no slavish imitating.

THE old-fashioned garden, in other words, is not a thing to be made to order after a pattern and set down upon the ground—certain to be right providing it is limited to the plants of a century ago, and boasts all of the material elements which we know old gardens held. It has so long been the fashion to apotheosize it under this misconception of it however that it will make serious demands upon our patience as well as upon our imaginations to correct the error. But it must be corrected! And we must strip from the genuine old garden its apocryphal attributes and see it as it actually existed—its stiffness the true expression of the extent of civilization, and the life and customs and social outlook of its times—if it is to be the real inspiration to us that it is worthy of being. Then we shall understand it instead of merely dream about it; and be able without trying to copy it, to reproduce its atmosphere by developing our gardens to express the life and customs and social outlook of our time. Which is, after all, the one true reproduction of the garden of the old fashion that can be made!

OLD TIME FLOWERS TO USE IN MODERN GARDENS

LOUISE B. WILDER



FAIR-MAIDS-OF-FRANCE

Dainty and prim, and holding their heads high (Ranunculus acnitifolius)

Early Gardeners Grew Plants for Their Uses and Lacked Most of the Spectacular Plants that Embellish the Border of To-day, but a Handful Endeared to Us by Association and Sentiment Are Also Decorative

MUCH time and space could be happily spent in championing the one time friends of the early flower gardens, and I trust that modern gardeners will never deprive them of their place in the sun. One would not, by any means, want a garden made up entirely of old-fashioned flowers,

nor does one wish to ignore the many fine introductions of recent years, but simply to include in our gardens the best plants of all times, not keeping plants simply because they are new nor throwing out others because they are old.

Every true gardener loves a novelty, for he has the collector's instinct. It very often happens however that old friends are best; and it is certainly true that many of the very old-fashioned flowers are still deserving of a high place in our gardens, not only because of their undeniable beauty and usefulness, but because of their long human past.

A list of plants taken from the earliest known work on gardening written in English—a poem entitled the "Feate of Gardening," written by Ion Gardener about the middle of the fifteenth century—comprises 97 different plants, most of which are medicinal or pot herbs, laying little claim to beauty. A few of the favorites of to-day are scattered among them, however, but for these also we know were found uses other than ornamental. In those strenuous days flowers for beauty's sake alone were not anywhere entertained.

He names such friends of to-day as Hollyhocks, Primroses, Cowslips, Foxgloves, Wallwort (Sedum acre), Sweet Violets, Water Lilies, Sweet Woodruff, White Lilies, Honeysuckle (called Honeysoke), and Scabiosa; and it is safe to assume, I think, that whatever material uses these "dear delights" may have been put to, they must also have gladdened the hearts and rejoiced the eyes of those who looked upon them, then as now. Master Ion's flowers may be said to be *truly* old-fashioned, and it gives us a new feeling of respect toward familiar blooms to know that they are of such ancient and honorable lineage.

BUT there are other lovely and useful plants included in the old poet-gardener's list that are very seldom seen in gardens nowadays. One of these is Hyssop (Hyssopus officinalis), a woody, spreading plant about two feet in height, with small dark, almost evergreen leaves and many spikes of deep blue flowers. In Ion Gardener's day it was a medicinal herb of great powers, but as time passed and men learned to garden finely, Hyssop was requisitioned to bind about the

little beds that made up the quaint patterns of Elizabethan gardens. Germander, Thyme, Marjoram and Lavender were also used for the same purpose, but Hyssop was the favorite because it was so dark and shining and because it submitted to close and tidy clipping. It is not thus, however,

that I would advocate its use to-day, but as a plant for the hardy border or wall top. For this purpose it is very valuable. Its foliage remains in good condition throughout the season and the spikes of "gaping blew floures" are produced over a very long period in midsummer. If plants of Hyssop are not easily come by, seed is to be found in the vegetable sections of most seedsmen's catalogues, under Sweet and Medicinal Herbs, and it is no trouble at all to raise a fine stock of sturdy little plants out of doors in spring. Parkinson, in his "Paridus in Sole" (1629) mentions white Hyssop, and golden, russet and double Hyssop as well, but though I have searched diligently, I have never found but the one.

Southernwood (Artemisia abrotanum), known also as Lad's Love, Old Man's Beard, Smelling-Wood, Maiden's Ruin, is a fine old plant that has made its home in gardens for many hundreds of years. Its gray, woody branches are covered with hoary foliage, delicate and feathery in texture and of a most balmy and invigorating fragrance. I have never known it to bloom, but the beauty of its foliage is quite sufficient for any one. The hoary bushes seem to belong naturally with old-fashioned white Roses; with the handsome white Provence Rose, Madame Hardy, with white Moss Roses, or with Madame Plantier of a later generation but great loveliness. The great white Lily too, is a delightful companion for this old plant, and these two have been closely associated for as long as there have been gardens. The traveller, John Josselyn in "New England's Rarities Discovered" (1674) lists Southernwood as "no Plant for this Country," coupling it with "Rosemary and Bayes" that are undoubtedly tender. But in my cold New York garden, where the thermometer falls below zero every winter, Southernwood has lived for years.

Besides the Madonna Lily, one other of this noble race has a place on very early plant lists. Liliun martagon was introduced to cultivation about 1596. But the Tiger Lily usually regarded as very old-fashioned was brought from China as late as 1804!

Ion Gardener also names Garden Heliotrope (Valeriana officinalis) in his poem, and while this plant is still grown to some extent, I find many who do not know it. It blooms



THE RAGGED ROBIN

Or Cuckoo Gilliflower (Lychnis Flos-cuculi)—though not Shakespeare's Cuckoo-flower

in June with the Irises, Custard Lilies and Oriental Poppies, sending up tall stems from a mat of light green leaves, topped by lace-like flower heads, pinkish-gray in color and deliciously fragrant. It is rather a rampant spreader, but, as it is shallow rooting, it is not difficult to eradicate when too pervasive; and no flower of its season gives so light and gracious a touch to the overflowing June borders. Clary too (*Salvia Sclarea*), has a place in the ancient poem. This plant, (known also as *Oculus Christi*, *Clear Eyes*, and *See-bright*) was a famous eye remedy of early times. To-day it ministers to the eye by being its handsome self. It is a strong-growing biennial plant, forming a large tuft of leaves from which rises a stout leafy stem, terminating in a spike of pale lavender flowers. It blooms at midsummer.

One more plant on Ion Gardener's list is deserving of note because, though of real merit, it is seldom seen nowadays.

This is Borage (*Borage officinalis*), first cousin to the Anchusas, Forget-me-nots, Lungworts, Blue-eyed Mary and many another beloved blue flower. It is an annual, but once sown it will give no further trouble for it self-sows with sufficient freedom to keep up a supply. The whole plant is grayish in color and slightly hairy and the bright blue flowers are of a quaint and curious shape, once much copied in embroidery. Borage is the old herb of courage and a high heart. To eat the leaves once drove away sorrow and made the mind glad. Syrup of Borage flowers "quieteth the phrentick and lunatick person." To-day we may chop the leaves upon a simple salad and enjoy a gastronomic treat, and the quaint blue flowers, beloved of the bees, cannot fail to bring pleasure to the eyes.

Another old fashioned annual, but not quite ancient enough to be named in the fifteenth century poem, is the Spanish or Bastard Saffron (*Carthamus tinctorius*). For a long time I have continued to sow it every few years for the pleasure of its spiny foliage and curious thistle-like flower heads that are, says Parkinson, "of a most orient shining colour." New England gardens of a few generations ago always had a generous bed of Saffron, but until this summer passing through the

mill section of Bridgeport, Conn., I had never seen it in any garden but my own.

BESIDES these very anciently grown flowers, there are many with a few hundred years of human companionship and service to their credit that are being sadly neglected. One of these is Honesty or White Satin, or Moon-wort, or Pope's Money, or Money-in-both-pockets—whichever quaint appellation you prefer. Botanically it is *Lunaria biennis*, and adds to its other good qualities a willingness to grow in the shade. The type plant bears blossoms that are undeniably magenta in color, but there is also a white variety for the prejudiced. Its large flat shining seed receptacles are not the least of its attractions and are of perennial interest to children. These, if not all gathered for winter indoor decoration, or "play money," self-sow freely so that, like

Foxgloves, they are no trouble at all. Honesty blooms early with such other old friends as Jacob's Ladder and Lungworts and should not be omitted when the seed list is compiled this winter.

Fraxinella or Dittany (*Dictamnus albus*) is a plant of old times that is perhaps not so greatly neglected as those mentioned, but is yet not generally grown. The white-flowered type is one of the handsomest and most useful plants I know; the pink of the variety *ruber* is rather weak. The dark shiny foliage remains in good condition all through the season. These plants dislike above all things to be moved. Once settled in a sunny position, in good rich ground, they should not be disturbed; and thus considered, they will outlast whole generations of mere humans.

Spiderwort (*Tradescantia virginica*), is old fashioned enough both in fact and appearance, but its spreading proclivities make it unsafe company for choicer flowers. This would be true also of Sweet Rocket (*Hesperis matronalis*), were it not that its prodigally sown seedlings are easily dealt with, while it is almost impossible to eradicate the determinedly spreading roots of the Spiderwort. Rockets are considered rather common now, but the white ones are charming among clumps of Custard Lilies or Oriental Poppies in half



DELIGHTFUL ASSOCIATE OF THE HOARY SOUTHERNWOOD

But the combination of it with this great white Lily (*Lilium candidum*) is rarely seen nowadays, though in old gardens they were often close companions



A BROOKSIDE SPANGLED WITH TWINKLING BLOSSOMS

No flower is truer in appearance to its name than the starry Star-of-Bethlehem (*Ornithogalum umbellatum*) and none is lovelier when naturalized

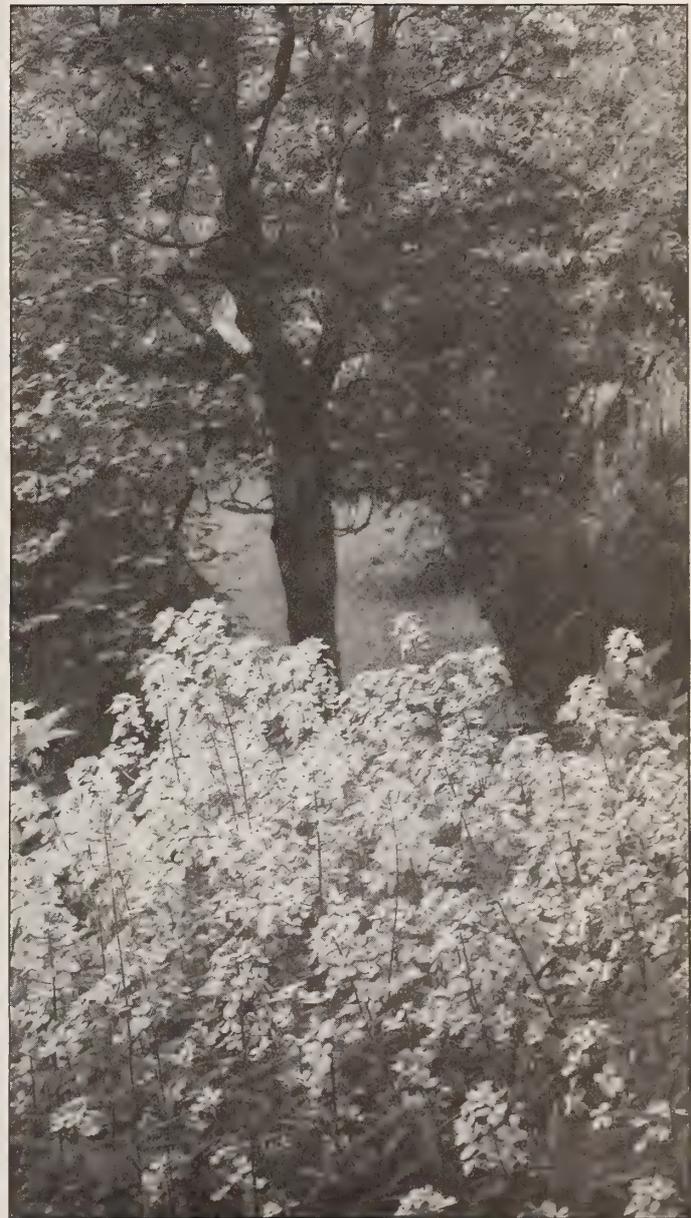
waste places, and in partial shade the purplish sort produce a most lovely effect. In England double Rockets are grown. Of old these were greatly esteemed and were called Queen's Gilliflowers. Rose Champion or Mullein Pink (*Lychnis Coronaria*) is also old-fashioned, neglected and lovely.

A little relative of the Mullein Pink, so old-fashioned as to have been mentioned by Ion Gardener, is *Lychnis Flos-cuculi*, the Cuckoo Gilliflower, also called Ragged Robin, or Meadow Champion. It bears fringy, reddish-pink blossoms in a loose cluster. The double sort is of more substance and both flower nearly all the season. "Sow them in March," says an old Dutch florist, "when the Moon's at full and the Wind southerly, and the double ones will grow still more double." Champions or Campions (*Lychnis*) used to be very popular and were of "several sortes." One that used to be a favorite is the double white Champion, *Lychnis alba flore-pleno* or *L. vespertina*.

A word remains to be said for the reinstatement in our gardens of spry little Johnny-jump-ups that endow any garden with a comfortable appearance of old-fashionedness; for Star-of-Bethlehem and potent Feverfew, and double Fair-Maids-of-France; and for the three herby plants that

are quite worthy a place in the garden—Marjoram, Savory, and Germander.

AND then there are the old-fashioned Roses! Ion Gardener knew of but two kinds of Rose—the red and the white—but Parkinson, writing about two hundred years later, had a fair list, and most of these were brought to this country by the early settlers and grew in our grandmothers' gardens. Among them the Damask Rose is still to be found in some old gardens, the Cabbage or Provence Rose, and the bicolored York and Lancaster, a form of the Damask and quaintest of all Roses. Moss Roses are very old-fashioned and quite out of fashion now, but they are truly lovely and may still be come by without going through too many catalogues; and finally, there is the Sweet-briar or Eglantine. Never overlook this.



LOVELY BUT CONFIRMED VAGABONDS

For wander the Queen's Gilliflowers or Rockets (*Hesperis Matronalis*) will in spite of their fine appellation, back to the half shady wild places, where they thrive like veritable Gypsies



THE BOXWOOD AND FLOWER GARDEN
AT MOUNT-VERNON-ON-THE-POWTOMACK



Once the most up-to-date garden in America, even as General Washington was the most progressive garden enthusiast and inveterate collector of unknown and rare plants, this is the true exemplar of the old-fashioned garden





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THE CEDAR OF LEBANON

The righteous shall flourish like the palm tree;
he shall grow like a cedar in Lebanon.

Psalm XCII, 12

ERNEST H. WILSON, Assistant Director, Arnold Arboretum

Magnificent in their Solitary Glory on the Hills of Palestine these Last Remnants of the Forests of Biblical Times Speak Eloquently of the Changes in the Life of Peoples and Give a Glimpse Behind the Veil of Forgotten History. A Hardy Type Successfully Established in America.

EDITOR'S NOTE: *This is the third in a continued series on "The Romance of our Trees," dealing with different types that have been intimately connected with the developments of peoples from the earliest times. Next month's subject is "The Yews."*



THE Holy Land has undergone many changes and vicissitudes from early biblical times down to its deliverance from the Turks by General Allenby in October, 1918. The very aspect of the country has changed enormously in the few thousand years of its record as set forth in the Holy Scriptures. More than skies and clouds, more than villages or hills, more than sentient creatures of high or low degree, the trees, shrubs and herbs of a land give character to its scenery; impressing the mind by their grandeur, or charming it by their beauty. Denuded of its vegetable growth the very skeleton of a country changes and decays; even the skies and clouds are altered. How great the changes that have taken place in Palestine we can but faintly imagine, but many of the trees mentioned in the Bible still grow there though in much less abundance. On Lebanon grow the Cedars in all their pristine majesty, but vastly fewer in number than in the days when Balaam compared the far-stretching encampments of the Israelite tribes in the Jordan valley to "cedar trees beside the waters" (Numbers XXIV:6).

Whether the word cedar in the Old Testament applies to one or many kinds of trees may be left to the Biblical critics and Hebraists, but there is ample and unmistakable proof that the Cedar of Lebanon was well known to the Prophets and other teachers of the old Hebrews, and by their poets, as every Bible reader knows, the forests of Cedar of Lebanon were regarded with sacred awe. They were the type of power and majesty, of grandeur and beauty, of strength and permanence; as "trees of Jehovah planted by His right hand crowning the Great Mountains"; masterpieces in lofty stature, wide spreading shade, perpetual verdure, refreshing perfume, and unfailing fruitfulness. Some of the finest imagery in the Old Testament Song is drawn from this oft-frequented source. The mighty conquerors of olden days, the despots of Assyria, the Pharaohs of Egypt, the proud and idolatrous monarchs of Judah, the Hebrew commonwealth itself, the warlike Amorites of patriarchal times, and the moral majesty of the Messianic age, are all compared to the towering Cedar in its regal loftiness and supremacy. Its huge trunks, massive branches, great height, wide spreading, tabular, densely umbrageous crown, dark green at all seasons, are so well known that they have been condensed into the phrase "cedar-like" in common use to-day by writers who wish to portray the general aspect of certain trees. Further

the color, character, and peculiar fragrance of the wood frequently mentioned by Old Testament writers led, both in ancient and modern times, to the name "cedar" being given wide application. To-day it is applied to a variety of trees, some closely and others very remotely related to the true Cedars. In fact now-a-days its use is far too ambiguous and connotes little besides character of wood and perhaps fragrance.

In modern times many distinguished travellers and men of science have visited the Cedar of Lebanon in its home and their story, old yet ever new, has been written over and over again. A Frenchman, Pierre Belon, author of "De Arboribus Conifers," published in 1553 (and the first treatise on Conifers ever written), ascended Mt. Lebanon in 1550 and visited the Monastery of the Virgin Mary, situated in a valley below a grove of Cedar trees where the festival of the Transfiguration was held. Then as now this and other groves belonged to the Patriarch of the Maronites—a Christian sect inhabiting Mt. Lebanon. Belon states that after celebrating high mass upon an altar erected under one of the largest trees, said to have been planted by King Solomon, the Patriarch threatened with ecclesiastical censure those who presume to hurt or diminish the Cedars now remaining. Since Belon's time many travellers have visited the Cedars on Mt. Lebanon, the most experienced of all being the late Sir Joseph Hooker, the eminent English botanist, who was there in the autumn of 1860. Sir Joseph's visit was for the special purpose of examining the Cedar groves and in the *Natural History Review* of January, 1862, he published a most interesting account.

The elevation of Mt. Lebanon was found to be 10,200 feet and that of the Kedisha valley where the trees are now growing 6,200 feet. The whole of this area of Mt. Lebanon is, to quote the article, "a confused mass of ancient moraines which have been deposited by glaciers that, under very different conditions of climate, once filled the basin above them and communicated with perpetual snow which then covered the whole summit. The rills from the surrounding heights collect to form one stream and the Cedars grow on that portion of the moraine which immediately borders the stream, and nowhere else. They form one group about four hundred yards in diameter with an outstanding tree or two not far from the rest, and appear as a black speck in the great area of the corry and its moraines which contain no other arbore-

ous vegetation. The number of trees is about four hundred, and they are disposed in nine groups, corresponding with as many hummocks of the range of moraines. The trees are of various sizes, from about 18 inches to upwards of 40 feet in girth; but the most remarkable and significant fact connected with their size and consequently with the age of the grove, is that there is no tree of less than 18 inches in girth, that we found no young trees, bushes, nor even seedlings of a second year's growth." Sir Joseph Hooker found only 15 trees above 15 feet in girth and these all grow in two of the nine clumps. He estimated the age of the youngest at about 100 years and the oldest at 2,500 years, but with no degree of surety.

To-day some five groves of these Cedars are known, the one containing the oldest trees being on the northern slopes above Bsharri. The largest tree, through not one of the very oldest, is 48 feet in girth, in full growth and vigorous health. In the largest grove, that of Baruk, are many young trees in all stages of growth. Several travellers have noted that seedlings spring up readily but are browsed off by goats. With proper protection against these animals and the forbidding of the people cutting them these Cedar groves would increase in size and in time become forests, as in the days of King Solomon.

The Cedar of Lebanon (*Cedrus libani*) is not confined to the mountain of that name but grows also on the Taurus and Anti-Taurus ranges in Asia Minor, from the province of Caria in the west to near the frontier of Armenia in the east. On these mountains it forms a considerable portion of the coniferous forest at an altitude between 4,000 and 7,000 feet; but it appears to attain its maximum development in the Cilician Taurus where the climate is a severe one, the snow lying several feet deep on the ground for fully five months of the year. At least such is the statement of Walther Siehe.

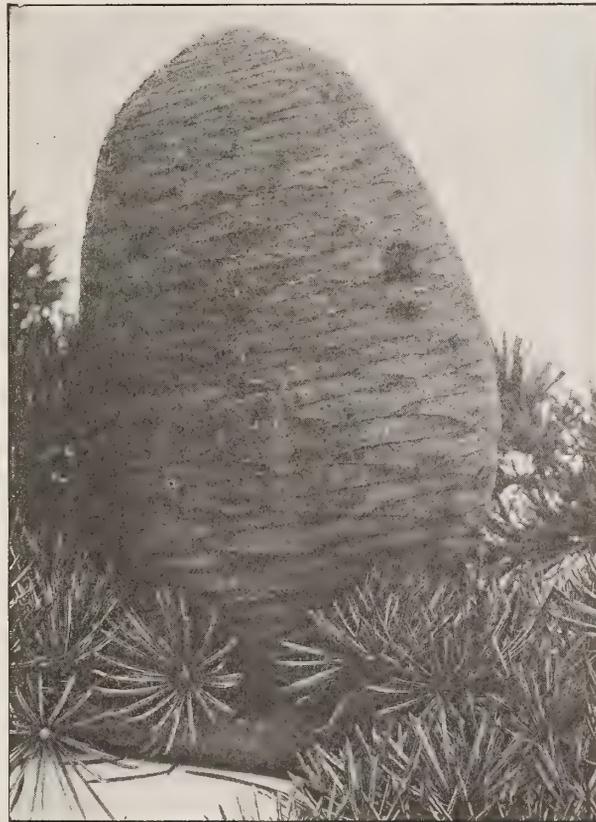
The Director of the Arnold Arboretum heard of this discovery on the Cilician Taurus and commissioned Siehe, who used to collect bulbs for that grand old gardener, Max Leichilin, to secure seeds of the Cedar of Lebanon from this cold region. On February 4, 1902, cones with ripe seeds were received at the Arnold Arboretum, and sown. They germinated freely and many plants were raised. These Cedars have grown more rapidly in the Arnold Arboretum than any other conifer has ever done. In fourteen years the tallest was 22 feet high. They passed the seasons unscathed until the dreadful 1917-18 winter which badly scorched the leaves. This retarded their growth though none died, and now in 1919 they

are again well furnished with foliage and are growing well. The leaders of many have suffered from pine-needle borers but new ones take their place. The experiment is most promising; and certain it is if the gardens of New England ever enjoy Cedars of Lebanon as hardy trees it will be through the far-sightedness of the Director of the Arnold Arboretum. Under cultivation several varieties of the Cedar of Lebanon have appeared and the most important are distinguished by such names as *argentea*, *nana*, *pendula*, *stricta*, *tortuosa*, and *viridis*.

Some 1,400 miles from the Cedar forest of Asia Minor and separated by the whole breadth of the Mediterranean Sea grows the Atlas Cedar (*Cedrus atlantica*). This forms the prevalent arboreous vegetation throughout the eastern province of Constantine which borders on Tunis. It also abounds on the eastern Atlas ranges, according to Hooker. Henry, a more recent visitor, states that "in Algeria this Cedar forms a considerable number of isolated forests, none of great extent, at altitudes between 4,000 and 6,900 feet." Likewise it grows on the mountains in Morocco but its distribution there is still not properly known though it was in this country that this Atlas Cedar was first discovered. Philip Barker Webb visited Tangiers and Tetuan in the spring of 1827 and from a native obtained branches of a Cedar which had been collected in the impenetrable mountains of the province of El Rif where there were said to be vast forests. Webb's specimens are preserved in the museum of the city of Florence, Italy.

The Atlas Cedar differs from that of Lebanon in having a perfectly erect, rigid leader, straight stiff ends to the branches—all of which in the Lebanon Cedar droop more or less—shorter leaves and a smaller cone. It is also more easy to transplant and endures exposure and bad soil better than the Lebanon. In this country it is generally considered to be the hardiest of the true Cedars. The Atlas Cedar also grows faster than the Lebanon.

On the principal watershed of the southern ranges in the island of Cyprus grows a third species of Cedar (*C. brevifolia*). This was discovered in 1879 by Sir Samuel Baker. Since then it has been found by other travellers in Cyprus and to-day it is known to occupy about 500 acres of forest mixed with Pines and broadleaf evergreen trees. All the Cyprus Cedars discovered are comparatively young and small, the largest measured being about 60 feet tall and 11 feet 6 inches in girth of trunk. This Cedar has a slightly drooping leading shoot and the ends of the branches are pendent as in the Cedar of Lebanon but the



CONE OF THE CEDAR OF LEBANON

The ripened cones are dull chocolate colored and are produced freely over the few established cultivated trees in America. (Two-thirds actual size)



CEDAR OF LEBANON AT FLUSHING, NEW YORK

This is one of several remarkable specimens of unusual trees to be found in this old-time nursery centre of America. Not unlike the mature White Pine in layer effect of its branches, Cedar of Lebanon may be confused with the Pine by the casual observer. (This specimen is 50 feet high; girth 20 feet)

leaves are quite short and the cones are smaller than those of the Atlas Cedar. Seeds were sent to Kew from Cyprus in 1881 but the trees have grown slowly. It is unknown in this country but in all probability would thrive in parts of California.

Eastward from Mt. Lebanon some 1,400 miles are the Deodar Cedar forests of Afghanistan which extend continuously eastward on the Himalayas almost to the confines of Nepal. This Cedar (*C. deodara*) is in India exclusively a western tree; it begins where the influence of the monsoon is much diminished, that is where the climate begins to approximate that of the Levant. Its altitudinal range is between 3,500 and 10,000 feet and from 6,000 to 8,000 feet and it grows gregariously but never forms pure forests. The leading shoots and the ends of the branches are more pendulous and the leaves longer than those of the Cedar of Lebanon; the cones are the same size but the cone scales and seeds are of the same form as those of the Atlas Cedar.

These four Cedars, differing but slightly one from another yet occupying five distinct geographical areas, present a most interesting problem in plant distribution.

Northern Syria and Asia Minor form one botanical province, so that the Lebanon groves though so widely disconnected from the Taurus forests can be regarded in no other light than as outlying members of the latter. Sir Joseph Hooker, in the paper already referred to, suggests that in pre-historic times the Cedar forests occupied much lower levels and were continuous. He adduces geological evidence to prove that vast changes took place in the Mediterranean basin during Tertiary time, and shows that in the warm period which followed the glacial epoch, the vegetation of the lower levels was forced to seek colder situations and so migrated northward and up the mountains. This would bring about the geographical isolations of the Cedar; and the differences now apparent between the four species are merely variations fixed and accentuated through time.

NOW the Cedars, though not so ancient as the Ginkgo, are an old type of tree life. Fossil remains of the ancestors of the present race have been found in the Lower Greensand of south England around Maidstone and Folkestone in Kent and at Shanklin in the Isle of Wight. This Lower Greensand underlies Chalk and belongs to the Cretaceous or Chalk Age, a geological era remarkably prolific in animal life. In this period birds very probably first appeared, and the Terrible Lizards of the Reptilian Age disappeared; but a race of extraordinary, serpent-like reptiles (*Mosasaurus*) flourished.

These were long snake-like animals with pointed teeth and furnished with swimming paddles and a long and powerful tail. One species of these terrible creatures of which fossil remains have been unearthed in this country is estimated to have been from 75 to 80 feet in length! The mammals of this epoch were apparently marsupials like those of Australia to-day. But the important fact from the viewpoint of the Cedars is that Cretaceous rocks agreeing in their lithological and paleontological facies occur in all the alpine ranges from Provence to Dalmatia, in the Atlas Mountains, in Syria, Palestine, Arabia, Persia, the Caucasus and the western Himalayas. The Libyan Desert of North Africa is also floored by Cretaceous rocks apparently of the same age though of a different lithological character.

In the Tertiary period which succeeded the Cretaceous epoch doubtless Cedar forests composed of one species were more or less continuous on the mountain ranges throughout the Mediterranean basin and Asia Minor to the western Himalayas. Owing to the tremendous depressions and elevations for which this epoch is remarkable the continuity was broken. During the era of glaciation which ushered in

the close of the Tertiary Age the Cedars and all other vegetation were forced to lower levels. When perpetual snows covered the great axis of Lebanon and fed glaciers which rolled 4,000 feet down its valleys, the climate of Syria must have been many degrees colder than now; the position of the Cedars fully 4,000 feet lower and the atmosphere much more humid. At the close of the glacial period the increased temperatures forced the Cedars and other cool temperate vegetation to seek colder localities and so they migrated up the mountain slopes and northward. This would lead to their present day occupation of isolated sites, those that failed to do this would be killed. On the mountains of Cyprus and on Lebanon, and to a less extent also on the Atlas Mountains of North Africa and the Taurus ranges of Asia Minor, the Cedar groves and forests are merely surviving remnants of prehistoric forests of enormous magnitude.

In closing this sketch of the Cedars, their history and geographical distribution, a few brief remarks on the character and usefulness of their timber seem appropriate. The wood of the Cedar is fragrant, easily worked and of lasting quality. That of the Deodar is the most important of any timber in northwest India. It is used in quantity for railway ties, for bridge building, for general construction work; also for roofing shingles. That of the Atlas Cedar is also valuable, and especially in the ground. The Cedar of Lebanon in England grows rapidly and its wood is of poor quality, but that of the trees on Lebanon is excellent. It is recognized that the character and quality of timber is strangely influenced by soil and climate. The Old Testament references afford some idea of the enormous consumption of these noble forest trees. The subject has been much debated, but the consensus of opinion now is that the wood used in building Solomon's temple and by Nebuchadnezzar was in all probability Cedar of Lebanon. If to these demands and others we add the wanton destruction by invading armies, we need not wonder at the diminished glories of Lebanon. Rather it is surprising that any trees remain!

IN THE WESTERN WORLD

THE Cedar of Lebanon loves a warm, deep, well-drained soil and thrives in southern California. In England no other exotic tree perhaps, has been more generally planted for ornamental purposes during the past two and three quarter centuries. Just when the Lebanon Cedar was introduced into England is not clearly known and probably never will be. Evidence points to the tree at Childrey Rectory near Wantage, as the oldest in England, this having been planted, it is claimed, by Dr. Edward Pocock, who was chaplain to the Turkey Company at Aleppo in 1629, and afterward to the Embassy at Constantinople. In 1903 this tree measured 25 feet girth and its branches covered an area of 1,600 sq. yards.

Goodward Park, the seat of the Duke of Richmond is probably more celebrated for its Cedar trees than any other place in England, and there is a record of Peter Collinson in 1761 supervising the planting of a thousand Cedars for the then Duke of Richmond. The finest avenue of Cedars however is that at Dropmore, planted in 1844, but there is a question as to whether these are Lebanon or Atlas Cedars. Wilton House near Salisbury, is another place famed for its

Cedars, which are very old, as a specimen cut down in 1874 revealed. It was 36 feet in girth and its annual rings, carefully counted, numbered 236. According to this the tree must have been a seedling in 1638 and very probably is of the same origin as the one at Childrey Rectory. Obviously therefore Loudon was mistaken in thinking the Cedars in the old Physic Garden at Chelsea S. W. planted in 1683, and those at Chiswick House were the oldest in England. The latter still flourish but the former are dead.

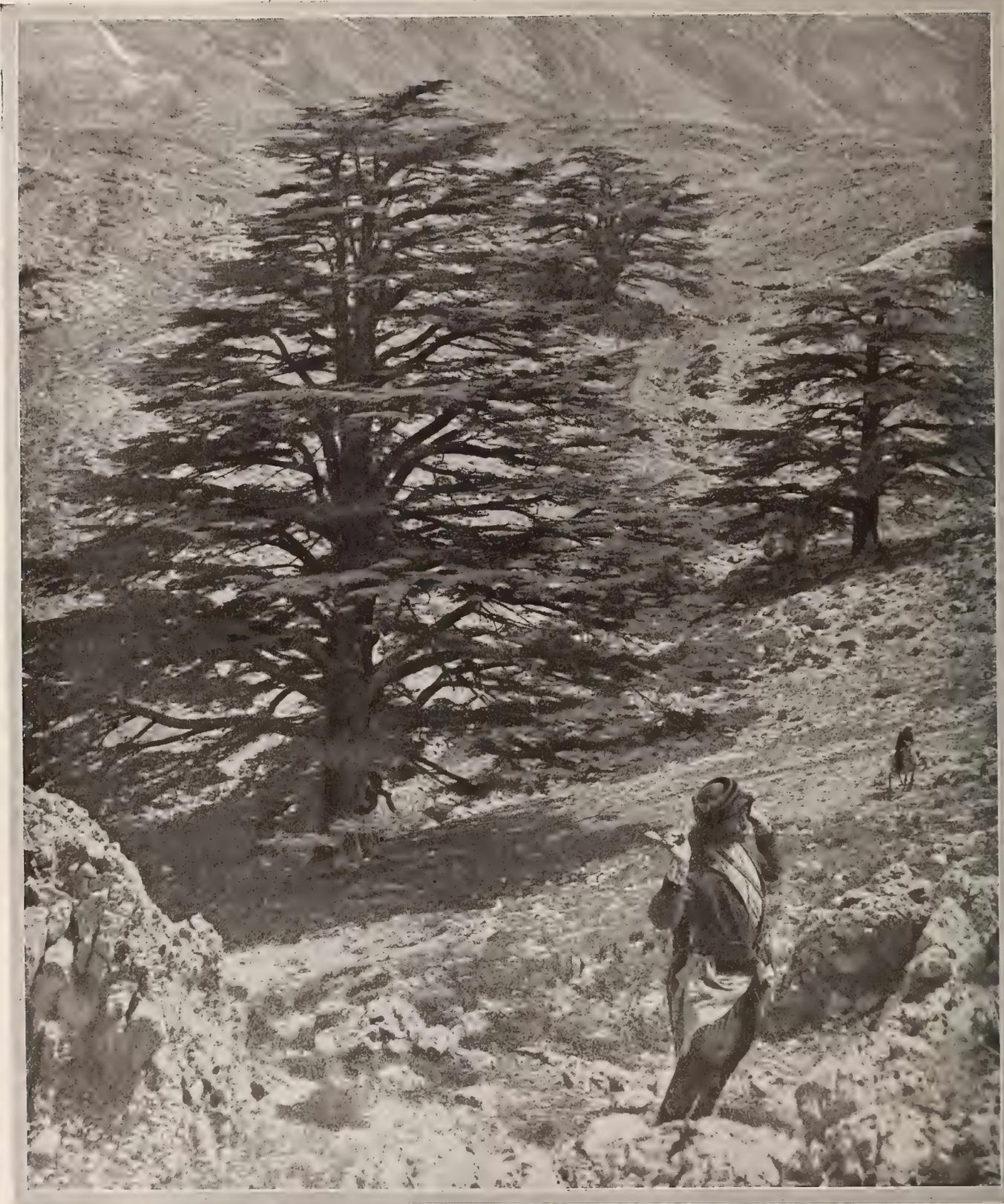
In Scotland are many fine Cedars of Lebanon, some being scarcely inferior to the best in England. Wales and Ireland have not so many.

The date of the introduction of the Atlas Cedar into England is not precisely known, but the oldest recorded tree is one at Eastnor Castle, which was raised in 1845 from cones gathered by Lord Somers at Téniet-el-Gâad. Seeds of the Deodar were first sent to England by the Hon. Leslie Melville



YOUNG TREE OF HARDY LEBANON CEDAR

The Arnold Arboretum is successful growing trees of the Cilician Taurus Mountain type, enduring the rigors of the Massachusetts winter, and attaining 22 feet in fourteen years,—the most rapid-growing conifer



© Underwood & Underwood

REMNANTS OF THE FORESTS OF CEDAR ON MOUNT LEBANON

Once the characteristic forest of a region now almost denuded of timber growth, only a few hundred of these trees, famous from biblical times, now remain. Reasonable protection would ensure the preservation of this magnificent tree. A hardy type from the Cilician Taurus is established in America

in 1831, and sown at Melville in Fifeshire, at Dropmore, and elsewhere. In 1841 it was introduced in quantity.

On the continent of Europe the Cedar of Lebanon is much less plentiful than in England, owing largely to the less congenial climate. The tallest is said to be on the grounds of Madame Chauvet at Beaulieu, near Geneva. It is about 102 feet by 16 feet with a spread of 102 feet. Many statements have been made as to the date of the Cedar's introduction to France, but it is now pretty well accepted that it came by seed carried in 1735 from England, by Bernard de Jussieu; and that the historic tree in the Jardin des Plantes at Paris was of this origin and was planted in 1736. From this seed was also derived the tree at Beaulieu and another at Montigny which is considered to be the finest in all France. This is about 26½ feet in girth of trunk 6 feet from the ground.

In this country (except in California) the Cedar of Lebanon is rarely seen and no specimens comparable with those in

England exist. In the New England states the typical form is not hardy and the winter of 1917-18 played havoc with the odd trees which have existed with a struggle for a number of years. For that matter it did the same with the Atlas Cedar, which is the more hardy. When the Cedar of Lebanon was introduced to this country is not known but in the most interesting "Memorials of John Bartram and Humphrey Marshall" by William Darlington, published in 1849, is printed a letter to John Bartram from Peter Collinson, dated from London on February 12, 1735, in which the following occurs: "The Lebanon cone, with a knife carefully pick out the seeds; sow in a box, put large holes in the bottom and cover with shells, in sandy light mould. Let it only have the morning sun." Whether Bartram succeeded in raising any plants and if so what became of them is not known; no mention is made of the Cedar of Lebanon in reports of his historic garden.

FLOWER-BEDS AT SHAKESPEARE'S NEW PLACE GARDEN

WARREN H. MILLER

Where the Best Spirit of the Old is Kept Alive by Utilizing the
Best Modern Material in Carrying Out the Plans of Forgotten Days

THE beds described herein are from the gardens of New Place, the home which Shakespeare built after fame and money were his. The manor has long since disappeared, but the foundations have been religiously preserved and the gardens maintained, though the present beds are of course, modern. They are the design of Mr. Jackson, the head gardener, to whom I am indebted for the specific names of the plants used.

In America we have been wont to regard the floral bed as a garden banality, a stiff and ugly affair, hideous in design and execution, and therefore a thing to be abandoned to the civic centre and railroad station gardener. Our high priests of floral design have warned us against the wrath to come that will overtake all who dare plant such an outrage on an otherwise innocent lawn—scape—and I confess to having indorsed this view unqualifiedly until I saw in England the actual possibilities. We in America lack imagination—that is all. And I submit that these beds at New Place prove it; and hope that the sketches here given may help to convey some idea of how surpassingly beautiful a formal bed can be if the master hand of an artist works over it, using plants exactly as if they were raw pigments. The real trouble with us possibly has been that we have shunned the whole subject, and left it to those who cannot be expected to handle it, instead of putting our own brains to work upon it; and the

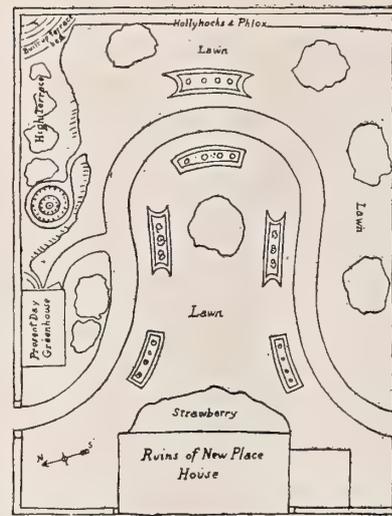
result is that a fine field has been frightfully exploited, and consequently an eruption of floral atrocities has disfigured our land.

Bed number 1 is some twenty feet long by four feet wide, curved on about an 80 ft. radius to fit the walk. It is set in a sap-green turf as fine as any Wilton rug, and is an example of what can be done with Kochias and Cinerarias contrasted with scarlet Begonia. The Kochia or Belvedere is generally well known I think—a large bushy plant of fine-bladed foliage, compact and egg shaped in form, sap green in midsummer, turning later to a deep red. Its popular name is inevitably "burning bush." Five of these are arranged down the centre of the bed, in a sea of scarlet Begonias, while along each flank and across the ends are spaced the large silver-white feathery-leaved Cinerarias, also surrounded by the Begonias. The Cinerarias (*maritima*) are about a foot in diameter while the Kochias stand perhaps two feet high. The border of this beautiful bed is solid white, of dwarf Alyssum. (See following page).

More delicate in coloration is bed number 2, a straight bed with incurved ends. The centrepieces of this are three large bush Fuchsias, flanked on either side by three silver-white Cinerarias; the filler is double pink Geraniums, a variety having peculiar light green leaves bordered with pale brown. The border of this bed is delightful, being of

dwarf deep-blue Lobelia—a lovely frame for the soft tones of the filler, and equally lovely as a setting for the pendant drops of color of the Fuchsia blossoms.

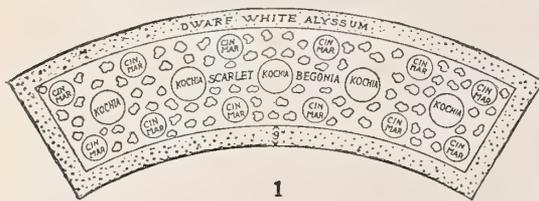
Bed number 3 is a study in reds and yellows, the central note being three *Abutilon Thompsonii*. This plant is a large annual bush, characterized by its handsome yellow and green maple-shaped leaves and large pendant yellow and red flowers. The filler is a solid mass of yellow *Viola* (variety Bullier) while immersed in this on either side are three *Cinerarias* with four scarlet *Geraniums* disposed as shown. The bed is about 20 x 5 ft. with incurved ends, and has a 9-inch border of deep blue dwarf Lobelia.



THE LAYOUT AT THE SHAKESPEARE NEW PLACE

This sketch (made from memory) indicates in a general way the relationship of the beds to the garden as a whole. There is something reminiscent of this U shaped drive in the basic lines of Washington's design for Mt. Vernon

root killing. The plants are set in it, perpendicularly from the walls and slopes, and flat on the tables. The almost vertical facings of turret and echelon walls are set in *Echeveria secunda glauca*, a small star-shaped plant about six inches in diameter with pale, silver-green glaucous leaves, the cirlet of them looking like the petals of some silver-gray-green flower. The four sectors of the circle made by the inscribed echelon are filled with *Alternanthera*, a tiny plant with buff leaves, that are deep red underneath. Inner borders of the sectors are of bright green *Saxifrage*, and in the centre of each sector is a dense circle of *Anthericum* or St. Bernard's Lily on the field of small compact Alter-

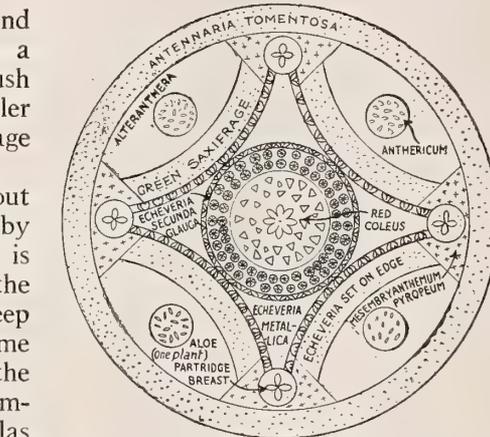


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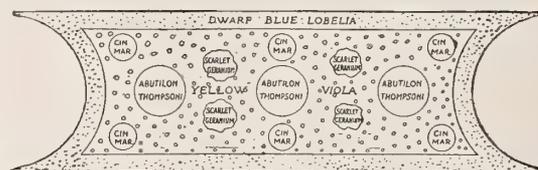
A very handsome bed in violet and lavender, of which I did not make a sketch, was composed of large bush *Heliotropes* as central plants with a filler of mauve *Violas* and a soft green *Saxifrage* border.

Number 4 is a curved bed on about a 40-foot radius. It is 21 feet long by 5 feet wide, with incurved ends. It is a fine example of how to display the great *Lobelia cardinalis*, with its deep scarlet spikes of flowers and handsome purplish-copper leaves. They form the flanking plants in this bed, being immersed in a solid filler of blue *Violas* interspersed with small dwarf pink variegated *Geraniums*. The central plants are five large, pink variegated *Geranium* bushes set in a curved line, and the border is of white dwarf *Lobelias*. This is perhaps the handsomest of all the beds in the Shakespeare New Place gardens.

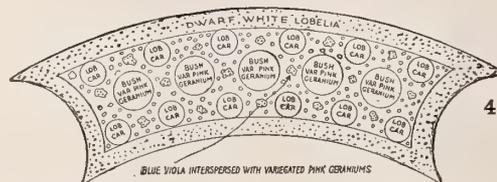
Sketch 5 shows what can be done in the soft neutral tones of the various ornamental colored-leaved plants. It is a circular bed some fifteen feet in diameter and the main inscribed echelon and central turret are built up so that the centre of the bed stands about two feet high. I was curious as to how this bed held its shape against rain wash, and learned that it was built up out of dead sod turf, dug and exposed over the winter for



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THE DETAIL OF THE FLOWER BEDS

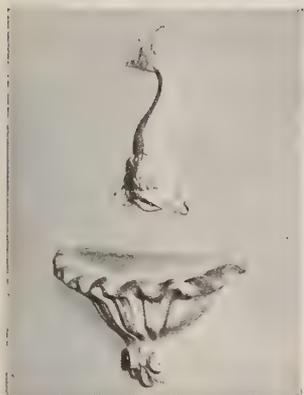
Original drawings supplied by the head gardener at New Place, giving all the planting detail necessary for study in connection with the descriptions in the accompanying text. The sketches are numbered accordingly

nanthera. The four points of the inscribed echelon are accentuated by a single *Aloe* plant (var. partridge breast) which has brown and purple spotted leaves; and each *Aloe* is surrounded by a cirlet of *Fig Marigold* (*Mesembryanthemum*), another compact plant of various colored leaves. The centre of the upper turret of the bed is occupied by the large conspicuous leaves of the *Echeveria metallica*, surrounded by a circle of deep red *Coleus*. The outer border of the whole bed is a 9-inch wide ribbon of *Antennaria tomentosa*, a dense small plant with glaucous silver-gray leaves. As an example of color work without the aid of a single flowering plant, this bed is a masterpiece throughout the entire summer. In such beds it is obvious that too large and simple a figuration should be avoided, as the effect of large figures in colored leaf plants unrelieved by flowers is heavy and monotonous.

Finally, in this garden a veritable cascade of flower blooms occupy an ivy-grown corner of the wall, the earth being piled up against the wall nearly to the top and held in place by concealed concrete work. The lower terraces were filled with red *Geraniums* surrounding four *Kochias* with a bottom border of *Antennaria*. Above this came a border of yellow *Alyssum* and then, in parallel curves clear up to the peak of the corner, *French Marigolds*, *Calceolaria*, and variegated *Anemones*.

SOME GARDEN GIFTS FOR GARDEN LOVERS

RANGING FROM BRONZE TO WOOD HERE ARE SELECTIONS TO SUIT ALL TASTES, PURPOSES AND PURSES



A modest cement wall fountain that is simple to install



A magnificent American conception for an American garden is this bronze warrior dial which would be well placed before a forest background



Spirited and symbolic is this bronze gnomon which may be used on any dial face

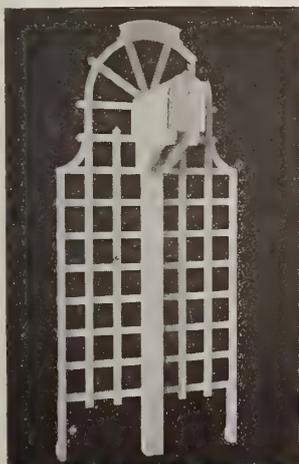


This wise little bird will always show you which way the wind blows

Living birds are beguiled to drink and bathe if they are timid by cordial little bronze decoys on the bird basin below



There are painted plant pots for the table or wall



Charming treatment of the usually ugly rural mail box



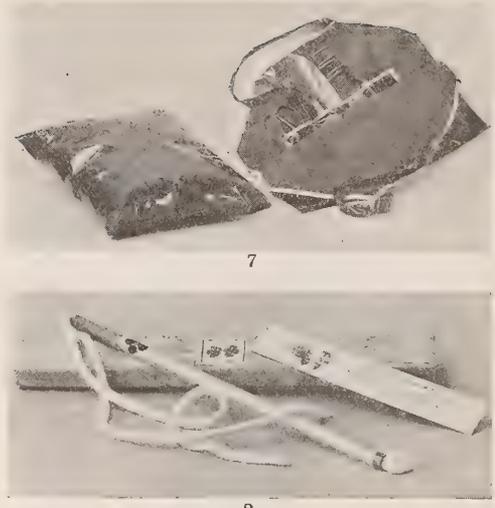
The simple character of a garden bench like this makes it suitable for the simplest little garden, though it by no means debars it from being used wherever a resting place may be desired or needed. Old gardens always had an abundance of loitering spots but to-day they are far too few



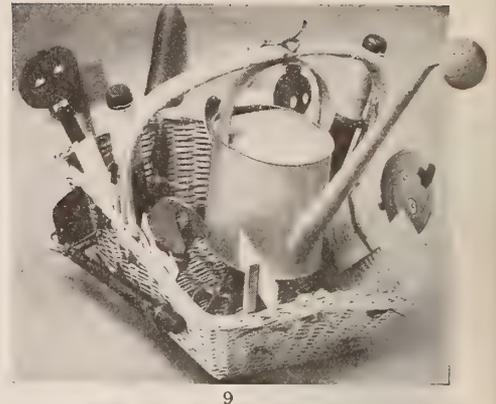
This lofty bronze bird would be well placed on a rocky eminence



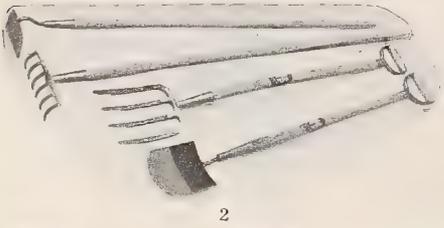
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GARDEN GIFTS

ALMOST anything that furthers the work or the pleasure of gardening finds enthusiastic response in the heart of the real gardener; wherefore, believing it to be a field that is all too often overlooked when Christmas gifts are selected, these pages of suggestions are offered to the readers of THE GARDEN MAGAZINE in the hope that they may help solve some of the holiday problems. Give a garden gift—and if you do not know where to find it, be very sure that we shall be glad to help you.



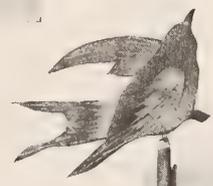
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|---------------------------------|------------------------------------|
| 1 Painted Basket | 9 Completely Fitted Basket |
| 2 Set of Implements | 10 Double Rose Watering Pot |
| 3 Convertible Tools | 12 Greenhouse Thermometer |
| 4 Set of Toy Tools | 13 Garden Line, Reel and Gloves |
| 5 Plant Stake and Weed Puller | 14 Plant Stakes and Labels |
| 6 (and 11) Stake Baskets | 15 Automatic High-pressure Sprayer |
| 7 Kneeling Cushion and Tool Bag | |
| 8 House-Plant Waterer | |



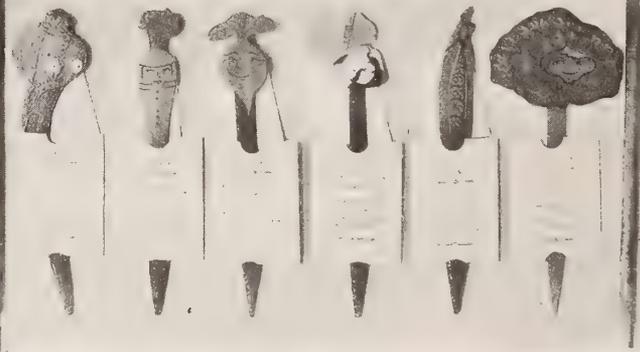
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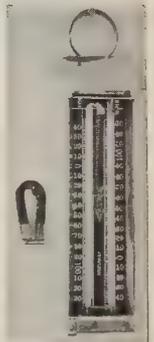
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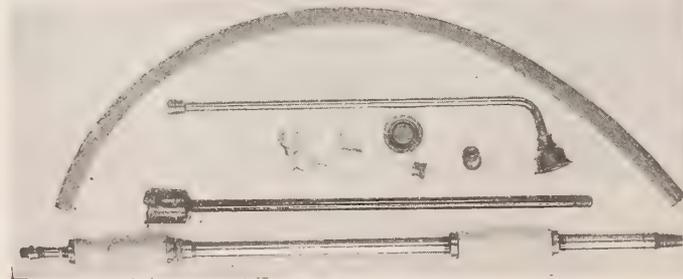
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AMONG OUR GARDEN NEIGHBORS



THE POPULAR conception of the old-fashioned garden is a distorted one and, unfortunately, its effect on contemporary garden making is generally reactionary. The present number of *THE GARDEN MAGAZINE* is offered as an interpretation of the actual facts about old gardens and the materials used in them, in the firm conviction that it is desirable to dissipate the clouds of retrospective haze that enwrap the old in a fog of sanctified mystery. They are able to do this of course only because the truth is not read aright, though it is there for all who look intently.

Because it was (in its day) the expression of the newest thing in the world, the thing that we now revere as the old-fashioned garden was in that day a success; and made a permanent record for itself. It molded for itself a niche in the gallery of fame because it was intrinsically important, and progressive; and our present day garden can indeed gain not a jot by ignoring the present and lamenting the glory of the days that were! The gardens of another generation have left us a heritage, which properly interpreted should stimulate us to progress, to all possible ventures into the new, for that indeed is what "made" those old gardens. People of any given period are prone to become more concerned with the material remains of the dead past than with the soul that gave that past life—which is like studying the frame in an effort to discern the picture that it once held.

In the several articles that appear elsewhere in this number an effort is made properly to coordinate these thoughts, and to bring a more intelligent analysis to bear on the glamour of the old garden, that it may lead into a fuller appreciation of the mission of the new. Our cover illustration, which is redrawn from one of the best known books of early English gardens, is a good portrayal of what was typical of the gardens of the seventeenth century—that being the day before the "landscape" style was developed, and distinguished by extreme precision of design. The modern popular conception of the old garden's style—for which there is no possible warrant—is the direct antithesis of this and finds expression in the sort of planting shown on page 165. "The Dear Old-Fashioned Garden" is discussed in more detail on page 171 and is presented as a concise summary of what it seems to us is the correct attitude toward the fact and spirit of the old garden.

NEXT month's *GARDEN MAGAZINE* will be the Planning Annual and as in other years will deal definitely with the problems concerned in deciding the programme of work for the season that approaches. Gardeners more than most people perhaps have to be forehanded if they would be really successful. During winter a plan of operations must be adopted, for spring always comes with a rush and brings with it duties that crowd each other for immediate attention. Anything that can be done now in a leisurely way is a great saving of time a couple of months later. One feature of the January issue will be "Tackling the Plans for the Year," others practically helpful will deal with the desirable varieties of flowers and vegetables for seed sowing, etc. Mr. Wilson's article in that issue deals with the Yews, and will have some strikingly interesting pictures that will possibly be a surprise. The cover suggestion of the coming of spring shows two of our most beautiful flowers of the early outdoors—Golden-bell and Magnolia.

THE OPEN COLUMN

Readers' Interchange of Experience and Comment

Helleborus Niger

PERHAPS Mrs. Wilder might like to add *Helleborus niger* to her list of winter flowers. Whether or not the date when its beauty was revealed to me was exceptional, I cannot now be sure; but the event took place one Christmas eve, many years ago, when the snow lay on the ground, deep, and crisp and even. Just as the dusk was gathering on that wintry afternoon, we stood around a little well of snow, looking down in wonder at the waxy white flowers touched with dull pink, and feeling almost as if a quiet churchly service were going on about us!—A. K.

What Shall We Call It?

WHAT shall we call the Pogoniris of the botany? Everybody will banish "German." Nobody seems to consider their true name Pogon or Bearded Iris. French seems unnecessary (perhaps some of us who have been over do not appreciate French) and as little in accord with facts of origin as German was. Flag, of course, was a term applied indiscriminately to native Iris, to Cat-tails, to *Acorus*, to Sea-weeds, anything apparently with sword-shaped leaves, ultimately by derivation to that which "flutters in the wind" (see *Century Dictionary*). Flag, like

Fleur de Lis, which, as a symbol, may have been derived either from a Lily (not an Iris) or a lance, has much that is finely associative in literature, but it is too indiscriminate a term. Why not be satisfied with Bearded or Beardless Irises, Pogon or Apogon? The sound is not displeasing and the terms tell us immediately whether the particular variety should have a dry well-drained position or a rich, moist one. It is a matter of fact way of looking at things but why not have something of practical value in a name? It does not preclude poetical rhapsodies in their season.—R. A. S., *Massachusetts*.

Iris Chrysographes

IRIS CHRYSOGRAPHES was offered in this country several years ago. So far I have seen no report of its behavior in our American gardens though there have been notes in the English papers for some time. I have had the plant since 1916 but because I have not succeeded in finding a place sufficiently moist for it, it has not flowered until this year. It shows in garden habit its close affinity with the other members of the *Iris sibirica* group, but is of great value in that it adds to the group a very distinct new color. The blooms are of a deep rich purple color with the greatest concentration under the ends of the style arms. In this blotch there show the variable golden yellow lines which gives the Iris its characterizing name. It will be noted from the flower pictured that the shape of the falls is rather more pointed than is commonly found in *Iris sibirica*. The standards also are more slender and the general aspect and carriage of the bloom are entirely distinct.—B. Y. MORRISON, *Takoma Park, D. C.*

Tree Mignonette

ONE of the most attractive plants to have in the room garden or the conservatory is a bush of Mignonette. Although so commonly grown as an annual Mignonette is really a perennial of shrubby habit. One of the easiest ways of getting a "tree" is as follows: Select any good-sized specimen from the garden and remove this with as much soil round the roots as possible. Place in rather a large pot and keep the earth very moist, for the first few days retaining the whole thing in a cool shady position. With a little care there is no reason why the removal should not be carried out in such a way that the plant does not receive a check at all. At the start it is best to pinch away all the flowering buds so that the plant is encouraged to grow as freely as possible. Never allow the setting of seed. In the following season the tree Mignonette flowers all over but again no seed should



SCREENING THE GARAGE

Even though the planting does not completely hide the building still it will reduce an intrusion and bring it into the picture. The arched trellis with trailing vines lends its color before the Hydrangea blooms.



A LITTLE KNOWN IRIS

Iris chrysographes so called on account of its golden yellow pencillings on the purple ground is a welcome addition to the Siberian group. Illustration natural size from photo by E. L. Crandall

be permitted to set. So the bush goes on increasing in size from year to year and will finally develop to a very large size indeed.—L. LEONARD BASTIN.

Reflections on the Winter of 1917-18

HAVING read several interesting notes about the disastrous effect upon plants of the severe winter of 1917-18 I think my experience up in Maine quite extraordinary. The winter started early as we all know, about November 22 or 23, with snow before the ground had frozen much, and we had no thaw till the spring breakup late in March. From three to four feet of snow was on the ground constantly and our 30 to 40 degrees below zero temperature did little damage to vegetation covered by the snow mantle. I had left two tender Tea Roses (*Madame Francesca Kruger* and *Safrano*) in the ground—being away from home and consequently unable to lift them and store them in the cellar as I was in the habit of doing. They came through without any damage whatever, springing up from the roots and blooming freely the following summer. Also some *Gladiolus* bulbs left out in the fall grew and blossomed the next season.—MRS. B. A. BOYNTON, *Augusta, Me.* [The snow mantle is the best possible mulch.—ED.]

A Good Planting Screen for the Garage

FOUR years ago all that we had in our backyard was a garage and an unsightly piece of bare land. But through study in *THE GARDEN MAGAZINE* we think, and the picture will show for itself, we have accomplished wonders. We have had blooms of *Hydrangea* eleven and one-half inches long and nine inches in diameter. The bush shown in the picture has two hundred and eighty blooms on it. I have made quite a study of flowers during the past four years and this year have been rewarded by one of the most beautiful Aster beds in the city, admired by everyone, and as for selection pronounced the most beautiful.—MRS. G. E. PREDOCK, *St. Louis, Mo.*

Is Variety the Spice of Garden Life?

THERE is a trace of the jackdaw in human nature that sets us collecting things—a fact which must be well known to seedsmen, since they make a point of offering complete collections of genera, one each, that are certainly of no general or pictorial garden value. And what excitement to be sure can a garden enthusiast get out of reproducing, year after year, the same effects? I cannot see. I can imagine loving a garden walled in with overgrown Box, where Hollyhocks and Larkspur grow as if by tradition; but I cannot conceive of myself attaining any degree of excitement over it. And assuredly it is not the kind of garden that sets you to poring through the flower catalogues in midwinter; nor will you work in it! You will leave it to the gardener, just as the parlor is left to the parlor-maid; and a capable gardener, given all the fertilizer he demands, will get as much out of the plants one year as the next. Experience and observation have taught me, however, that while it is interesting to experiment with the ten thousand strange species of plants which flower culture offers, the garden in which we receive should be restricted to the oldest and most reliable. There is *Corydalis nobilis*, for example—a thing that might easily be mistaken for a weed. (And no matter what Mrs. Wilder may say for it, it is not as good as Bleeding-heart; and except for one's own interest, which no one else can possibly share, I can imagine no excuse for planting it!) Time was when I used to point out to visitors each rare plant on my rockery—*Asphodel*, *Myrrh*, *Balm-of-Gilead* and such—but now (after observing many of these visitors narrowly) I merely flourish at the color masses and remain mute. Once, too, I was inordinately proud of my dozen or so species of *Campanula*; but no one was interested, except in *carpatica* and *persicifolia*—and even at this they carried away only the name "Bellflower" with which to harass their gardeners. No,

these rare and interesting plants—these strange species of *Fumitory* and *Iris* such as Mrs. Wilder writes about for example—are not for the show garden! Which makes me wonder how a person whose enthusiasm is in new and rare plants, may overcome the difficulty. Must he have two gardens—one for his friends and his own mere acquisitiveness, and another for his deeper inquisitiveness?—
JULIAN HINCKLEY, *Cedarhurst, Long Island.*

What is a Biennial?

IN THE "Open Column" I always find many things to discuss, or at least to think and study over, and I hope it will always be made the most of. In the October number Elizabeth T. Cabot raises the question as to biennial plants. I think nobody will object to calling a plant biennial when it dies as soon as it blossoms the second year and matures its seed. The Burdock is a type of this, for it is dead almost before the seed is ripe. At the same time deprive it of raising seed and it will live on indefinitely. In this climate we have to treat as biennials or annuals certain perennials that would survive their seed raising in a more congenial climate. I find that the California Poppy is naturally a perennial, for several plants with me lived through the last mild winter. Still we have to treat it as an annual, for it is generally too tender to stand our winters. The showy Canterbury bell would be a perennial if it were not allowed to raise seed, but it usually dies soon after maturing seed. Plants that do not depend on seed for reproduction are necessarily perennial and many seeding plants are also, as the Dandelion. I am much interested in the plants that spring up self-sown in the fall, for they often manage to winter through, even if classed as annuals. Poppies, tender as they are supposed to be, will do this. The Foxglove will quite generally live from year to year if not allowed to raise seed.—JOHN W. CHAMBERLIN, *N. Y.*



SPRING IN A GARDEN LYING ABOVE THE FIFTIETH PARALLEL

Even as far north as Kelowna, B. C., the Spring garden is ablaze with flowers. A border of Darwin Tulips edged with Arabis (Rock Cross) furnishes a gay ribbon with which the lawn is bound. A Spirea blooms in the background, while among those present Iris and Pinks await their turn to fall into the procession. Residence of Mr. R. W. Thomas, who has kindly sent the photograph

The Month's Reminder

"Come with me, then, behind the scenes, where we are concerned only with the joys of plant increase and rejuvenation"

The Reminder is to "suggest" what may be done during the next few weeks. Details of how to do each item are given in the current or the back issues of THE GARDEN MAGAZINE—it is manifestly impossible to give all the details of all the work in any one issue of a magazine. References to back numbers may be looked up in the index to each completed volume (sent gratis on request), and the Service Department will also be glad to cite references to any special topic if asked by mail.

When referring to the time for out-door work of any sort New York City at sea level in a normal season is taken as standard; but at best dates can only be approximate. Roughly, the season advances northward fifteen miles a day. Thus Albany, which is one hundred and fifty miles from New York, would be about ten days later, and Philadelphia, which is ninety miles southwest about a week earlier. Also allow four days for each one degree of latitude, for each five degrees of longitude, and for each four hundred feet of altitude.

DECEMBER—THE MONTH OF RETROSPECT



HERE isn't much actual gardening to be done these days in the North, except in the greenhouse, but there are a few odd jobs that may possibly be overlooked, for instance:

Moving of trees and shrubs can be kept up so long as the ground remains "open."

Attend to the various mulches—are they heavy enough? packed down and frozen solid? Sometimes it pays to lay a few boards over a light straw mulch to prevent it being blown away. If snow comes before the ground freezes hard enough to justify heavy mulching, don't worry; Nature has done the mulching job herself, but be ready to place a little mulch when the snow goes.

From the frames where you stowed them late in the fall, bring into the greenhouse or cellar a few *rhubarb* and *asparagus* roots, mulch with well-rotted manure, gradually thaw out, water, and start into growth, and you will be rewarded with a real delicacy.

Lift a few *hardy perennial seedlings* now in hotbeds, pot them, keep in a cool place till February or early March; and then force along for bloom before any of the outdoor flowers are out.

Keeping up the Supplies



Examine the root cellar, the onion sacks, the pumpkins and squash—everything, in fact, so that if any decay starts, you can get rid of the specimen.

The canned and preserved goods should also be looked at now and then; bubbles in the jars are a sign of trouble.

Plants that are Indoors



This is a critical period in the greenhouse cycle. There is a minimum of light, and, because the cold is increasing outside, there is likely to be a maximum of heat. Skill is required to prevent trouble from such complications. See to it: (1) that the temperature goes no higher than is essential to the good growth of the plants; (2) that the night temperature is sufficiently lower to make a distinct variation.

It is not a constant, uniform, *high* temperature that is wanted in a greenhouse; but nearly as possible natural conditions, in which sudden cold spells outside are accompanied by corresponding, though much more moderate, drops in temperature under glass.

In *watering under glass*, plan so that the foliage will be dry by night, and don't let the soil get so wet as to be muddy, at any time.

In *sowing seeds* of vegetables in the greenhouse, for forcing, plant much shallower than is advised for outdoor operations because the soil and air can both be kept moist and as the soil is presumably rich the roots do not have to forage deep for food.

Taking the Count

1. Look back over the past season and consider both failures and successes; then to turn each experience into capital for next year.
2. Don't do all your retrospecting indoors, even though the ground be covered with snow.
3. Read garden books; and run through the back numbers of the magazines to refresh your memory.
4. Give someone else the benefit of your experiences; write to the Editor about your results and perhaps send a photograph.

Window-box plants, not having the benefit of controlled atmospheric conditions that obtain in the greenhouse, need special care. Water them often, not too heavily at once; give them all the fresh (not cold) air and sunshine they need.

Keep the *house plants* well fed. A pinch of bone meal—the finer the better—and a very little diluted ammonia are good stimulants, the first supplying phosphoric acid and potash, the second, nitrogen.

Insects in Winter



Go over your old apple and pear trees and see if you can discover any *cod-lin moth* cocoons under loose bits of bark. Spread

burlap or an old sheet around the tree and give it a light scraping or a stiff currying with a wire scrubbing brush. Then burn all the debris.

In the *brown tail* and *gypsy moth* sections look for the winter stages of these pests. The former lives over winter in nests not unlike small reproductions of the tent caterpillar tents, attached to the tips of all kinds of trees. Prune off and burn.

The *gypsy moth* tracks are small, grayish, oval egg masses, perhaps an inch long, plastered on trunks of trees, the under side of stones and bits of wood, in old tin cans, on the sides of houses, etc. Paint each one of these masses with a daub of creosote.

Tools and Equipment



Keep at the pruning and spraying jobs. It is easiest to finish the spraying at one operation; but the pruning can well be done a tree at a time.

If any pear trees show the blasted, blackened, withered appearance of *fire blight*, dig them up and burn.

Study the whole tool question carefully. There are many modern tool devices that are wonderful labor savers.

Looking Backward and Forward



Next month plans for next year's garden will be in actual preparation so before this month closes have a heart-to-heart chat with yourself, about the past season's work and its results. For instance:

Was the garden a success?—Did it satisfy? Did it give joy to others? Did it make money? Did it win prizes? Did it reduce living expenses? Did it teach me anything really worth while?

Did I make the most of my garden?—Did I use, can, dry, or utilize all vegetables and fruits; and share the treasures of the flower garden?

Did I learn or discover anything new and worthy?—Have I told "The Garden Neighbors," about it with a view to helping others?



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All Statements Approved by High Dental Authorities



acid. It holds the acid in contact with the teeth to cause decay.

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Raspberries for Where You Live

WHAT fruit is better for the average garden than the raspberry? This berry is delicious fresh or canned. It demands but little sugar, and gives a crop the second year. But the raspberry is notional though; varieties which thrive in one section may give poor results in another. If you want plants that not merely grow, but flourish and bear big crops, you must make a careful choice, depending upon the particular place where you happen to live.

The Cuthbert is the best known red variety, but not hardy enough for the Northern and Northeastern States. An iron-clad berry for those sections is the Marlboro. There are other points to be considered, though, besides hardiness. The Cuthbert thrives in poor soil, although it demands plenty of air and abhors wet feet. Marlboro, on the other hand, prefers strong, rich soil. It is better to plant the Cuthbert, even in the North, if the soil is poor, and lay it down in winter, and to grow the Marlboro farther South, in heavy land. Robust as Marlboro is, it is not hardy enough for the exceedingly cold weather of Colorado and adjacent States. Yet it is the kind used largely by Colorado growers who carry it through the winter nicely by laying down the plants.

The Herbert raspberry is another extra hardy variety, and seems especially well adapted to Canadian conditions. Satisfactory reports come even from Manitoba, and in Central Canada it gives splendid crops. It thrives also in many parts of this country, but should be experimented with before planted freely. The writer prefers either Cuthbert or Marlboro.

From Minnesota comes a new variety of raspberry, which gives more than ordinary promise. It is called "No. 4." and has already been planted freely in different parts of Minnesota, as well as in neighboring States. From the enthusiastic reports sent in by those cultivating it, this No. 4 raspberry is superior to any other variety for conditions such as are found in the Northern tier of States. It grows tall and robust, and seems to be perfectly hardy; the fruit is large, crimson, firm, and of good quality. The berries do not cling to the stems, yet they do not drop early nor crumble like those of the King, another red variety planted in some parts of Minnesota and Wisconsin for commercial purposes. The King berry must be laid down in places where the No. 4 is proof against winter-killing. It seems probable that this new raspberry will soon become popular for home gardens, in all the cold States. Indeed, there seems to be no reason why it should not flourish well farther South.

Garden makers who find the Perfection raspberry growing with exceeding luxuriance in the Hudson River Valley may seek it for their own back yard plots. This variety, however, is not recommended for home gardens. It grows too rampantly, and requires too much room. When two years old, it often makes plants six feet tall. Unless given almost twice as much room as other berries demand, it does not do its best. Still, Perfection berries have much substance and an excellent flavor.

Not many years ago it was considered impossible to grow raspberries in the Southern States. With the coming of the St. Regis raspberry the situation has been changed. This adaptable variety can be grown in nearly all sections of the country. That does not mean that it is equal to other sorts everywhere. In some land it produces altogether too much foliage and too little fruit. It is to be experimented with before being planted largely. Still the St. Regis is an excellent berry for the small garden, because of its double cropping habit. It is often called "everbearing"

which is not strictly true, for, while a few scattering berries may be picked during the summer, real crops are borne only in spring and fall. Besides its fall-bearing habit, it has one other advantage—its spring crop is borne at least a week ahead of any other kind. On the other hand, no variety is more subject to attacks of crown gall. Sometimes St. Regis is put out under the name of Ranere.

Another fall-bearing red raspberry and a more recent introduction which has been receiving a good deal of attention of late is the La France. It is big in all its parts—leaf, wood, and fruit. The berry is much above the average in size and the plant continues fruiting freely right up to the time of frost. Like the St. Regis it also has crown gall, but somehow or other it doesn't seem to interfere with the cropping qualities and perhaps may be completely ignored. Its adaptability to all sections is as yet experimental but on Long Island it has proven very satisfactory and seems to promise well generally.

As blackcap raspberries choose Kansas and Cumberland wherever you live. Plum Farmer is the handsome berry grown commercially in Western New York; but Kansas is equally early, and adaptable to conditions almost everywhere. Moreover, its fruit is free from the moldy appearance often seen on black caps. Cumberland is a little later, and has the advantage of holding its fruit two weeks or more. It's the largest of all the blacks.

If you live in a section where the thermometer does not run very low, by all means grow Shaffer for a purple raspberry. It is unsurpassed in flavor, but unfortunately rather tender, so that the Columbian must be used to replace it in the Northern States. Some strains of the Columbian are very hardy, while others are easily winter-killed. Like the blackcaps, the purple raspberries are propagated by tip rooting, and consequently do not annoy the garden maker by throwing up suckers. No berry is better for home canning, although its color militates against its selling in the open market.

E. I. FARRINGTON, Massachusetts.

Poplars: Popular, Then Unpopular

ALONG the streets in a new addition to a suburban town a number of Carolina Poplars were planted as street trees. They made rapid growth in the thin sandy soil, far surpassing that of other kinds of trees usually set for shade. In a very few years, they overtopped the tallest of the modest houses, were shapely and pleasing for shade and ornament. But while the tops made strong and rapid growth, the part below the surface was also busy. After the trees were a few years planted, here and there a householder was seen digging up his sewer connections because of stoppage; it was found that the Poplar roots had penetrated the joints in their search for water, and had rendered the pipes useless. After several similar experiences, the Shade Tree Commission issued the edict that the Poplars must go, for it was found that they were also penetrating the main sewer. In one case, the roots had choked a large sewer forty feet from the trees, so filling the pipes that they were useless. So the Poplars were rooted out wherever they were near sewers or water pipes. Where the location is such that its far-reaching roots can do no damage this is an admirable tree. But the very quality that makes it so valuable a tree for rapid growth and poor soils, renders it decidedly objectionable in locations where the roots can reach sewers, water or drain pipes.

F. H. VALENTINE, Ridgewood, N. J.

Rhubarb Out of Season

WHY not have a fresh supply of rhubarb for sauce and pies during the winter by forcing the crop in a house cellar? It doesn't matter if your cellar is with a brick, cement or other hard floor. A cover of two or three inches of loose earth will make a good bed for the crop. The roots must be thrifty and strong. Propagated roots should be from two to five years old, while those grown from seed need an additional year's growth. Before the ground becomes frozen hard, I dig the roots, with as much soil as possible, and place them in some well-drained spot in the garden and cover with some earth to prevent their drying out. Then I wait until they are frozen. When frozen solid is the best time for setting them, as they are cleaner and may be handled without any injury. As we manage to have two crops during the forcing season, we use only a part of the dug roots, the other part being kept until needed under a light covering of manure or straw as protection against severe weather. I set the roots in rows as closely as possible, allowing for each root a space of about a square foot and some space for a passageway in the centre of the cellar. I fill the spaces and cover the roots two inches deep with loose soil and water them thoroughly. A kettle of water kept on the heating stove or a few occasional waterings with tepid water solves the problem of supplying moisture. Very little attention is required as to ventilation, as a little change of air from time to time is sufficient. Daylight should be excluded as much as possible. Liquid cow manure has with me proved a great advantage to the crop. Before and after the season it is advisable to fumigate the cellar with sulphur. After keeping it close for a day, whitewash, adding sulphate of copper or crude carbolic acid, one ounce to the gallon. The Early Strawberry I have found to be a good variety for forcing, as it matures earlier than Victoria (considered best for forcing by many rhubarb growers) and prolongs its season. Of course, the time of watering depends to a great extent upon the temperature maintained. By starting the forcing early and by means of a two-burner gasolene stove we managed to keep a cellar 25 x 30 at a temperature between 35 and 45 degrees to mature two crops in between three or five weeks from the time of setting. When the stalks are 12 to 14 inches high is a good height for picking. As the stalks are tender and brittle, they should be handled while gathering with greatest care. The hulls are removed, the stalks thoroughly cleaned and tied with the leaves on, three or four in a bunch, uniformly as possible, and tied around the butts with bunching twine. Twelve bunches are put in a bundle and tied around both butts and tops. For shipping the bundles are wrapped in paper and boxed. They are shipped by express to avoid freezing. There is a steady market demand for the right product at fair prices during the whole forcing season, from January until the end of April when the early outdoor crop is coming in.

SAMUEL H. GAREKOL, *Maryland.*



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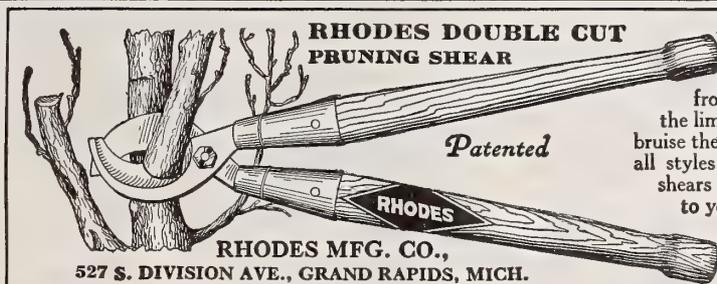
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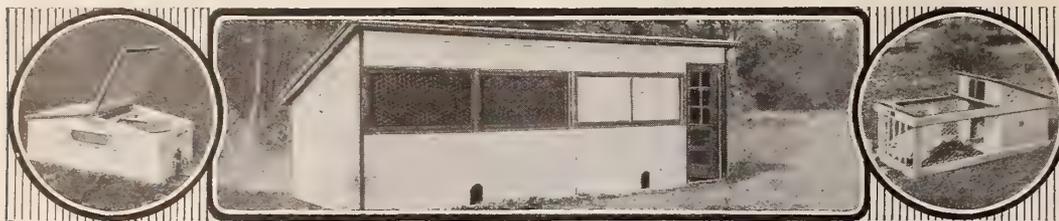
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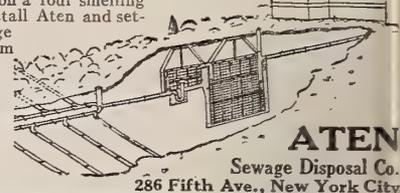
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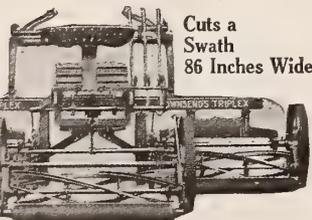
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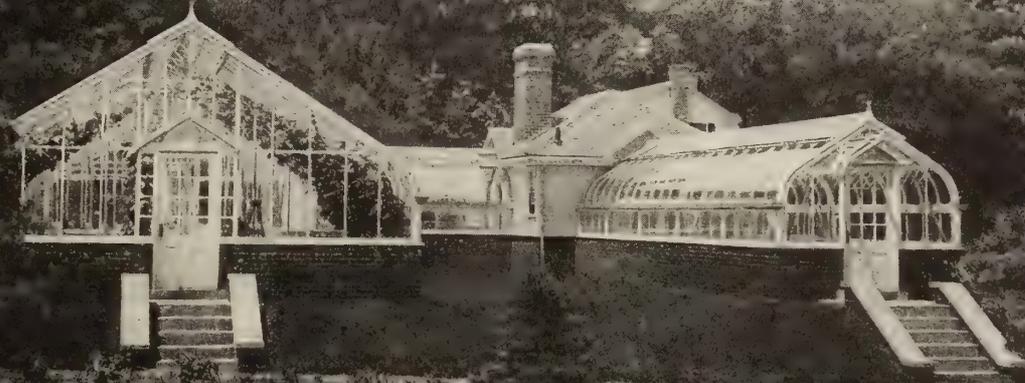
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MANY MUSIC-LOVERS ARE JUST NOW CONSIDERING THE PURCHASE OF AN INSTRUMENT FOR CHRISTMAS. THEY ARE URGED AND ADVISED BY THESE ARTISTS TO BUY THE VICTROLA. THESE ARTISTS MAKE VICTROLA RECORDS EXCLUSIVELY BECAUSE THEY BELIEVE THEM TO BE THE MOST FAITHFUL AND THE MOST BEAUTIFUL IN THE WORLD. THEY BELIEVE THAT THE VICTROLA WITH ITS PURE EXQUISITE TONE IS THE ONLY TRUE AND ADEQUATE INSTRUMENT FOR REPRODUCING THEIR ART.

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VICTROLA

Planning Annual

GARDEN MAGAZINE

January 1920
Price 25 Cts.



Vol. XXX No.6

**Another Scheepers Introduction of
Superlative Merit**

A Giant Everbearing Quality Fruit which the United States Department of Agriculture at Washington, D. C., states, "Should be tried in gardens in all parts of our country."



Actual size of berry

Awards

First-Class Certificate of Merit,	Massachusetts Horticultural Society.
" " " " " "	New York Florists' Club.
" " " " " "	and Silver Medal Horticultural Society of New York.
" " " " " "	and Silver Medal Morris County Horticultural Society.
" " " " " "	and Silver Medal Tarrytown Horticultural Society.
" " " " " "	the American Institute, New York City.
" " " " " "	Nassau County Horticultural Society.
" " " " " "	Fairfield and Westchester Horticultural Society.

And at all other Flower and Fruit Shows and Fairs where it has been exhibited.

LA FRANCE

The Greatest Raspberry Under Cultivation

William Ziegler, Esq., Great Island, Noroton, Conn., writes:—

"La France is a great acquisition, of extraordinary prolificacy, 8 ft. canes will be found loaded with large clusters of the most luscious berries. I shall discard all other varieties and grow only La France."

F. A. Bartlett, The Tree Specialist, Stamford, Conn., writes:—

"It is by far the finest economic acquisition in many years. I place it over every raspberry now on the market. During the winter of 1917-18, the temperature at my place ran as low as 30 degrees below zero, killing all varieties to the snow line excepting La France. La France is to the raspberry what the Concord Grape was to the Old Fox Grape, the Elberta Peach to the old varieties and the Thomas Lawson Carnation to the old sorts."

T. A. Havemeyer, Esq., President of the Horticultural Society of New York, says:

"I consider La France far superior to any other raspberry; very prolific, producing branches loaded with large clusters of most luscious berries; an extremely heavy cropper. I unreservedly recommend it as a remarkable food plant that should be grown by every garden owner, and by all fruit growers, farmers and nurserymen."

J. B. Cobb, Esq., Stamford, Conn., writes:—

"I have counted 100 berries and more on one plant at one time. For producing a large crop of luscious berries, for almost four months of Summer and Fall, for size and high flavor of berry, for a free propagator and for freedom from disease and absolute hardiness, I consider La France 'The King of All Raspberries.'"

Other testimonials from notable Horticulturists are reproduced in our illustrated booklet written exclusively about this phenomenal Raspberry La France. This will be mailed, free, upon request.

Orders Booked NOW for Early Spring Shipment

Strong field grown plants at \$2.00 each, \$20.00 per dozen.
Owing to limited available quantity, no more than two dozen plants to any one customer.
Do not fail to make reservation at once.

- 1—Produces fruit the first year; planted early in Spring will give fine berries by June 15th of the same year; will continue to produce long shoots loaded with clusters of berries until all vegetation is checked by hard frost. Every shoot will bear profusely.
- 2—Is absolutely hardy anywhere; the coldest winter cannot damage it.
- 3—Is a robust grower and heavy bearer; each plant will make several new breaks during a season; every break will bear fruit the same year.
- 4—Might be called almost free of thorns, a healthy grower, and not subject to any fungus or insect disease.
- 5—The fruit is beautiful, firm, luscious, deliciously flavored; almost twice the size of other everbearing raspberries yet retaining the fine aroma of the finest smaller kind; it contains far less kernels or seeds, is more succulent and in every way far superior.
- 6—Is the latest bearing, best propagator, and finest raspberry in cultivation to-day.

JOHN SCHEEPERS, Inc.

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Cut showing habit of growth. Note length of branches



The New Britain Tractor

BIG tractors are costly—they don't pay on a small place. Animal power is low in first cost, but wasteful. New Britain presents the answer—a reliable junior tractor at moderate price.

The oats and corn required to feed a horse would supply cereals and flour for an entire family. New Britain saves that crop. It allows the land so used—over five

acres—to be cultivated more intensively.

New Britain will do more work than a horse, for it is speedier and tireless. A farm horse averages about 900 hours of work per year,—three hours' work a day. New Britain will hustle all day, for much less than the cost of animal power. Several men with hand equipment couldn't cover as much ground.

At present New Britain is made in two models:—

NEW BRITAIN No. 1—at \$400—has wheels 26½ in. high, width 17½ in. It is narrow enough to work between the rows and do one-horse field cultivation in average planting of beans, corn, potatoes or other crops that are spaced 24 or more inches apart. Especially designed for garden work. It has clearance of 9 in.—sufficient for "over-row" work on low growing plants.

NEW BRITAIN No. 2—at \$450—has 32 in. wheels and a longer axle. One wheel is adjustable along the axle to meet all conditions. It will straddle one or more rows, having a clearance of 13 in. under the axle. It pulls all the horse tools that No. 1 will pull, and in addition, is equipped to handle a multiple-row seeder or a multiple-row cultivator. An ideal machine for the market grower.

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rolls to any point on its own power and will do all the work of a stationary engine of equal rating. Plenty of reserve power to take care of reasonable overload.

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big, quick, new sales field for dealers who will adopt New Britain sales methods. A quick turnover, attractive discounts, worth while profits.

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(Thirty-two years' success in None Better Products)

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Seed Service for the Ultra Critical

THOUGH allies of the foremost seed growers throughout the world, we are strong believers in *Proofs*. Seeds are fickle merchandise. Besides life, they hold traits. These inherited traits show up in our gardens *as well as in yours*. Garden Magazine readers will be pleased to know that the vast majority of the seeds we sell have *proven* their behavior and have *shown* us their inherited traits *before they are sold*. Illustration above shows a small part of our Radish trials last season which proved to our satisfaction that our customers get the choicest procurable.

Beckert's Guide to Better Gardens

In our endeavors to render 100 point Service in Seeds we make our free catalogue much more than a mere price list. Besides describing *all the really worth while* varieties of Vegetables and Flowers it offers culture suggestions which, if followed, will surely help you to a *better* garden. Its illustrations from photographs show true-to-type specimens that will help you form a correct idea of what you will grow from our seeds.

Special "Get Acquainted" Offers

We know Garden Magazine Readers to be actual home-gardeners and, as such, we value them as most desirable customers. To make "getting acquainted" easy, we offer the following Special Vegetable Seed Collections with the assurance that both are genuine bargains and big values:—

A Garden Full of Salads 25 Cents

The Cress is ready for cutting 3 weeks after sowing seeds. Lettuce and Endive follow quickly. Swiss Chard is the perpetual Summer Spinach and Chinese Cabbage extends the season into fall. *We will mail 6 regular packets, as follows, for 25 cents, postpaid.*

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Endive, Moss Curled	Chinese Cabbage, Pe-Tsai
Lettuce, Curled Simpson	Swiss Chard, Lucullus

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We feel sure that above collections will make us many new friends. Therefore, *send us 50 cents, for both collections* and we will add, *with our compliments*, a regular 10 cent package of our Special Stock *Iceberg Radish* as shown in picture above. The catalogue is free of course. Send for it, using coupon alongside.

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 An X here brings Beckert's Guide to Better Gardens by return mail.
 An X here brings collection named on next line.

An X here brings both collections, the extra package Radish Seed and of course, the Guide to Grow Them.

Name.....
Address.....

Write on margin of Adv. If above space is too small

THE GARDEN MAGAZINE

JANUARY, 1920

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LEONARD BARRON, Editor

Title page and contents to Volume XXX now ready and will be sent gratis on application

VOLUME XXX, No. 6.

Subscription \$3.00 a Year; for Canada, \$3.35; Foreign Countries, \$3.65

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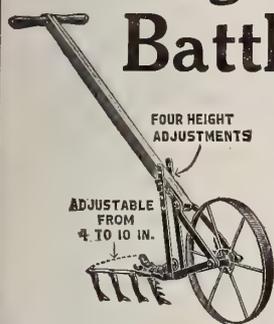
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ADJUSTMENTS

ADJUSTABLE
FROM
4 TO 10 IN.

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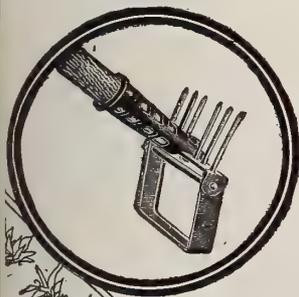
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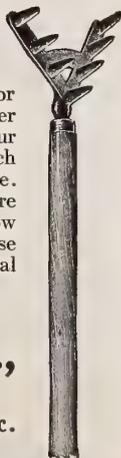
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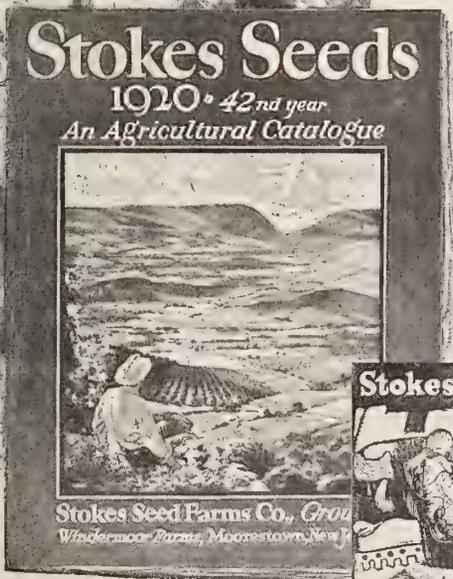
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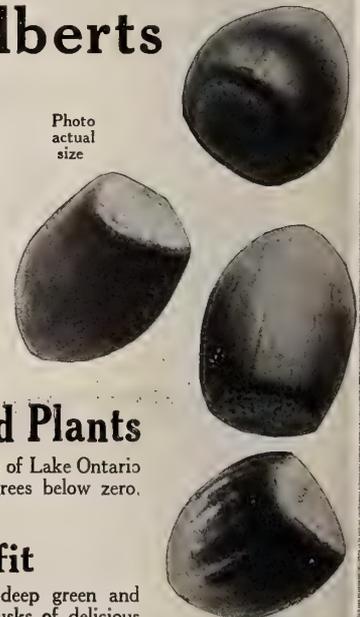


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Stark's Golden Delicious

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"Stark's Golden Delicious will surely excel in the world's apple markets!" declares J. L. Webster, Wenatchee, Wash., one of America's leading orchardists, when sending us some of his "\$5.00 a box" Stark's Golden Delicious—\$15.00 a barrel.

This glorious golden apple is not only 50 per cent. larger than Grimes' Golden but is better in flavor. Its crisp, tender creamy-yellow flesh is blessed with a spicy, aromatic flavor, resembling that of a perfect pear. From home growers and from little and big

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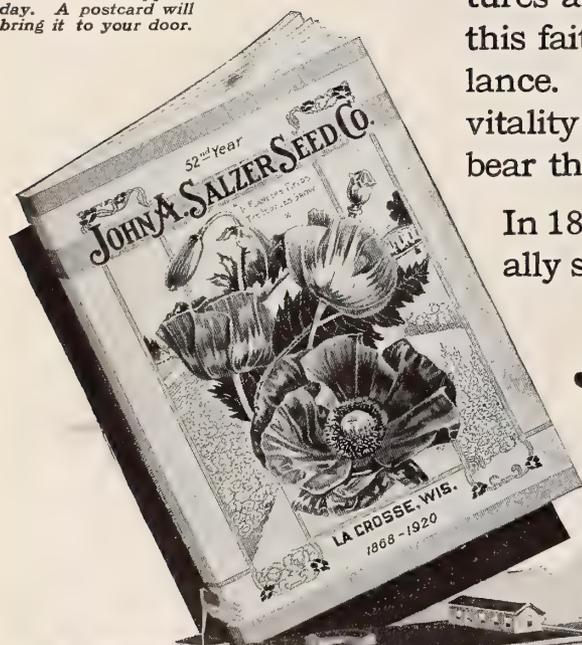
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The Garden Magazine

VOLUME XXX NUMBER 6

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UNITY BETWEEN THE HOUSE AND GARDEN IS BEGINNING TO RECEIVE PROPER ATTENTION

From such a house entrance as this all ways lead to the garden whether you choose the long way 'round through one of the pergolas at either side, or the shortest way down by the low, wide, and broad steps—which is as it should be, since it entices to garden usage



TRIUMPHING OVER HANDICAPS THAT ARE GEOGRAPHICAL
AS WELL AS SEASONAL

Jungle and mountain-top possibilities that bid fair, if they are realized, to make it seriously rival the outdoor garden lurk in every greenhouse. Here in Mr. Burrige's garden at Beverley Farms, Massachusetts, is an effect in rockery under glass, giving naturalistic settings for sundry tropical plants which ordinarily are seen only in serried rows of pots on the benches. *Begonia rex* varieties are conspicuous with *Polypody* ferns, etc., with an occasional *Orchid* among the rocks; a *Cibotium* is above the doorway and *Papyrus* and *Arrow-head* decorate the little tropic pool



THE VERY SPIRIT OF THE FRIENDLY
COTTAGE GARDEN

Nothing can ever be substituted either on large grounds or small for the quaint and romantic charm which lingers over a grassy path bordered with a happy-go-lucky mixture of everything that elbows everything else in homely intimacy

OUTLINING THE YEAR'S GARDEN WORK

A Practical Method of Determining What the Garden Really Needs and of Deciding How It Shall Get It

A GOOD New Year's resolution for the gardener will be to decide now to balance last year's results against the efforts that were made then, as he lays out the plan of operations for the coming year. Of course there were failures—every year sees certain failures! But failure may teach us far more than success. Examine thoroughly the failures of last year in order to determine the plans for this year. Was too much attempted? Was the nature of the necessary work too little understood?

A Garden Is Not a Farm

ON THE farm it is estimated that one man is needed for each five acres of land under broad cultivation. But that is no criterion of the labor involved about residential grounds, for "broad cultivation" is not of course intensive. Intensive maintenance requires almost daily grooming, and every strip of walk or driveway that has to be margined cuts heavily into time for work with flowers or the vegetable garden. Yet it is doubtful if we ordinarily take into consideration the great amount of labor needed to keep a lawn clipped and in good condition. Many times an increased portion in flowers will be an actual saving in maintenance, instead of an added effort.

For the owner who is willing to do something himself it is well to limit definitely the part to be played—or worked!—right now when the planning is being done. Work that looks inconsiderable from a distance has a way of becoming intolerable when the season for it arrives, and if the garden plans are made on a loose basis of the owner's willingness to "help out" on occasion it is almost a certainty that various and most unexpected tasks will present themselves to him during the summer. This entire object of planning now is to assign definitely each thing and duty to its place in the scheme of the whole, and so to avoid possible overcrowding.

ONCE planted, trees and shrubs require practically no care whatsoever. Perennial flowers are supposed to be as little trouble as anything in the flower world can be, and annuals are regarded as a bother. Yet perennial borders need to be worked over every spring and weeded during the summer quite as energetically as any annual beds or borders; and the time needed for spading up the space for the annuals is practically no greater! Make up your mind that border flowers of any kind need looking after; and that if there is no time to do this, or no one to do it, flowering shrubs are a better material to stick to.

Guiding Points for the Planner

Things to be Sure of

- That your seed order goes in early to insure proper filling
- That your soil is suitable for the things you intend to plant
- That your house is wedded to the ground by vines or shrubs
- That your garden generally is a completely developed scheme which carries the livable quality from indoors out

Things to Avoid

- Undertaking to do too much anywhere
- Miscalculating the effort of maintenance
- Long distances separating the service features of the place
- Trifling indirectness in walks and drives
- Walks and drives that are cramped in width or swept
- A turn-around of the drive that makes it necessary to back and go forward with an automobile in order to negotiate it

The vegetable garden should have cultivation over its entire surface every three days until the plants are so large that such work is impossible. With the best modern implements this work is done almost as fast as one can walk the rows, with an extra allowance for weeding by hand along the rows during the early days of it.

Fruit trees take the time required to mix sprays and apply them three or four times during the early summer—sometimes later.

Roses require constant attention, and weekly spraying usually.

All flowers (especially of annuals) should be cut as fast as they fade, in order to carry blooming over as long a period as possible.

Sum up the total of all of these demands in planning for the coming year's work, and if it amounts to more than can be assured, decide now what you will omit. On the other hand if less has been accomplished than may be done with the labor at your disposal, plan now how best to increase the garden's worth either for practical utility or for pure pleasure and beauty.

Determining the Object in View

HAVE an aim in gardening, of course! Yet without a doubt this aim will change as knowledge increases and ideals advance or shift. So look well over your present ideal for the garden and see whether the garden itself now conforms to it or falls short. The ideal garden is made up of nine things and it is well to test one's own place for completeness by the standard which these establish. Here they are:—

- 1 A complete vegetable or kitchen garden
- 2 Hotbeds and coldframes
- 3 Tree fruits
- 4 Small fruits
- 5 A greenhouse of appropriate size
- 6 A flower garden
- 7 As much lawn as may be
- 8 Trees for background and shade
- 9 Shrubs for boundaries, thickets, and screens.

Further than these nine things individual fancy may of course carry out such special schemes as occasion offers—water gardens, rock gardens, a rosery, winter gardens, spring gardens, or what-not. Less than these nine features individual preference must decide upon by eliminating those that appear least worth while, if actual completeness is not the aim or is impossible.

The place that is lived in only during the summer may be

given up altogether to summer flowering plants and the summer vegetables, with many trees for shade during the hottest part of the year. The winter place will need many evergreens and shrubs with showy berries. The place at the seashore must have a certain amount of protection from the sea winds at all seasons. Only the all-the-year-round home needs the all-the-year-round garden. Which is yours? Think first of this, then measure it by the standard of the complete place—and then decide what it needs to have added or taken away.

Is Your Garden Friendly?

MANY gardens are attractive in themselves and yet do not seem to invite to use and enjoyment. Is yours like this? If it is, it is probable that it is not united with the house in the proper way—and possibly it is too distant as well. The very basis of garden design should be union with the house. Study your garden plan now with a view to finding out where it is weak in this respect. You will find that many steps between the house or the porch down to the garden will interrupt the continuity that must be felt if intimate use of the garden is to be common. Similarly a change after it leaves the house in the direction of the walk that leads to the heart of the garden will sometimes be enough to dissociate them. In fact their union may be said to be very sensitive indeed, there are so many seemingly unimportant things that can destroy it.

Lack of shade in the garden is another reason for its being little resorted to; and lack of places to rest is of course a very real reason for not spending much time therein. Examine

its possibilities with a view to putting trees where they will furnish shade without taking too much sun away from things that need it, and search out the places where a bench may stand or an arbor or rest house be built. And at remote points it is well to make it a rest house that is shower proof, so that a summer rain will not mean a rush for indoors.

Are your shrubs massing into a thicket of broad sweeping lines, or does constant pruning keep them separated and individual? One of the most irritating faults of many otherwise excellent gardeners is the insistence with which they prune and shear and “shape up” everything they can get their hands on. Remember that shrubbery masses once planted are not to be pruned at all but allowed to grow as they will, with interweaving branches and a survival-of-the-fittest effect that duplicates nature’s wild growth. This is contrary altogether to the plantsman’s instinct to give everything an equal chance; hence he must be restrained from his efforts to do this. Keep away from shrubbery with the pruning shears—and make everyone else do the same.

ON THE cultural side now is the time to learn “by heart” if you are wise, the points of nature’s clock. They are not many nor difficult to memorize. Yet they are an infallible guide to practically every gardening operation. Why not make use of them?

1. When Lilac buds open plant the hardy, early things.
2. Plant corn (and all moderately tender things) when the leaves of White Oak are as large as a squirrel’s foot.
3. When the blackberry is in full bloom all danger of frost is past and all the rest may be safely planted.



AN ENGLISH GARDEN OF FINISHED ELEGANCE

The dense background of trees and shrubs around the rockery border enframes a lawn for play and recreation. The greenhouses with kitchen garden beyond are made part of the picture effect

PARAGONS OF PERFECTION AMONG MODERN FLOWERS AND VEGETABLE SEEDS

ADOLPH KRUHM

EDITOR'S NOTE: *The author of this article, as is well known to regular readers of THE GARDEN MAGAZINE during the past few years, has made a special study of type in flower and vegetable seeds, and has conducted extensive experiments, so that he writes with the authority of careful study and experience. Though there may be slight differences of opinion on minor points, the conclusions of one who has had opportunity and occasion to conduct comprehensive trials and comparative tests in various states cannot fail to be invaluable to others who are looking for modern standards of perfection.*

I. BETTER VEGETABLES. AND WHY

FIRST of all let me emphasize that *better* vegetables need *not be new ones!* New uses of standard vegetables count for much, as do better strains which often suggest additional uses. As a matter of fact, new sorts or types are often an untried quantity, and it is a matter of record that less than 10 per cent. of all "novelties" ever become standbys of economic importance. Again, it may take years before hidden qualities are discovered, as happened in the case of Chinese cabbage (Petai) which has been well known for twenty years, yet only during the past decade have we learned how to grow it and discovered its excellence.

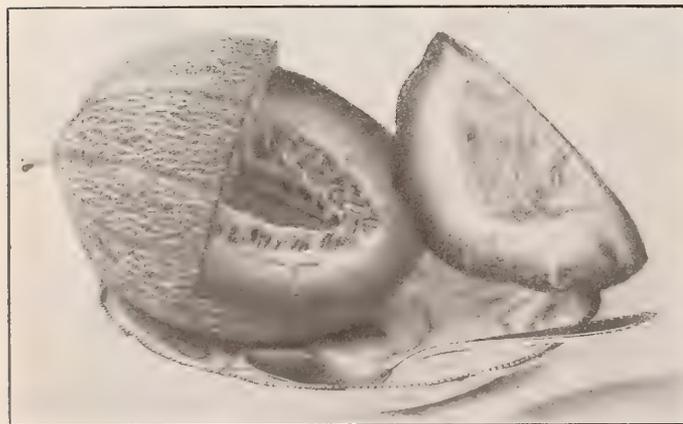
Twenty years ago, Black Valentine was the principal green podded bush-bean on the market. Every trucker grew it because it was hardy, blight-resistant, prolific, and stood up well on the market bench since it had lots of fibre in the pods. My! but it's a tough one, made up entirely of little wire ropes! Nevertheless, the public bought it because it *looked for strings* in stringbeans. Then came Keeney's evolution of Stringless Green Podded which revolutionized bean growing. Taking the string out of the Long Yellow Six Weeks gave us Bountiful—a masterpiece. Further ambitions led to the production of better-looking stringless beans, until in a pedigreed sort like Sure Crop Wax, we have a combination of *all* the qualities that made Black Valentine passable, plus appearance, flavor, stringless qualities and

cooking characteristics that make it difficult indeed to suggest a line of progress that would produce still better kinds or types.

Years of adherence to certain habits or lines of thought make it exceedingly difficult for most of us to look beyond established standards. Thus it will almost sound sacrilegious to many GARDEN MAGAZINE readers when I say that good Old Homestead or Kentucky Wonder is *not* up to the standard of Egg Harbor Pole, relatively a newcomer among green saddlebacked climbing beans. Yet Egg Harbor Pole is far superior to Old Homestead in appearance, and is so much more attractive when served that Old Homestead must be relegated to the "coarse and inferior" group.

Eighteen years ago it was my good fortune to handle the first few bushels of Golden Bantam sweet corn ever sent out. In just ten years, this sweetest of all varieties conquered the market, and the breeders accordingly got busy in a search after Golden Bantam quality in larger quantities. This led to the introduction of nearly a half-score other yellow corns and all these I have tested repeatedly, in different sections and grown on different soils. Only one—Golden Evergreen—really measures up to Golden Bantam in quality while also surpassing it in size.

Red cobs are taken as an indication of quality in sweet corn and when the red cobs transmit the color to the kernels to such a degree that the dried kernels show it plainly, we



FROM SEED TO MATURE FRUIT IN NINETY-TWO DAYS

Is the record of Early Knight whose delicious fruit is longer than a Rocky Ford, though similar



USE THE COCOZELLE BUSH SQUASH WHEN IT IS SMALL

Though they attain two feet in length and are always delicate in flavor they are at their best when the size of a cucumber

anticipate extra quality in that kind. This we find to be true in Aristocrat, one of the earliest midseason sorts of recent introduction, a corn that will go well with Golden Bantam, Howling Mob, and other recognized quality standards.

When the Orient discovered that America was beginning to appreciate the value of Chinese Cabbage, it promptly deluged our trial grounds with a dozen more or less seemingly indifferent varieties, some of which are scheduled for appearance in our gardens next season. Novelties we like to have, of course, but as regards introductions from Asia, it is well to remember the old caution "Caveat emptor."

Out of the maze of offerings one, Wong Bok, stands head and shoulders above the original Petsai. Short and blocky by comparison, Wong Bok may be looked upon to-day as the heaviest yielder of quality greens in the Mustard family—for such is the nature of these Chinese "cabbages."

Not much more than ten years ago, a market grower of Grand Rapids, Mich., started out to select a strain of cucumber that would combine the free-bearing quality of an open-ground type with the superior appearance of the under-glass kinds. And we have the result in Davis Perfect, which yields a good crop of perfect pickles early in the season, while the full-grown fruit rivals the hothouse cucum-



THE TOMATO THAT OUTRANKS THEM ALL

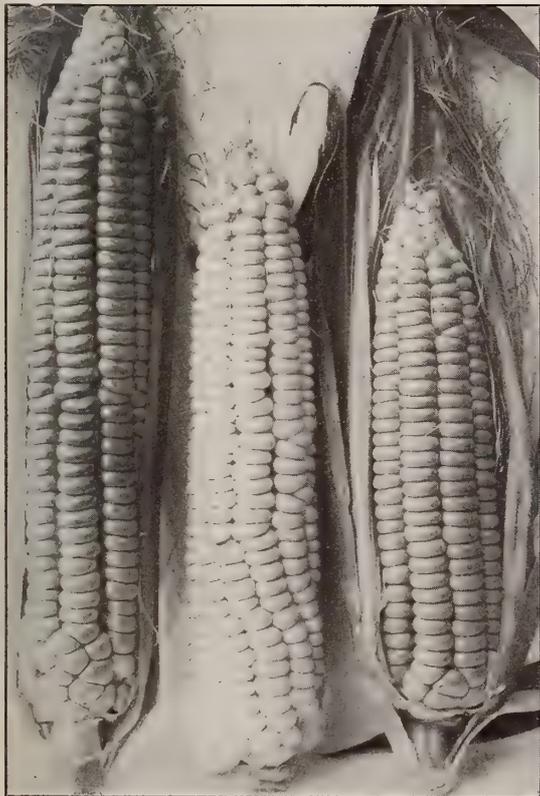
In addition to its other merits Bonny Best is less acid and may therefore be eaten when others are forbidden

bers in both appearance and quality.

Those who enjoy creamed celery and French globe artichoke will be delighted to "discover" Florence fennel. Cultivated for decades in Italy for its fleshy leaf base, this vegetable has only recently found any degree of appreciation over here. As easily grown as carrots and beets, the fleshy "knobs" that form the base of the plants are slightly hilled to blanch; cooked they develop a very delicate celery flavor, and may be served with a creamed sauce.

For the gardener living where the season gives but 100 frostless nights and growing musk melons has not been a success, the variety Early Knight is recommended. Fact is that from seeds sown June 6th we gathered delicious, vine-ripened fruits on September 6th. These musk melons average the size of a large Rockyford, but are more elongated.

Comparatively few of the fine exhibition Peas sent us by English specialists make a permanent place for themselves because of reversion. Once in a while we get a good one such as Prodigious or Quite Content which for size of the pods and peas is the peer of any tall midseason sort; and hot or cold, dry or wet, and on poor or rich soil, it has held its own and may be considered the finest strain of the desirable



FROM LEFT TO RIGHT
Golden Evergreen, Aristocrat
and Golden Bantam Corn

The Leafbase of Florence
Fennel

The prolific Wong Bok, our best
yielding Chinese acquisition



Telephone type. Of course none of the tall vining sorts are, comparatively speaking, as prolific as Potlatch, Buttercup, Dwarf Champion, etc.

The more I hear about and see New Zealand spinach, the more I am convinced of its value in the home garden. While the individual leaf tip and branch slightly resemble those of our ordinary spinach, the characteristics of the plant are quite different. A well-developed specimen (and cutting should not be started until plants are well developed) will cover a space 4 x 5 ft. with a perfect mass of succulent branches and leaves which will multiply as rapidly as cut; and multiply is the proper term, for wherever you cut a tip, three others will appear and the yielding power of a half dozen plants is immense. A fifteen foot row will yield a peck twice a week from July until the end of October.

For many years we have casually known the squash called Cocozelle Bush but only recently have the original introducers—Italian truckers—shown us how to use it. The young fruits are offered in the market when they are hardly larger than a cucumber—yet I have picked them when two

feet long and six inches in diameter! At all stages of development, it has a delicate flavor that makes it one of the best of its tribe. Young, fried like eggplant, it beats that *Solanum* in every way. Fully developed, baked or stewed, it has a matchless flavor. And one row of a dozen plants will bear uninterruptedly from July until frost, or till the squash bugs say "finis."

Among tomatoes, I have appreciated every quality of every important variety introduced during the past quarter century. But when the late Walter Stokes, twelve years ago, gave us Bonny Best, he outdistanced all other kinds. Prompted by the desire to create a type that would "grade" well, or rather one that would make grading superfluous, he first selected for uniform shape and size; incidentally, solidity was striven after. Under the trying soil conditions of sandy New Jersey the work was carried on and to-day Bonny Best is unquestionably the greatest scarlet medium-sized tomato for light soils in the world; and it is at the same time a splendid yielder on other soils, even heavy clay. Indeed Bonny Best surpasses all competitors.

II. ANNUAL FLOWERS THAT THE GARDEN NEEDS

ANNUALS are really very much worth while in the year's garden scheme, for even though their season be a short one they give the gardener a sure result; and often under trying conditions (especially as in the new garden) they are the standby for brilliant color and plenty of flowers through the height of summer and during the "in between" season of the perennial border. So easy are annuals to grow, after a fashion, that the introduction of improvements goes on without attracting attention generally until by sheer merit the newcomer at last forces through and attains a place in the lists of standards. For the American garden, with living conditions among us as they are, annuals have especially a real place.

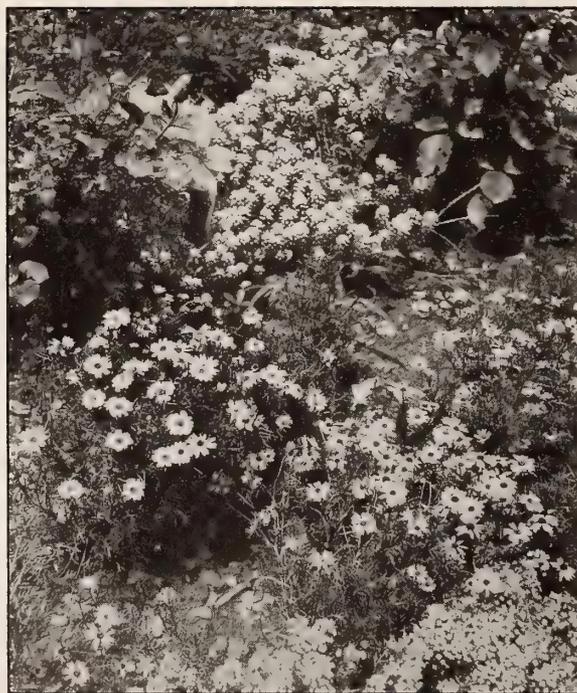
Suppose you are about to move into a new home surrounded by bare ground; suppose also that the available soil is rather poor. What will you do for flowers? The answer should spell *Annuals*—for beds, borders, backgrounds, cutting, in all the colors and of all types.

The backward wet and cold spring of 1919 saw the start of an experiment delayed until the end of May, when about eighty varieties of Annuals, in about thirty classes, were sown. The soil was the poorest, practically devoid of humus,

held the moisture but a short time, and baked severely after every rain and the season last year was abominable! Cold wet spells vied with hot, dry winds to make plant life miserable, and what survived the drought was washed away by the torrents that followed. Out of the lot of annuals on trial about fifty survived; and these would live and bloom anywhere where a few inches of soil plus a little sunshine and moisture combine to make anything grow.

Three stand out preëminently above all others for cutting—excepting only Asters, to which specific reference is made later. These are *Gaillardia picta* Lorenziana, *Salpiglossis* Emperor and *Scabiosa* Azure Fairy.

The *Gaillardias* provide those rich, deep brown and copper shades so much admired in the very much later blooming hardy *Chrysanthemums*, and their "lasting" qualities after cutting are surpassed by no other loose-petaled flower. The modern, large flowering *Salpiglossis* bring us some wonderful combinations of purple and gold, scarlet and gold, rose and gold, and white and gold, besides straight primrose, crimson, yellow, deep blue, etc., etc. And beautiful though the dark shades of *Scabiosa*, or old-fashioned *Pin-cushion* Flower may be, the bright blue of *Scabiosa* Azure Fairy, with



A SUMMER DAY REFRESHMENT OF BLUE AND WHITE

The flower that looks like a Daisy is the light blue Swan River Daisy here keeping company with snowy dwarf Alyssum, both being exceptional for carpeting the ground



TREATED SERIOUSLY AND WITH DIGNITY ANNUALS ARE AS DIGNIFIED AS ANY!

And nothing could conceivably be lovelier than this border of pink Petunias and blue Ageratums against the gray stone wall, with festoons of Virginia Creeper swung against it, on the estate of Mr. E. A. Woods at Sewickley, Pa.

its contrasting white stamens, holds a charm few flowers can claim. Another unique color in Scabiosa is a deep rose or light ruby red, a shade as rare among flowers, as it is charming in gems.

Never let the fact that your garden soil is poor prevent you from devoting some space to Asters. True, the plants under test did not start to bloom quite as early as would have been the case on richer soil. But when the flowering period arrived, they literally formed sheets of bloom, especially the Daybreak type, which in their distinct colors of pink, white, rose, lavender, etc., were a glorious sight. Each plant is an individual pyramid about eight inches high and six inches across, on which the flowers completely hide the foliage. These Daybreak Asters started to bloom in August. Early in September Pink Enchantress, which is really a fine form of a late strain of Daybreak, joined the ranks. The Astermums, a dwarf form of the Comet Asters, completed the collection of types strictly suitable for bedding.

Among the cutting varieties of Asters, Crego's Improved type of Comet and the Royal family which is really a superior strain of the old type of Queen-of-the-Market Branching, bloomed first. There *may* be some difference in season of blooming between Carlson or Invincible Asters and Semple's and Vick's Branching Asters, where soil conditions are right. But on our poor soil, the earliest came late and the late ones were early, so that in fact all bloomed about the

same time! However, the early strains did not show lasting qualities equal to the late sorts.

Fully to appreciate the beauty of the annual Sunflowers—the *Helianthus cucumerifolius* varieties—you must grow them. Both Stella and Orion provide handsome, star-shaped, bizarre flowers whose beauty is greatly emphasized by contrasting discs surrounding the centre of each flower. Their long wiry stems not only make them wonderful material for cutting, but also difficult objects to catch with the camera.

The charm of the Everlasting Flower is best portrayed in the *Helichrysums* which are available in many distinct colors. Properly dried the flowers will be with us as long as we take proper care of them—but be sure after cutting them to hang them upside down until properly cured, or all the flowers will have crooked necks.

THE BEDDING OR GROUND-COVER ANNUALS

The little blue Swan River Daisy (*Brachycome iberidifolia*) proved the most charming in the ground-cover class, perhaps because for several years I had forgotten all about it. It happened that it grew quite close to the dwarf *Alyssum Carpet of Snow* (*Alyssum Benthami procumbens*) and a more beautiful combination is hard to imagine. The Swan River Daisy comes in blue, pink, and white, so the gardener is offered a wide choice of color combinations.



FROM LEFT TO RIGHT

The Daybreak Asters are preëminently suited by habit to bedding purposes

The Comet Asters are the finest for cutting

Gorgeous in coppers and bronzes are the flowers of *Gaillardia Lorenziana*



Since the introduction, now ten years ago, of the African Golden-orange Daisy (*Dimorphotheca aurantiaca*) seed growers have found it very tractable and a number of new hybrids, mostly in yellow, cream and terra-cotta shades, are available. Many have a showy contrasting disc or eye in the centre. These hybrids seemed to revel in the long, dry spells that made the existence of some flowers quite difficult. Their glaucous-blue foliage is in pleasing contrast as a background to the flowers which are borne on eight- to ten-inch stems, thus furnishing quite acceptable material for bouquets as well.

The various forms of *Calendula* served a triple purpose. They provided a good yellow for cutting—a shade totally lacking among the Asters, for instance; their dense, bushy growth gave a fine background to the flowers and acted as a splendid ground cover; and last but not least, they helped save the Asters from the black blister beetles—at least that is what I believe! For three weeks the beetles enjoyed themselves on the *Calendulas* and left the Asters alone—a fact! At any rate, I got Asters by armfuls—something I have not been able to have in years, because of these insects.

Queen of Roses, Feltham Beauty, and Rosy Morn *Petunias* lived up to their reputation of being healthy weeds. They started to bloom while still babies, the middle of July, and they were still blooming furiously at the end of October, when several light frosts had put an end to the more tender Annuals. Sown broadcast or in rows, as isolated specimens, in beds, borders, or even porch boxes, the

whole family of *Petunias* deserves attention of those in search of profuse bloom and bright color values.

The *Verbenas* surprised me by being distinctly fragrant. One especially—May Flower—a soft apple-blossom pink with white margined florets, can lay claim to pronounced though most delicate scent. Lucifer is a new, fire-cracker red form with large umbels; and the Auricula-flowered type again proved its free-flowering qualities under the miserable soil conditions. Of five new sorts tried, every one came true from seed—so why buy plants or start with cuttings?

Vinca alba or Madagascar Periwinkle, with its white, cross-like flowers, closely "set" above the deep green lustrous foliage, is surely a gem for bordering beds or along walks. It bloomed uninterruptedly for three months.

The three most robust growing Annuals were the Castor bean, *Zinnia robusta grandiflora*, and early and late *Cosmos*.

Ricinus zanzibariensis, *cambodgiensis* and *borboniensis* provide a rich tropical foliage effect; and even the poor soil sent them seven feet high, with stems as thick as a broom handle.

Zinnias surely were surprisingly robust, becoming nearly four feet tall! *Elegans Achievement* is a new type with quilled petals, almost like those of a Hybrid Cactus *Dahlia* while Golden Pheasant brings us a flower of rich old-rose petals with a centre of wonderfully contrasting golden-yellow—charming indeed.

The early *Cosmos* started to bloom toward the end of July while Lady Lenox showed but isolated buds late in September. All *Cosmos* came into bloom, however, including the new double forms.



LES JARDINS DE LA BOURGEOISIE

E. C. STILES
Landscape Architect

Rich In Suggestion for American Gardeners Is the Underlying Concept that Combines Strictest Privacy With Graceful Freedom of Line, Which May Be Traced In These As In Every Garden Great or Small in France

ONE of the greatest things which the observing man brought away from France undoubtedly was a knowledge and appreciation of the skilful way in which the French people treat their homes and gardens. And with this knowledge comes the realization that many of their ideas are directly applicable to our own homes and gardens in this country.

So, while we are hearing of what we did for France, it seems only fair that some of those who have returned from there speak up about what France did for us.

In France the garden is really the living room of the house and if all the impressions of beauty which linger with us and of that indefinable charm which pervades all long-established and historic countries were sifted down and analyzed, they would I am sure centre around not only the old châteaux and public places, but around the village "parcs" and "jardins" of the smaller houses among which our troops were quartered. These left an ineffaceable image with those men who were equipped with a sense of appreciation for the finer things in life.

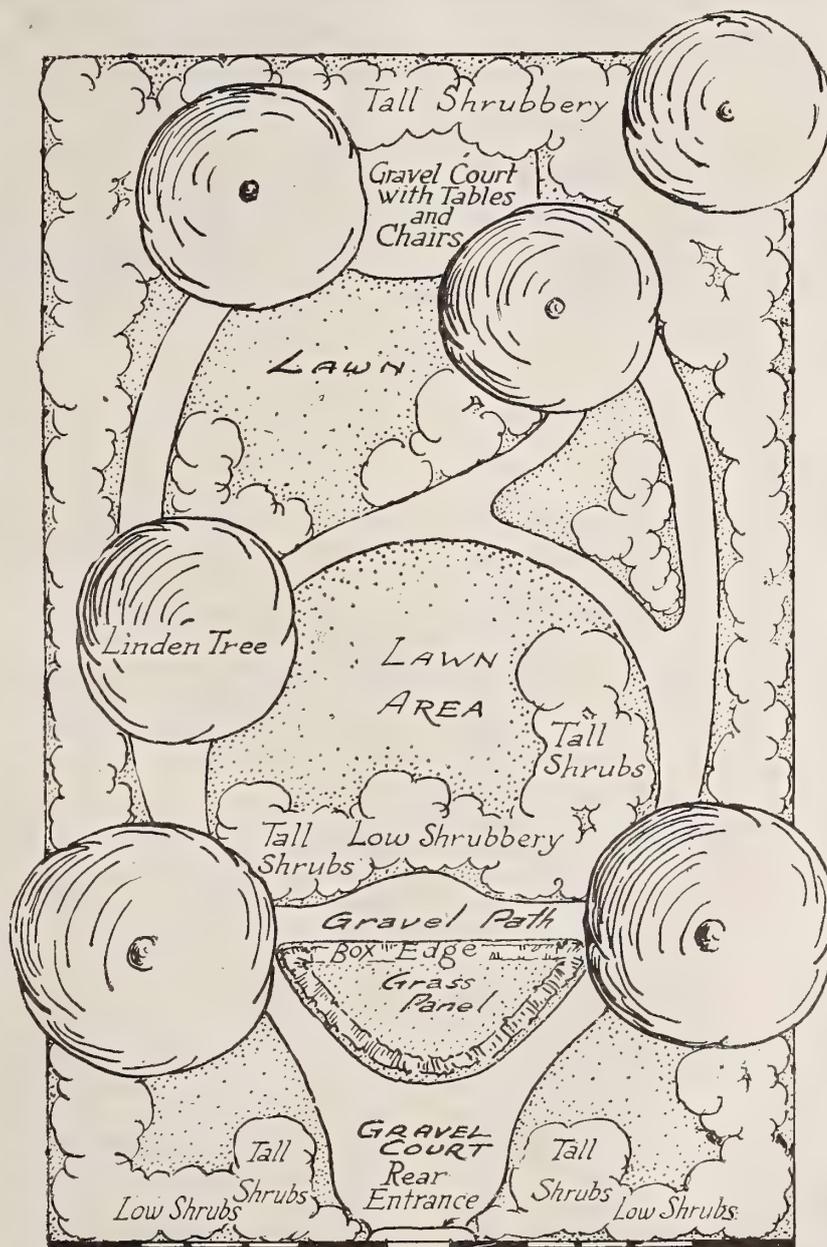
Perhaps I cannot do better to make this clear than quote from my own notebook an entry made on January 28th of last year while in Brest awaiting return to America. It sums up thus:

"On the whole the impressions gained have been varied and altogether delightful, yet far different from what I ex-

pected while still in America. I had always associated France with the formal gardens—the immense terraces of Le Nôtre and other artists of the sixteenth and seventeenth centuries, with their characteristic use of sculptured statuary, endless fountains and other tricks of the formal landscape school. But it is with pleasant surprise that I have noted

not only all of these features on the larger estates which I visited, but also an immense amount of clever garden work on the smaller places which will be directly applicable to our own home grounds. I am indeed surprised to note that the combination flower and vegetable garden is almost universal, except upon the very wealthiest estates, where we sometimes have small separate flower gardens, which are usually enclosed in Box-bordered beds. Parterres are indeed very common, but these are all small in area, simple in design and enclosing pleasant little grass plots which could not well be put into flower beds, and are combined with all manner of sand, gravel, stone, and brick paths. The brick work is curiously patterned and colored bricks are used in many individual and unusual places."

THE extensive use of gravelled court areas is universal and very good, as it brings out the design cleverly and offers a dry footing immediately after the rain, and early in the morning and late in the evening when the dew is heavy on the ground. It also admits of clever treatment of many of those



THIS DELIGHTFUL BALANCED INFORMALITY IS TYPICAL OF FRENCH GARDEN DESIGN

little spaces on the home grounds under trees and close to the buildings where the grass cannot well be made to grow, and which are oftentimes unsightly blots upon our small gardens in America. And the low Box hedging is invaluable to good garden design near the house itself.

The use of "espaliered" and standard trees is very good indeed as it gives variety, unique interest, character, a modicum of shade, and accessibility to all of the garden ground. These trees offer an immense amount of delightful possibilities to the gardener on the small estate or on residence grounds, and espaliering and training against walls of apples and pears and other small fruits may well be taken up here. It quite possibly may be successful in this country if the proper interest is awakened and the work carefully tested out.

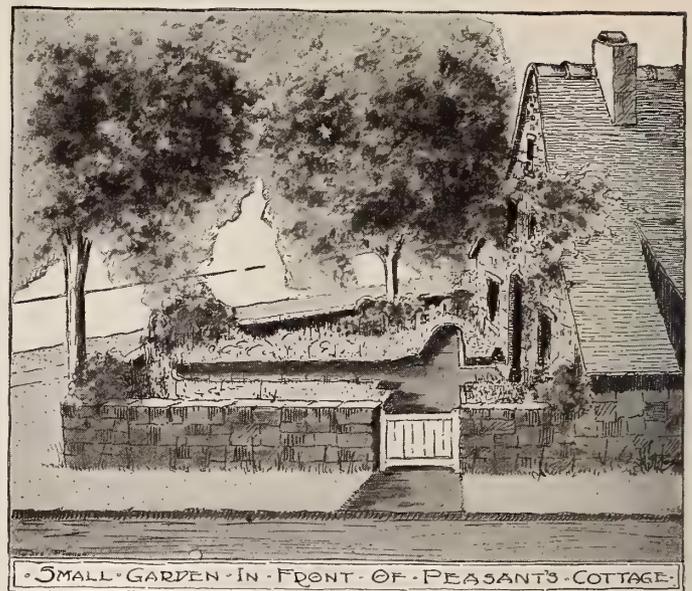
In Luxembourg the use of the combined flower and vegetable garden is universal. We find the broad gravelled path with an earth, brick, or stoned gutter, then the low Box or Privet edging, then the flowers and trees at intersecting points of the paths, and the intervening garden space given up to vegetables. George Sand's description in "Mauprat" of the eighteenth-century gardens of an old chateau gives perfectly the atmosphere of these gardens: "A 'quick-set hedge,' with stone walls on the outside to protect it; vegetables on either side of a broad walk: cabbages, carrots, lettuce, and some sorrel at the back near the hedge. Apple trees in among the vegetables where the paths diverge, and standard pear trees and espaliered apple trees alternating; borders of thyme and sage, Sun-flowers, and Gilly-flowers."

THE French are formal always in their use of flowers but often delightfully informal with their shrubs and tree masses. Indeed, there is quite a little of the informal type of gardening in France, and even Le Nôtre, that famous exponent of the formal school, indulged in it in the upper gardens at St. Cloud. In Luxembourg they have a delightful custom of covering all the flower beds in the fall with evergreen branches, broken off short and weighted down with a few stones. This provides the necessary mulch for the bed without that unpleasant appearance characteristic of our flower beds in the winter time, when they are covered with dead leaves or discolored straw.

The French go on the principle that there is enough country all around them, and that the garden should be—like the house—private, and in reality an outdoor living room, an extension of the house itself. And it is here that you find them in the evening, seated in the rustic arbor or walking along the quaint, strangely patterned paths, completely walled in from the outside world and as much *en famille* as though they were within the protecting four walls of the dwelling. And the French garden wall, too, is very good and always interesting. The wall copings are unique and of infinite variety, and their quaint, little



—THE GARDEN GATE—



—SMALL GARDEN IN FRONT OF PEASANT'S COTTAGE—

postern gates which give admittance to the garden are rich with the charm which age lays on beauty; and they further incite that sense of curiosity which lies in us all to see what lies beyond, whether it be from the inside looking out or from the outside looking in. Appeal of this character is indeed one of the striking elements in all their work; which is an appeal that can never be made until there is full recognition and acknowledgment of the child-element in ourselves, and pleasure in it.

Much more might be said of the interesting use of rustic arbors, fantastic trellises, quaint bits of stone and masonry; but the foregoing will, I believe, convey that impression of the gardens of the French people which I wished to carry back to this country with me. It was the same everywhere; even in the public garden of the Prébendes d'Or, at Tours where the design is of course admirable, likewise the selection and location of the trees and shrubs and flowers which adorn it, the curious thing about it was that practically the entire scheme might have been transplanted directly to an American garden. Indeed, so walled in and private is this public garden that it might well serve as a pattern to be duplicated upon any medium-sized estate in this country.

WHAT France has to teach us therefore may, I believe, be summed up as follows: first, the possibilities that lie before us in making the most out of even our small places; second, the advantages to be gained by courting and developing privacy; and third, the beauty and charm of informal formality, if I may use the term, such as abounds in the French gardens. And finally these gardens prove that in the long run it pays to study carefully the why and the wherefore of every path and garden feature, and every tree, shrub, and plant which we put into our own gardens here in America—for such studied care is what has made the gardens of France the finished gems that they are.

Nothing is done by chance in their gardens. Moreover, no detail or unimportant bit of planting takes precedence over the general arrangement that guarantees the charm and beauty and usefulness of the garden as a whole.



A SMOOTH DENSE PYRAMID OF ENGLISH YEW IN AN OLD MARYLAND GARDEN

In company with other examples of topiary work executed in other evergreen material this specimen has grown old in the colonial garden of Farmlands, just outside Baltimore, Md.

THE ROMANCE OF OUR TREES—IV. THE YEW

ERNEST H. WILSON

Assistant Director, Arnold Arboretum

By Some Curious Twist Symbolically Associated with the Peace of Death, This Is the Tree That Was Most Vital to the National Safety and Warfare Strength in the Days of Longbowman and Archer, When Its Wood Furnished the Chief "Ordnance Matériel"

[EDITOR'S NOTE: *The vivid interest attaching to this series of articles by Mr. Wilson, who draws from vast stores of personal knowledge accumulated on his long journeys to the far places of the earth (for the sole purpose of hunting plants for introduction to our gardens), deepens with each successive story; for each reveals further the richly intricate pattern wherein man and his little enterprises have been interwoven by Time with the great silent, mysterious things of Nature.*]

The next article in this series will deal with the Horsechestnut.

THE discovery of gunpowder may at first sight appear to have little to do with the planting of trees in general and the Yew in particular, but as a matter of fact the connection is close. For prior to the introduction and general use of gunpowder the peoples of the world used bows and arrows; and in temperate regions where the Yew grows the best bows were made of the wood of this tree. In general, archery is now regarded as a pastime though certain simple people like the Ainos of Hokkaido and Saghalien still use the bow in the chase. The sport is beloved by the Japanese, Koreans, and Chinese; in the west

associations and clubs have been founded to preserve it, and in Great Britain it is a favorite with women.

But if archery be now regarded as merely a healthy pastime its rôle in the grim affairs of human history has been among the greatest. With the story of William Tell every schoolboy of the west is familiar and the appreciation of the skill of this Swiss archer has lost nothing through lapse of time, for whether fact or fiction William Tell typifies sturdy patriotism's stand against tyranny and aggression. The long-bow and the cross-bow are famous in history. Were not the battles of Cressy, Poitiers, and Agincourt mainly won by

the English with the longbow, in the hands of archers of wondrous skill? Three English kings met their deaths from the Yew bow, and it was the most popular weapon through the internecine War of the Roses. Indeed, in both warfare and the chase it was held in exalted estimation long after the invention of gunpowder had paved the way to a complete change in the implements of war.

IN THE early days of English history there were in force special enactments for the planting and protection of the Yew trees. As far back as the 13th century every person not having a greater revenue than one hundred pence was obligated to have in his possession a bow and arrows, and all such as had no possessions but could afford to purchase arms were commanded to have a bow with sharp arrows if they dwelt without the royal forests. Since bows were of so great value in warfare it is not strange that English kings should have made strenuous efforts to plant and protect Yew trees and to encourage the use of bows by various edicts and Acts of Parliament (which also regulated their price), making provision for their importation and forbidding their exportation.

We find many enactments both for planting and protecting Yew trees, and from the time of Edward IV to quite a late period in the reign of Elizabeth, these Acts continued in force, renewed by each successive sovereign. Not until the reign of the latter, when fire-arms came into more general use, was less consideration paid to the long-bow. An interesting petition from the Commons to Edward IV states that "such bowstaffes as be brought within this Realm, be sett now to



AN IRISH YEW ON ENGLISH SOIL

Striking density of surface with consequent beauty of texture are characteristic of *Taxus baccata fastigiata*

outrageous prizes," and prays that "every tun-tight of merchandise as shall be conveyed in every Carik, Galee, or Shipp, iiii bowstaffes be brought, upon pain of forfeiture to your Highness, for lacke of bringing every such bowstaff - vi - s. viii - d."

And there was ordered in the reign of Richard III, in 1483, a general planting of these trees for the use of archers, while in the reign of Queen Elizabeth it was enjoined that Yew trees should be planted in a way to insure their cultivation and protection, and also to guard against cattle being injured by browsing their leaves. The last statute issued with regard to the use of bows is the 13th Elizabeth (cap. XIV) which orders that bow-staves shall be imported into England from the Hanse towns and other places.

THROUGH Saxon-Norman-Plantagenet to late Tudor times the Yew bow played a famous part in the national life of England, and no English tree has gathered around itself so much historic, poetic, and legendary lore as this. Its historical association moreover is varied and important. Venerable trees still mark the spots where great events have taken place, and these are associated with the names of historic personages. The Ankerwyke Yew still standing near Staines, witnessed the conference between King John and the English Barons in 1215 A. D. and in sight of this tree the Magna Charta was signed. This Yew is 30 feet in girth of trunk at three feet from the ground, and is probably more than a thousand years old. Under the Loudon Yew in Ayrshire it is said that Bruce bestowed the ancient castle and estate on the Loudon family;



TWO FORMS OF THE JAPANESE YEW

On the left the low, shrubby *Taxus cuspidata nana*, broader than its height. On the right the typical *Taxus cuspidata* which ultimately becomes a tree such as the next picture shows



and on the same spot some centuries afterward, John, Earl of Loudon, signed the Act of Union between England and Scotland. And up and down the length of England are ancient churchyards famed for their magnificent old Yew trees.

THE reason for the association of the Yew with churchyards has been much debated and in all probability it is several-fold. It is by no means confined to England but is a custom common in Ireland, in Normandy, in Germany, and elsewhere on the continent of Europe. That it is a very old one is proved by a statement of Giraldus Cambrensis, who visited Ireland in 1184 and observed the tree in cemeteries and holy places. It has been stated that "the Yew was a funeral tree, the companion of the grave, among the Celtic tribes," but there is no reliable evidence of this, or that the aboriginal tribes or the Druids held the Yew in any esteem. On the other hand it has been surmised, and with some show of truth, that it was used by the early Roman invaders of Britain in their funeral rites in lieu of their accustomed Cypress and Pine, and thus associated with the passage of the soul to its new abode. Certain it is that from very early times it has been used at funerals, for the practice is mentioned by many early English writers. Evelyn in his "Sylva," says "The best reason that can be given why the Yew was planted in churchyards is that branches of it were often carried in procession on Palm Sunday instead of Palms."

As a confirmation of this it is said that the Yew trees in the churchyards of Kent (England) are to this day called Palms, as also in Ireland where it is still the custom for the peasants to wear in their hats or buttonholes from Palm Sunday until Easter-day sprigs of Yew, and where the branches are carried over the dead by mourners and thrown beneath the coffin in the grave. Being evergreen it was considered typical of the immortality of man; and having in mind primitive man's reverence for trees there is good reason to believe that the Yew Tree had a part in the Pagan religion of our remote ancestors, and that Christian monks later engrafted it on to Christianity.

IN ORNAMENTAL gardening the English Yew was employed as early as the Tudor times to form hedges, and was pleached and

clipped into the forms of grotesque beasts, birds, cones, pyramids, and other fantastic shapes. During the 17th century the taste for this kind of art increased and in the time of William and Mary reached its highest point. Even to-day in Europe there are many old places famous for this topiary art—and in this country at least one, the Hunnewell Garden, Wellesley, Mass.—but in general it has fallen into disrepute. Pope helped it to this end by his comment: "An eminent town gardener has arrived at such perfection that he cuts family pieces of men, women, or children in trees. Adam and Eve in Yew, Adam a little shattered by the fall of the Tree of Knowledge in the great storm; Eve and the serpent very flourishing. St. George in box, his arm scarce long enough but will be in a condition to stick the dragon by next April; a green dragon of the same with a tail of ground-ivy for the present. (N. B.—These two not to be sold separately). Divers eminent modern poets in bays somewhat blighted to be disposed of a pennyworth. A quickset hog, shot up into a porcupine by its being forgot a week in rainy weather." Very many fine Yew hedges and sculptured trees were swept away in England in the middle of the 18th century by the celebrated landscape gardener "Capability" Brown, who dealt ruthlessly with all clipped material and topiary work.



JAPANESE YEW IN ITS NATIVE LAND

This specimen of *Taxus cuspidata* with the native forester for company approaches the ultimate with a height of 40 feet and a girth of 7 feet

THOUGH the geological antiquity of the Yew does not compare with that of the Ginkgo [see GARDEN MAGAZINE for November, 1919] it is probably as ancient as the Cedars. [see December GARDEN MAGAZINE]. In early Tertiary times, when the elephant and rhinoceros roamed through Britain, Greenland, and the now arctic regions of this continent, the Yew formed a common ingredient of the forests of those lands. To-day the Yew is found widespread in the temperate regions of the North Hemisphere. The family likeness everywhere is very strong, so strong in fact that many botanists consider all to belong to one species. Under cultivation, however, they behave differently, especially in degrees of hardiness; and there are other and more subtle points of difference which merit recognition. The Arnold Arboretum recognizes eight species, with many varieties and forms; and from the garden viewpoint at any rate, this classification is the most satisfactory.

On this continent are found four species—the Canadian Yew (*Taxus*

canadensis) common in swampy woods and thickets from Newfoundland and Nova Scotia, through Canada to the northern shores of Lake Superior and to Lake Winnipeg, and southward to Minnesota in the west and New Jersey in the east; the Western Yew (*T. brevifolia*) widespread but not common from the Rocky Mts. in Montana to the Pacific between Queen Charlotte Island in the north to the Bay of Monterey in California, ascending to 4,000 feet altitude on the Selkirk Mts. in British Columbia, and on the western slopes of the Sierra Nevada to 8,000 feet altitude; the Mexican Yew (*T. globosa*) a little-known species which grows on the mountains of southern Mexico; and the Florida Yew (*T. floridana*) native of a restricted area extending some thirty miles along the eastern bank of the Appalachicola River in western Florida.

In Asia grow four species—the Japanese Yew (*T. cuspidata*) which is found from Japanese Saghalien southward through Hokkaido, Hondo, and Shikoku of Japan proper, and on the mainland from the Amur Valley south to the extreme limits of Korea; the Chinese Yew (*T. chinensis*) scattered through central and western China and also on the mountains of Formosa; the Himalayan Yew (*T. Wallichiana*) which is found between 6,000 and 11,000 feet altitude on the Himalayas from Afghanistan and Kashmir to Assam on the Khasia Hills, and through Upper Burmah and Malaya to Sumatra and the Philippine Islands; the European Yew (*T. baccata*) which grows on the Cilician Taurus in Asia Minor, in Armenia, the Caucasus and northern Persia.

In Europe this last species is more or less common in all mountainous and hilly districts, from Lat. 63° 10' N. in Sweden and Norway, in Esthonia, and through Great Britain from Aberdeen in Scotland, and Donegal in Ireland south to the Mediterranean. Also it grows in North Africa and on the Atlas Mountains in Algeria.

The Mexican and Florida Yews have never been introduced into cultivation, and, as far as I can discover, this is also true of the Himalayan Yew. The Canadian Yew is grown to some extent in New England gardens, but in the open it browns badly in winter and has little value except as a ground cover in shady, moist places. It is said to have been introduced into England in 1800 but has never obtained a place in English gardens. The Western Yew is not cultivated in eastern North America, and I do not know that it is on the Pacific slope. It was sent to England by William Lobb in 1854, but is still a very rare plant in gardens. The Chinese Yew was introduced by myself to the Arnold Arboretum in 1908 and has been distributed, but in New England it is tender and of no value for gardens. In California it will probably thrive and be a useful ornamental tree. The same remark holds good for favored areas in the British Isles.

Although the English Yew is not common in America, there are fine specimens of it in Virginia where it must have been introduced early in the 18th century, if not before and in California around San Francisco it is a success. At Had-donfield, New Jersey, grow two famous English Yew trees which were planted in 1713 by Elizabeth Haddon Estaugh, a Quakeress, whose history is partly given in Longfellow's poem "Elizabeth." The circumference of each tree is about 12½ feet. These have suffered greatly from winter storms. Around Philadelphia and Baltimore, on Long Island, and around New York and up the Hudson River there are large

old specimens of the English Yew, but they brown badly in severe winters while in New England this happens nearly every year. Hence this Yew—except a variety of which mention will be made later—cannot be recommended for Northern gardens.

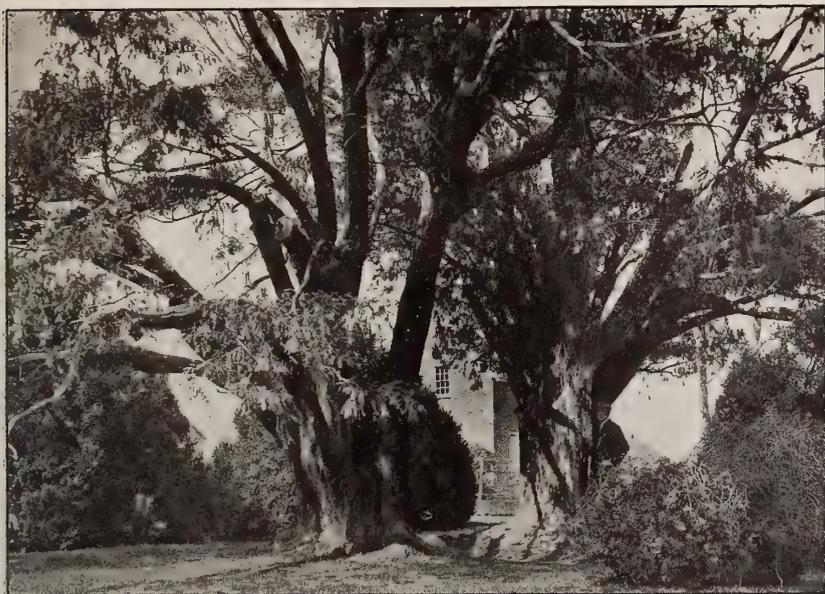
In Great Britain and Ireland only the common Yew and its numerous varieties are grown, but in this country this and the Chinese Yew—at its best a fine tree 50 feet tall and 15 feet in girth of trunk, with large spreading branches—and the Japanese Yew are also available; and for gardens north of Washington the latter is the Yew *par excellence*.

The Japanese Yew was introduced into America in 1862 by Dr. G. Hall who gave it to Parsons & Co., nurserymen, of Flushing, N. Y. It appears to have made slow headway for many years, but it is now becoming well known and its merit, as the hardiest of all Yews, properly appreciated. It came through the 1917-18 winter unscathed in the Arnold Arboretum and is known to be hardy as far north as central New Hampshire and in Minneapolis, Minn. On Long Island there are a number of fine specimens, also in the Hunnewell Pinetum, Wellesley, Mass., and in the Arnold Arboretum. But undoubtedly the largest by far in America is on the estate of the late Dr. George Hall, Bristol, Rhode Island—a tree 22 feet high and 120 feet round but unfortunately in poor health.

In Japan *Taxus cuspidata* is found scattered through woods and over the countryside from the south to the extreme north, but is nowhere common. I saw more of it in Hokkaido than anywhere else but even there it is now rare. Its wood is useful for a variety of purposes and lasts especially well underground. Of late it has been used in Japan as pencil wood. On the central slopes of the Diamond Mountains in central Korea grow more trees and finer specimens than I have seen elsewhere. Scattered through woods of Spruce, Fir, and Oak, Birch and other broad-leaf trees are hundreds of specimen Yews—from 40 to 60 feet tall, 6-10 feet in girth, with large spreading branches forming handsome crowns. And on the Korean island of Quelpaert in pure woods of Hornbeam I found the Japanese Yew in bush form to be a common undergrowth. In Japanese gardens it is a favorite as a low; clipped bush and it is also used as a hedge plant, but not extensively. It was one of these garden forms (*nana*) that was first introduced to this country, and this has been propagated largely by cuttings. It is a low, wide-spreading shrub with short leaves. There is another form (*densa*) which is also a low, compact shrub—but when seedlings from these dwarf forms are raised they revert to the tree type.

The first tree forms of this Yew raised in this country were from seeds collected in Japan in 1892, by Professor Sargent and the tallest of these in the Arnold Arboretum is now 8 feet. Quite recently an erect form (*Hicksii*) has appeared in the Hicks Nurseries, Westbury, Long Island, N. Y. As time goes on and the Japanese Yew is freely raised from seeds, other forms will arise; and there is little doubt that it will ultimately produce as great a variety as the English Yew has done. This is a matter that our nurserymen should pay attention to.

The principal varieties of the English Yew are about a dozen in number and of these the Irish or Florence Court Yew (*var. fastigiata*) is perhaps the most strikingly distinct



GOING ON THREE HUNDRED YEARS OLD

The pair of English Yews that were set out by fair Quaker hands at Haddonfield, N. J. two hundred and seven years ago—*Taxus baccata*

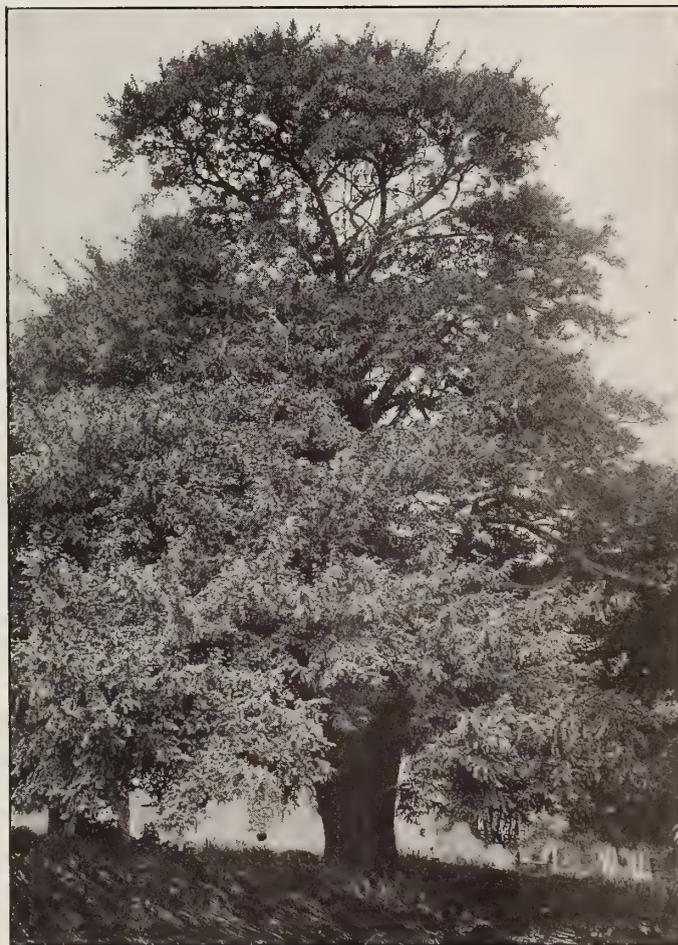
and best known. A detailed account of this Yew is reserved for an article on upright trees. The Dovaston Yew (var. *Dovastonii*) is another well-known form and a fine specimen of this grows on the Dana estate, Dosoris, Long Island. This is a tree or wide-spreading shrub with branches arising in whorls and becoming quite pendulous at their extremities. The original tree was planted as a seedling about the year 1777, at Westfelton, near Shrewsbury, England, and is a female tree. There is a form of this Yew (*aureo-variegata*) in which the leaves are variegated with yellow. There is another Weeping Yew (var. *pendula*) which is a low dense shrub with no definite leader.

There are several forms of Golden Yew and one is known to have been growing in Staffordshire in 1686. The best known (var. *aurea*) is male and is a dense shrub or low tree with narrow sickle-shaped leaves which are variegated with yellow. Another good sort is var. *Washingtonii*, a low, dense shrub in which the leaves on the young shoots are golden yellow. Of low-growing forms there are several including vars. *horizontalis*, *recurvata*, and *procumbens*, sufficiently distinguished by their names. But another dwarf form which is grown in the Arnold Arboretum under the name of *Taxus baccata repandens* is worthy of fuller mention. Its origin is unknown and it is remarkable as being the only form of the English Yew which is properly hardy, although it suffered a little during the winter of 1917-18. It has widespreading semi-prostrate branches and broad, black-green leaves.

There are many other forms of the European Yew differing more or less from one another—the Glaucous Yew (var. *glauca*), for example, the Yellow-fruited Yew (var. *fructuluteo*) and several small-leaved Yews of which var. *adpressa* is very distinct. This variety is a large, spreading bush with densely crowded branchlets having remarkably small, broad leaves not more than a quarter to a half inch long. It is female and originated as a chance seedling in the nurseries of Messrs. Dickson at Chester, England, about 1826. Of this

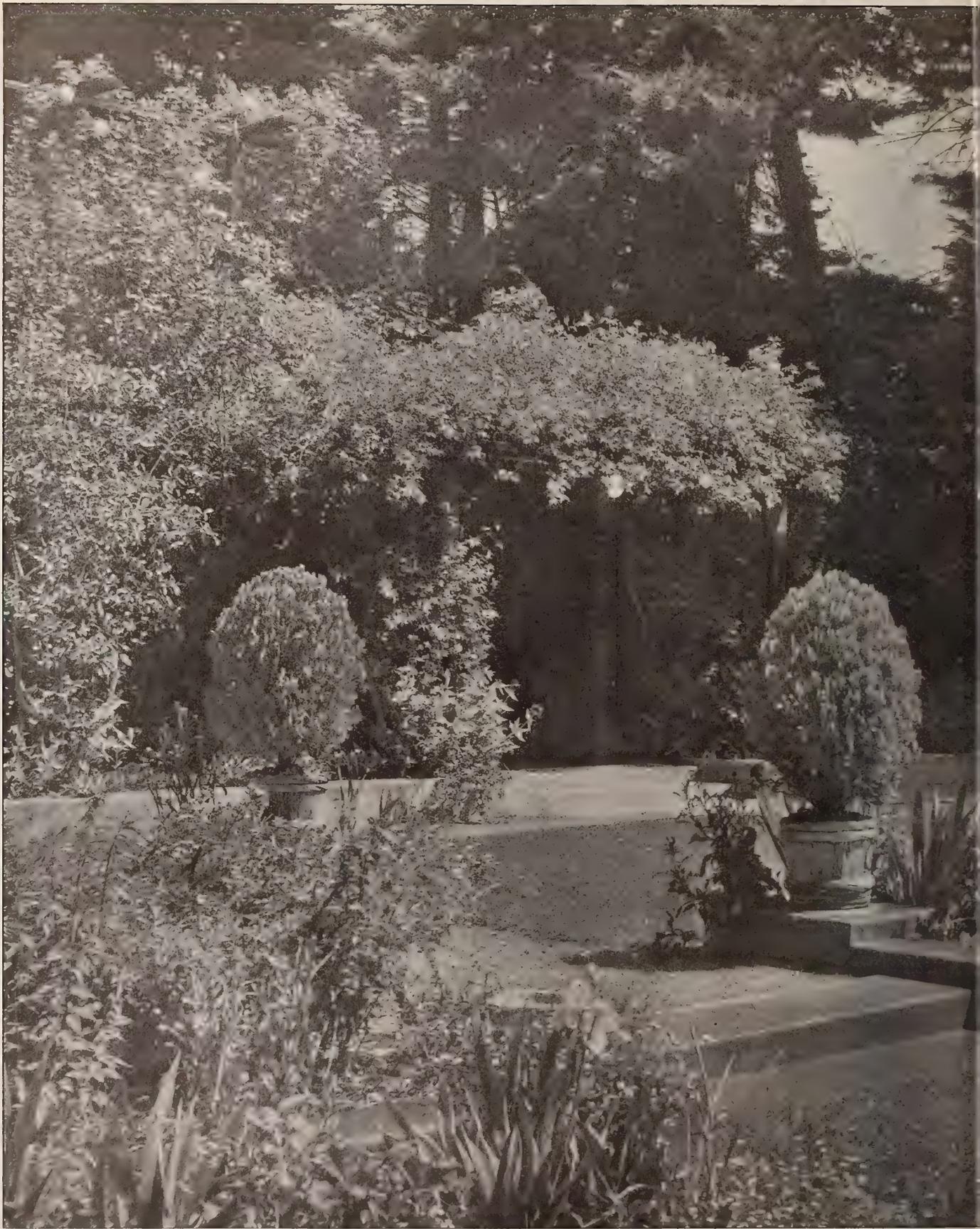
pleasing Yew there are varieties *aurea* and *variegata*. Altogether fifty or more varieties and forms of the European Yew have received names, and they exhibit the widest possible range of variation in form and general appearance.

I forbear mention of more in detail, but I do wish to emphasize the fact that these distinct forms are of seedling origin, mostly chance finds in a long period cultivation. So if the Japanese Yew be raised from seeds over a long period and in separated localities there will beyond doubt arise just as great variety of forms of it, and these will find a ready welcome in the gardens of all parts of the country where the seasons are as severe as those in New England. For in addition to its beauty as a tree the Yew is indeed one of the very best hedge plants, and variety which will reproduce for America the splendid effects of England's clipped Yews will be enthusiastically received. For the Pacific slope and the mild parts of this country the English Yew and its forms are well suited, but for the colder parts the Japanese Yew is the only really hardy Yew—hence it is to the chance varieties of this that we must look for the garden material so eagerly awaited.



ONE OF ENGLAND'S FAMOUS YEWs AT ASHURST, KENT

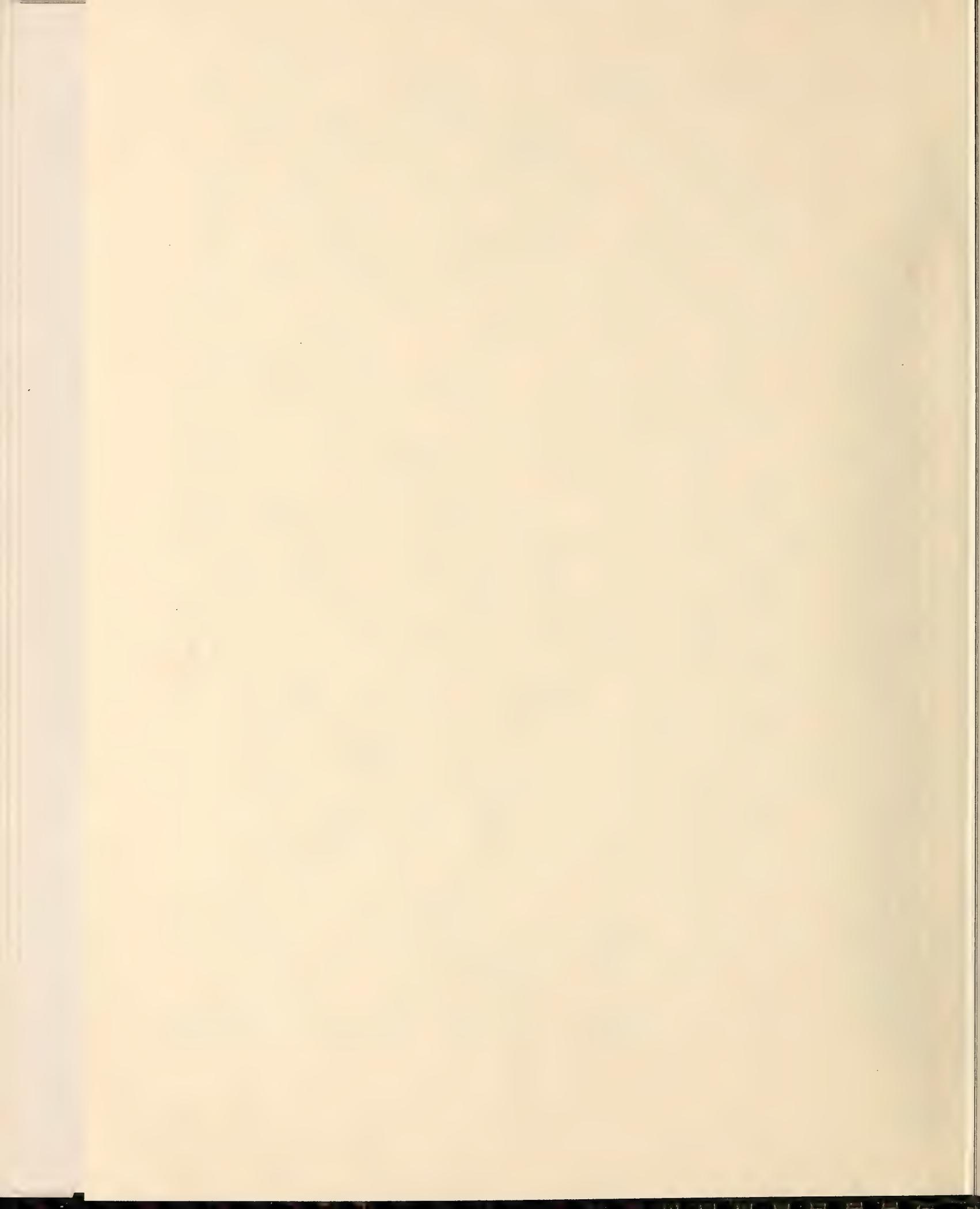
Typical form of *Taxus baccata* which has developed naturally into the characteristic broad, low, sturdy tree



SUNLIGHT, SHADE, AND SHADOW IN THE FAR WEST



Captured within high walls of dark Monterey Cypress the sunlight piles its gold on flowers, walks, Roses, tub Arborvitaes, the spires of Irish Yew, and the tiny figure at the pool in the garden of Mr. Myron Hunt, the architect, at Pasadena, Cal.





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AN ACTUAL WINTER GARDEN

GRACE SMITH

President of the Scarsdale, N. Y., Garden Club

Where There is Shelter and Snug Comfort for Man and Bird in Addition to a Rich and Varied Evergreen Planting

WHY not a winter garden? Not a heated glass-enclosed space devoted to beautiful plants from warmer climates, but a protected place where the trees, shrubs, and plants that seem to enjoy cold weather and refuse to shed their foliage, may cheer us through the winter with their green or colored leaves and bright berries. A place enclosed and filled with our own hardy shrubs and plants that require no coddling to do their best. Of course no really well recommended foreign applicants will be refused admission, but they must be hardy as well as handsome! Only the rugged considered!

The only such garden I have ever seen was designed and executed by Mother Nature, and I first came on this one cold, bright, early spring day. There was no sign of spring but the Pussy-willows. Even the Skunk Cabbages were waiting for better weather before unfolding their clear green leaves, and with the exception of some groups of old Hemlock trees and scattered Cedars, the whole landscape could have been painted in tones of Quaker grays and browns. Everything was dreary, colorless, desolate, as we went up a narrow winding path that climbs a hill. Then suddenly we were in a different country and climate: as we looked up the blue sky showed between the tall tops of cheerful Hemlock that intensified its color, making us think of Italy; as we looked down, everything was beautifully alive, with quantities of Evergreen Ferns and Partridge-berries, the gray rocks decorated with delicate Mosses and Lichens; on every side masses of Mountain Laurel, glistening in the sunlight. It was like an enchanted wood in a fairy tale: and excepting when covered with snow, it must have been like that the whole long, cold, dreary winter; all green, sweet scented and glowing in the sunshine.

A VERY good use of a winter garden would be to make it a spring one! Our early bulbs would all be improved by a good setting for their delicate loveliness, and it is often hard to give up a place in the regular garden for their all too short period of blooming. The tall Darwin and May-flowering Tulips would find their beauty doubled by the deep green background, and could ripen their bulbs undis-

turbed without spoiling the effect of a flower border. Masses of the dainty Spanish Iris, too, would be much more effective coming through good evergreen ground covers like Iberis, Christmas Ferns, or English Ivy, which last, by the way, grows much better on the ground in our trying climate than it does on a wall; in Spain the Iris grows naturally in thick sod, where their meagre supply of foliage is not noticed, and their clear bright colors gain in beauty from the effect of the supporting grasses. The Oriental Poppy is another good applicant for admission, not only for its lack of foliage during the summer months, but because its most characteristic shades—the brilliant orange and scarlet reds—are too gaudy for most flower borders. But what a gorgeous color picture a good group of them would make, framed by the deep evergreens! And such a garden would also be an ideal spot for our winter birds to enjoy; in fact you could not keep them out. Of course they will eat the red berries that have been planted for decoration, but plant more! Enough for both provender and decorative purposes.

Besides English Ivy to keep the walls green and climbing Evonymus and Hall's Honeysuckle, there is a vine, the hardy yellow Jasmine, for the very cosiest corner. Although not an evergreen its healthy good green stems are very numerous and decorative, and you will be surprised some sunny day in early spring to find your little garden filled with the delicious fragrance of its starry flowers.

WELL did Solomon the Wise know what he was about when he sang of his "garden inclosed"—and the winter garden should be. A winter house should be a feature, too, facing south with windows on the east and west that may be closed in winter to keep out the wind, and open at other seasons to admit it. The entrance to such a garden contemplated is closed by a gate of weathered oak planks and has old-fashioned strap hinges. The path is of brick laid herring-bone style, as that seems to adapt itself to the circular pool; it is of a soft shade of pinkish red that does not conflict with the colored flowers and yet adds a pleasant warm note to the winter picture. As the trees, shrubs, and plants to be used are nearly all native, the design is as simple



WITHIN THE SHELTER OF EVERGREENS

Proper selection and arrangement will produce a living wall which no wind can penetrate
(Planting by Jens Jensen, L. A., in Illinois)

as possible. And as groups of evergreens should have varied outline these are not selected of uniform size, but are to be of different heights to make artistic groupings.

With the exception of one small *Retinispora squarrosa Veitchii*, which is bluish gray and is used in a group of variegated foliage, all the evergreens used are green; perhaps a master hand can create harmonies of blue and yellow and green trees, but I was afraid that in this small space they might strike a discordant note. A few small deciduous trees are added to the evergreens for some special beauty of blossoming or habit as well as for the color of their bark or red berries in winter; they also lighten the effect of the evergreen planting.

Mountain Laurel forms the main planting in each of the four divisions, as its foliage is always healthy and bright in sunshine or shadow, winter or summer; it does well, too, on dry hillsides or boggy lowlands. Quite a number of other evergreen shrubs and ground covers are used. It seems to be a matter of individual care and study as to the needs of these that make for success. In the sheltered position obtained by the wall where they will be given a good two feet of well-dug soil composed principally of leaf mold and peat in which their fine roots may revel, they should all do well however. Evergreen shrubs need this fine cool earth to do their best. If given the ordinary loam they simply curl up their little toes, and if they do not die, at least look so forlorn that one almost wishes they would!

Some of the bulbs will need a little ground bone or similar food occasionally, but give it with care so as not to interfere with plants that do not want such a strong diet. Most of these shrubs and ground covers that hold their foliage through the winter have flowers in spring or summer, so that with the addition of spring bulbs and a few Lilies for later blooming, the garden will not lack interest at any time. A pool in a winter garden may seem unnecessary, but it adds so much of beauty and interest in the months when it is free from ice and brings so much color and variety into the quiet garden by its reflections of the everchanging skies, in addition to doubling the loveliness of the nodding Narcissus on its margin in the spring, that it is irresistible.

WHILE color is not to be made the main feature of this garden, care can be taken in the arrangement of the materials, and two small pictures of decided winter colorings made. One to the west of the winter house is of variegated foliage of white, green, and pink with a little Japanese Cypress that seemed to be the right color note for this place. It grows to a good size if allowed to but will stand any amount of shearing to keep the size wanted.

On the opposite side of the path the effect is brown, red, and yellow; the brown is given by the bronze tones of a group of Mahonia and the dark brown twigs of a planting of Japanese Barberries. The many red berries of the Barberries and a small group of dwarf red-twigged Dogwood furnish the red; two Japanese Witch-hazels, with their yellow blossoms that pay no heed to even zero weather, and a small group of golden Willows contribute the principal yellow note which the Jasmine on the wall near by echoes in its season.

These shrubs and plants need to be planted quite closely to be effective. Use ground covers everywhere, allowing no ground to show, or the whole effect will be spoiled. The grouping of the materials available for use reveals that there are possibilities beyond those ordinarily thought of. Here follows the list. The numbers have reference to their proposed use in the accompanying plan.

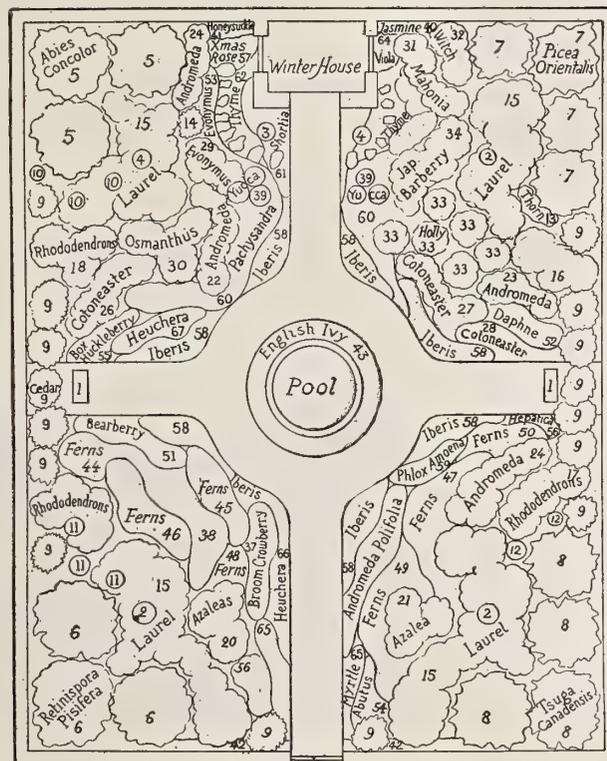
MAIN FEATURES.—1, Benches.—2, Bird houses on posts.—3, Birds' bath.—4, Birds' feeding table.—5, Colorado Silver Fir.—6, Pear-fruited Japanese Cypress.—7, Oriental Spruce.—8, Hemlock.—9, Red Cedar.—10, White Dogwood.—11, White Birch.—12, Shadbush.—13, Scarlet Thorn.—14, *Retinispora squarrosa Veitchii*.

LOW SHRUBS.—15, Mountain Laurel.—16, *Rhododendron purpureum grandiflorum*.—17, *Rhododendron Lady Armstrong* (Pale rose).—18, *Rhododendron C. S. Sargent* (Bright scarlet).—19, *Rhododendron Album elegans* (good white).—20, White Indian Azalea.—21, Azalea Hinomanyo (Pink).—22, *Andromeda Catesbaei*.—23, *Andromeda floribunda*.—24, *Andromeda japonica*.—25, *Andromeda polifolia*.—26, *Cotoneaster buxifolia*.—27, *Cotoneaster microphylla*.—28, *Cotoneaster thymifolia*.—29, *Evonymus japonicus argenteus*.—30, *Osmanthus Aquifolium*.—31, Mahonia Aquifolium.—32, Japanese Witch-Hazel.—33, American Holly.—34, Japanese Barberry.—35, Red-twigged Dogwood.—36, Golden-barked Willow.—37, Broom Crowberry.—38, Scotch Heather, White variety.—39, Yucca.

VINES.—40, Yellow Jasmine.—41, Hall's Evergreen Honeysuckle.—42, Evergreen Bittersweet.—43, English Ivy.

EVERGREEN FERNS.—44, Spinulose Wood Fern.—45, Christmas Fern (*Aspidium acrostichoides*).—46, *Aspidium cristatum Clintonianum*.—47, *Aspidium Felix-mas*.—48, Evergreen Wood Fern *Aspidium marginale*.—49, *Aspidium munium*.—50, Prickly Shield Fern.

EVERGREEN GROUND COVERS.—51, Bearberry.—52, Garland Flower.—53, *Evonymus radicans variegata*.—54, Trailing Arbutus.—55, Box Huckleberry.—56, *Hepatica triloba*.—57, Christmas-rose.—58, Evergreen Candy tuft.—59, Phlox amoena.—60, Japanese Spurge.—61, *Shortia galacifolia*.—62, Wild Thyme.—63, Golden-leaved Lemon Thyme.—64, *Viola cornuta*.—65, Myrtle.—66, *Heuchera americana*.—67, Coral-bells.—68, *Lycopodium complanatum*.—69, Ground-pine.—70, Wintergreen-berry.—71, Part-ridge-berry.



Scale

Winter Garden

PLANNING FOR THE BACKGROUND IN THE BEGINNING

MIRA B. CULIN

Reversing the Usual Order of Procedure and Making the Frame Effective Redeems the Aggressive Openness of the Average New Garden on Large or Small Plot. The Intimate Details Can Then Be Arranged at Any Time

THE permanent setting of one's garden, whether it is large or small, should receive the most thoughtful consideration. If a mistake is made in the foreground it may be corrected in a year or even less, but a mistake in the background frequently takes a long interval to remedy. We are often conscious in American gar-

unless one is the happy possessor of a Live Oak. So as a rule we must begin at the beginning; and in laying out a new place the background should be the first consideration.

The quickest way to bring about a setting is to build a high lattice fence and cover it with climbing Roses, preferably of one variety—the Cecile Brunner or white Cherokee furnish a satisfactory foliage throughout the year. Or *Ficus repens* may grow upon it with *Wisteria* or the vines of the ornamental grape.

Supplementing such a lattice *Acacia* trees and *Eucalyptus* and our wonderful *Live Oak* make a rapid growth that will soon have the straight lines of the garden limits lifted up by their waving tops. Clumps of *Ceanothus*—our native “wild lilac”—with its mist of lavender colored flowers in the spring make a perfect background for later flowering plants, and *Laurestinus*, *Privet*, or *Monterey Cypress* either trimmed or growing naturally form a beautiful green against which to throw any color scheme. For those who prefer the formal hedges, dignity and height may be added by groups of *Italian Cypress*, while tropical waving effects are produced by the taller, slender *Palms*, the *Cocos plumosus* for example, or its more hardy counterpart, *Cocos australis*.

The whole point is of course that if, in a garden, we meet the charm of a green and restful setting with height somewhere to break the monotony, we are beguiled into a mood to enjoy more fully the rich display of color. In this almost frostless climate, where there is such a bewildering number of plants, shrubs, and trees to draw upon this is especially important: for often it seems that planting is done with the idea of seeing how many varieties one may have rather than with any idea of suitability to environment or harmony of color. It is very difficult to keep a planting simple in the midst of such floral affluence, without doubt, but if the background—which is really the picture's frame—is adequate and complete, the rest will adjust itself without much trouble.



A BACKGROUND MEANS SECLUSION

Such as distinguishes this lovely garden, notwithstanding the entire place of which it is a part is only 76 by 195 feet in size

dens I think of a lack of something—of a subtle feeling of unfulfilment—where from the amount of time and money expended we have a right to expect completion and satisfaction. The more I visit gardens and observe, and think over this fact, the more I am convinced it is many times due to just this lack of a satisfying background or setting.

Perhaps this is more true of my part of the country, which happens to be southern California, than of the East; for with so many new places springing up in every direction, from simple homes to large estates, we constantly see the garden in its making.

This is naturally a shrubless and treeless country and practically every garden begins with nothing—



BEAUTIFUL PICTURES ARE WORTHY OF BEAUTIFUL FRAMES

Let imagination strip the background planting from Mr. John T. Wilson's rich and vari-colored flower garden at Pasadena and is it not apparent at once how vital background is?

CONSIDERING THE HOUSEKEEPER

M. T. RICHARDSON

Planning the Vegetable Plot With a View to Meeting the Family Needs for a Succession of Young Tender Crops Where Table Quality is the Standard



FLOWERS BORDER AND SCREEN THE HOUSEKEEPER'S GARDEN

And the tall growing things are in groups together; likewise the all-season crops and the succession crops

HOW can any one live in the country or suburbs, with even a small patch of ground available, and be content to buy all the vegetables needed for the table? Raising the crops that the housekeeper will care for pays in money, in the quality of the vegetables, and in the comfortable feeling of plenty she experiences in escaping from the grocer's quart measure.

If there be lots of room, and plenty of help with the work, there's no great problem; but even if you can't spare much

ground, or expect to care for the plot yourself, don't be discouraged. A garden 50 x 100 will furnish a supply of vegetables for a family of four or five (without intensive planting). The accompanying plan is a little larger than that, and will furnish abundant supplies for a family of seven, as I know from experience—provided you use plenty of fertilizer, good seed, and cultivate well. Before spading or plowing the plot, cover well with manure—fertilizer will do on a pinch, but is not so good—and have it dug under. The ideal way is to have the garden plowed in the fall, and leave it exposed to the frost. This insures an early start in the spring, besides killing many worms and grubs.

It is well to plan the garden on paper, even if you do not follow the plan exactly. Have the rows run north and south if possible—though that is not essential. Remember, if your space is limited, that you can't grow everything; and select your seeds accordingly. The crops I consider indispensable—others may disagree with me—are asparagus, peas, beans, beets, corn, tomatoes, musk-melons, strawberries; I also grow peppers, carrots, a few onions, radishes, lettuce, spinach, okra, and chard. I omit potatoes, which take a good deal of room and much care, and parsnips, eggplant and cabbage, because we do not care for these particular edibles. Nor do I raise squash or pumpkins.

Some of the vegetables can be hurried, others cannot. Peas, spinach, lettuce can be planted as soon as the ground can be worked. I have put in peas while the ground was still frosty, by scraping out a furrow, putting a layer of manure in it and dropping the peas right on the manure. But corn is a tender seed and must be left for warm weather. The hardy little Golden Bantam, the sweetest corn there is, can be planted, in a good season, about the middle of April.

Raspberries		Currants	
Asparagus			
Melon Patch Hills 4ft Apart	Lima Beans 30ft. Poles 6ft Apart	Early Lettuce	Late Beets
	Bush Limas	Radishes	Spinach
		Beets	Carrots
	Beans	Lettuce	Radishes
	2 nd Beans	Peas	
Early Corn	Radishes		
Golden Bantam Rows 3ft Apart	Red Chili Peppers		
	Parsley		
GRASS PATH			
Onion Sets			
Sweet Peppers		Egg Plant	
Swiss Chard		Cucumbers	
Early Peas	2 Double Pears	Late Corn	
2 nd			
3 rd			
2 nd Corn	Golden Rod 2 Rows		
3 rd Corn	Stowells Evergreen 2 Rows		
	Tomatoes		
	Long Row of Early Potatoes		
	Long Row of Strawberries 4ft Apart in Row		
FLOWER BORDER			

SUGGESTED PLAN FOR HOUSEKEEPER'S GARDEN

Individual families may have different needs—
More Onions or Potatoes and less Corn for example
—and the planting plan may be changed to suit

Melons in my experience can't be hurried. Wait until all danger of frost is over, and plant in the open ground—about the middle of May, or even later. I have tried starting melon seeds indoors, only to have the later ones, planted outside, get ahead in the end.

The seeds once up, cultivate, and keep on cultivating to loosen up the ground, and to get that much-talked-of dust mulch and so defy dry weather—by all means use one of the wheel hoes for the work! There are only a few don'ts in cultivating—don't cultivate beans, strawberries, asparagus when the ground is damp, as this encourages rust. Don't dig too close to the roots of corn or other big vegetables. Use a wheel hoe and cut garden work in half—but don't neglect to get out, by hand if necessary, the few weeds the wheel hoe leaves.

SOME THINGS LEARNED BY EXPERIENCE

As to harvesting the results of your labor, remember that nearly all vegetables are most delicious when young and in that delicate tender age will give the housekeeper greater opportunity to show results. There is a mistaken common tendency to let things get too big and old. This applies particularly to peas, corn, beans, and beets. It is better to make several plantings and so have a succession of young vegetables than to have to eat old—or even middle-aged ones.

A hint given me by an old farmer, and which I have used successfully for three years, has given me the earliest peas in the neighborhood. Make a furrow about 6 inches deep, as early as the ground can be worked, and scatter a loose layer of well-rotted manure in it. Drop the peas—I sow rather thickly—right on the manure, and cover with earth, firming it down with the feet. This sounds fatal, but works beautifully. Follow this method for the first two plantings; and for later ones dig the trench deeper, put in the manure, and cover it with earth before sowing the peas—and you will have the earliest and best peas in the neighborhood. I never use the smooth-seeded, "first early" peas.

"Few and often," gives plenty of young, tender, stringless beans. Fifty feet of row at one planting will supply a good-sized family and not degenerate into a crop of strings before they can be used. If you don't mind a little extra trouble, plant a row or so extra early—say April 1st—and cover the rows with strips of cheesecloth.

The pole varieties are most satisfactory of the limas, the bush kinds bear earlier. Have the ground level about the poles at first and hill up as the vines grow, thus insuring deep roots which can withstand dry weather. It pays, if you have plenty, to save the pods containing the greatest number of beans for seed for next year. Of course they must ripen on the vines.

I use Golden Bantam Corn for both early and late crops, planting the first in rows 2 feet apart with seeds 6 inches apart in the row. The later I plant in hills 2 feet apart each way, working a forkful of manure into each hill first.

Muskmelon is my "pet" crop, and I have had great success with it. Early in May, have the ground dug deep and some manure worked in. Make low hills, 4 feet apart, and dig an extra forkful of manure into each hill. Between the middle of May and the first of June, according to the weather, plant 10 seeds in each hill, and keep the ground watered until the seeds are up. Then thin out to 3 plants to a hill. To have the greatest success, use "boosters"—miniature frames they are indeed—one over each hill. These keep off the greatest enemy of the young vines, the striped beetle—and incidentally, serve several other purposes, keeping off the cold at night and conserving moisture to some extent. When the vines are about a foot long, nip off the ends, and when they blossom, give each plant, occasionally, a dipperful of water in which nitrate of soda has been dissolved—about 3 tablespoons to a pail of water.

Do not try to set out tomato plants or peppers too early, but wait until all danger of frost is over, and then around each plant put a paper collar, 2 inches wide, pressing it 1 inch into the ground, to foil the cutworms. Nip off the little shoots that start out from the lower leaves of the tomatoes and keep the branches thinned, thus increasing the size of the fruit.

ACTUAL PLANTING RECORD OF ONE HOME GARDEN

VEGETABLE	VARIETY	DATE	QUANTITY	CROP
Asparagus	Palmetto, Colossal	April 1, or fall	50 roots	Ready in 2 yrs.
Beans, Lima	Burpee's Imp. Bush	April 20-May 10	1 package	June-August
	Giant Podded	May 15	1 pt. (for 20 poles)	August-frost
Beans, String	Bountiful	April 15	1 pt.—50 ft.	July-frost
	Hodson Wax	May 1	"—25 "	
	Bountiful	June 1	"—50 "	
	Bountiful	June 15	"—50 "	
Beets	Wax	July 15	"—50 "	
	Eclipse	April 15	1 pkt.—50 ft.	June
	Crimson Globe	May 1	"—25 "	July
	Detroit Dark Red	June 1	"—25 "	August
Cabbage	Eclipse	June 15	1 "	September-frost
	Early Jersey	May 15	12 plants	August-spring
Cauliflower	Late Dutch	June 15	24 "	
	Dwarf Erfurt	May 15	24 "	August-frost
Carrot	Half-long Danvers	April 1 } April 15 } May 1 }	1 pkt.—75 ft.	June-frost June and after
Corn	Golden Bantam	April 24	1 pkt.—100 ft.	July or August to frost
	Stowell's Evergreen	May 10	1 pt.—50 hills	"
	Golden Rod	June 1	"—10 "	"
	Golden Rod	June 15	"—10 "	"
	Golden Bantam	July 1	"—25 "	"
	Golden Bantam	July 10	"—25 "	"
Cucumber	Cool and Crisp	May 1	1 pkt.—5 hills	July-frost
	Cool and Crisp	May 15	"—5 "	"
	White Spine	June 15	"—5 "	"
Eggplant	Black Beauty	Set plants in May	12 plants	August
	Wayahead	March 30	1 pkt.—25 ft.	May to frost
	Boston	April 15	"—25 "	"
	Cos	May 1	"—25 "	"
Lettuce	Big Boston	May 15	"—25 "	"
	Cos	June 1	"—25 "	"
	Fordhook	May 9	1 pkt.	Late July to Oct.
	Netted Gem	May 9	"	"
Muskmelon	Emerald Gem	May 9	"	"
	L. I. Beauty	May 20 according to weather	"	"
	Prizetaker	April 4	1 pt. sets to 50 ft.	From July
	Prizetaker	April 24	"	"
Parsley	Triple Curled	April 15	1/2 pkt.—25 ft.	From June
	Hollow Crown	April 15	1/2 pkt.—50 ft.	After frost
Peas	Thos. Laxton (round)	April 1	1 qt.—50ft.	June-frost
	Gradus	April 1	1 "—50 "	"
	Telephone	April 15	1 "—50 "	"
	Quite Content	May 1	1 "—50 "	"
	Gradus	May 15	1 "—50 "	"
	Thos. Laxton	June 1	1 "—50 "	"
	Thos. Laxton	July 1	1 "—50 "	"
	Cooper's Sparkler	April 1, and every 2 weeks	1/2 pkt.—25 ft. each	May-September
Spinach	Boddington's Improved	March 31	oz.—100 ft.	May-frost
	Boddington's Improved	April 15	"—100 "	"
	New Zealand	May 1	"—100 "	"
Squash	Vioflay	August 15	"—100 "	"
	Vegetable Marrow	May 15	1 pkt.—6 hills	From July
Tomato	Hubbard	May 15	"—6 "	From Sept.
	Earliana	May 10	24 plants	August-frost
	Beefsteak	May 10	24 "	"
	Golden Morn	May 10	24 "	"
Turnip	Early Milan	April	1/2 pkt.—25 ft.	From June



ARE YOU INSURED?

Protective Value of Winter Spraying While Growth is Yet Dormant

T IS not so very long ago that spraying was the big bugaboo to the average gardener who was assaulted by "tables" and "calendars" and "formulas" for home preparation. On the idea that for "every evil under the sun there be a remedy, or there be none" as the old saw has it, our good scientifically bent men proceeded to prove the fact by producing a bewildering array of remedies—one for almost each evil! Then came a change! And now instead of awaiting the attack of the enemy, we have learned how to give *protection*, by applying one general spray earlier in the season. As to the propriety of, and need for, spraying there is no need for argument to-day.

Lime-sulphur or miscible oils sprayed generally on trees and shrubs during winter have been found to be a practical general prophylactic, and not expensive either. We used to be bothered with home mixing or home boiling, but even that is unnecessary now for there are manufactured concentrated preparations to be had that need only dilution and a proper spray pump for use. Frankly it does not *pay* nowadays to make these spray mixtures at home—to say not a word about the uncertainty of the product.

As to which is the more desirable spray; that is largely a matter of personal preference. The miscible oils are more

concentrated, stand greater dilution and are therefore less bulky in shipment. They do not wash off with rains. Lime-sulphur leaves convincing evidence of its presence and so makes it easy to be assured of a thorough job. It hangs a long time on the bark and is easy to apply. It has the advantage of attacking some fungous diseases as well as insects and particularly leaf curl of a peach. The oils usually come ready to mix at the rate of one gallon to ten or fifteen gallons of water and the lime-sulphur will take about eight gallons of water to one gallon.

One thorough spraying each year should be sufficient insurance under all ordinary conditions but that one spraying must be a thorough one and every part of the plant must be covered. Spraying can be done at any time during the dormant season except when the weather is actually freezing and there are plenty of days during the winter or before growth starts that afford the opportunity.

By all means get a practical spray pump; not a toy. For the medium-sized garden a mounted spray pump on wheels would be a good investment but for the very small garden with a home vegetable plot something of the knapsack or other portable type to be slung over the shoulders will suffice.

AMONG OUR GARDEN NEIGHBORS



THE outlook of the garden season of 1920 is full of encouragement. Among the nurserymen the demand for stock of all kinds during the last fall has helped materially in clearing up the situation that had got somewhat out of hand as a result of labor conditions during the active war period. Things are returning to a nearly normal basis. Of course, importation of quantities of stock from abroad has been stopped by the imposition of Quarantine No. 37 and as there seems little likelihood of an immediate modification the people who use plants must turn around and readjust themselves to the changed conditions.

Already the reaction is teaching the nurseryman the value of introspective study of his own conditions, and the possibilities of materials already in the country which merely need propagation and multiplication. Any close student of gardens and the materials used in making landscape plantings is painfully aware of the fact that the majority of the nurserymen do not take much interest in searching out and offering really new things to their clientele. The demand for such material is being forced upon them, however, through the spread of knowledge and the wider acquaintance with plants of all kinds brought about by interchange of experiences, reading of magazines, and memberships in the various garden clubs.

From now on, though it will be somewhat of a shock to many to go without the things that have hitherto been common, the progress of the advance of horticulture in America will be watched with a great deal of interest because we are approaching a new era.

LOOKING at the seed trade we find plenty of encouragement and although the cost of seeds has never been a very serious item in the maintenance of a garden, still it is a sign of good times to note that there is a decided downward tendency in seed prices for the coming season; and the return toward normal in this one industry may be a slight indication of what must follow in other channels.

For the second consecutive year bumper seed crops were harvested in 1919 and again there is an unusual, large, world demand. It still seems to be the part of this country to supply a large portion of the actual food material of the world

and in 1920 the home garden will, as much as in the last two years, be a vital factor in the production of food material and as an aid in meeting the "cost of living" problem. The lesson that we learned during the war garden campaign and the argument that carried that through as a national activity are just as surely confronting us for the coming year. Therefore it is well for everyone who has available garden space to cultivate it diligently. With the passing of the guaranteed prices for certain farm staples one may expect a slight tendency to lessened production which the home garden may well meet. Beans may still be counted as the equivalent for loaves of bread, and beets, carrots, turnips, and such like from the home garden plot will relieve the pressure in the market places.

With the one exception of peas every important vegetable seed is available in abundance although our information is that the "quality" produce is a trifle under the normal. It may indeed be several years before any highly selected specialties will be available in sufficient quantity to be placed on the market at normal prices. In other words, seed prices generally all go downward except a few selections of high quality types, where the tendency will be in the opposite direction. Exporting houses from Europe—at all events from France—are holding on to stock seeds in order to build up their reserve supplies for future years.

In the meantime, domestic production of quality strains of such staples as beans, carrots, onions, lettuce is forging ahead with the possibility that the world's market will be held by the American trade. Peas, however, are an exception to this rule; they are in short supply; and even in the new pea region, Idaho, are developing difficulties peculiar to themselves.

IN FLOWER seed production we have been growing apace. With the outbreak of the world war we, in common with the rest of the world, were largely dependent upon Germany for seed of the popular Annuals in distinct colors and in special varieties. But as has already been told in these pages a great spurt was taken by our growers and the flower seed industry, already on a firm footing, increased acreages by leaps and bounds. The extent to which the industry was enlarged was brought out before the Convention of the

American Seed Trade Association in Chicago last June, when Mr. Carl Cropp of Chicago surprised even the "initiated" by a report that the past season saw approximately 3,600 acres devoted to the growing of flower seeds in this country!

More than fifty distinct and important classes of annuals are now demanded in such quantities as to require acres to produce sufficient seeds for home needs. Among the more important items are: nearly 1,500 acres of Sweet Peas, each yielding 200 to 500 pounds, according to varieties; nearly a thousand acres of Tropaeolum; 300 acres of Asters; from 20 to 50 acres each of Candytuft, Centaurea, Dianthus, Eschscholtzia, Larkspur, Mignonette, Phlox, Poppy, Verbena, Zinnia, etc., etc. The only reason why we do not produce enough, as yet, of the finer seeds, like Cineraria, Begonia, and the rarer of the hardy perennials is that the growers have not yet gotten around to it, lacking in most cases sufficiently skilled help. Ultimately, this will be remedied of course

and then indeed will the Old World pay further tribute to the New.

DURING 1920 Flower Shows, abandoned for the duration of the war, will come back. The preliminary schedule of the International at New York, March 15th to 21st, is before us. Mr. T. A. Havemeyer is chairman. A few days later, March 24th to 28th, Boston will see a remarkable exhibition in which Orchids will be specially featured. One prize of \$500 is offered for a group of Orchids; and some sensational new Azaleas brought from Japan by Mr. E. H. Wilson are promised.

Increased building activity in suburban districts means more homes and therefore more gardens. Bettered living conditions and a keener desire for the higher things of life all combine to open up a new era of increased activity in the grounds that surround the home.

THE OPEN COLUMN

Readers' Interchange of Experience and Comment

Succession of Forced Witloof Chicory

THAT was an excellent article on "Taking the Vegetable Garden into the Cellar," in November issue, but I want to say that the author made a mistake in throwing away his witloof chicory roots after the first cutting. If he will be careful not to injure the crowns, he can replant them eight or ten times, and each crop will be just as good as the first! In fact, we think the latter ones are the more delicate in flavor although toward the end the leaves are likely to become somewhat smaller. I do not find that it takes more than two or three weeks to force the roots, but my furnace room is quite warm, and I water freely.—H. M. POMEROY, *Mishawaka, Indiana.*

New Varieties For Personal Use

THE hope that private growers would be able to import novelties for personal use seems to be overruled by a notice recently issued by the chairman of the Federal Horticultural Board in a "supplement" to the "explanation" of the Board's ruling concerning the clause of Regulation 14 as amended, providing that "In exceptional cases the importation of novelties (i. e. new varieties) may be made for personal use but not for sale. "This," states Doctor Marlatt on the later notice, "is intended to provide for the importation of such new varieties by directors of botanical gardens, collectors, and growers of special collections of plants of recognized standing, but was not intended to apply to importations which may be desired for personal use other than as indicated or for the adornment of private estates."

We Too Would Like to Know Why They Don't

WE NATURALLY wish to enlarge our acquaintance with plants by trying out some of the good things mentioned by your contributors, but how few of them can be found in the usual catalogues! I believe that a great service would be rendered if writers on plants would tell frankly where they may be bought. Will you not at least try to stimulate your advertisers to mention the new varieties or odd sorts which are so frequently spoken of, that we may get more of them growing?—E. L. CABOT, *Boston, Mass.*

A Really Fragrant Iris

IT IS an old species mentioned commonly enough in many lists; but I have found that few people who see *Iris graminea* in my garden have ever heard of it before. It is one of the small representatives of the spuria group, with tough, dark green, grassy foliage about a foot high and smaller stalks of curiously shaped flowers which appear throughout the clump half hidden among the leaves. The coloring is difficult to describe. As the buds develop it seems as though it were to be a dark blue Iris with white blotched throat, but when the blooms open the style arms and standards show a warm rose color, which makes a strong contrast with the tips of the falls.

But it is not color or form that is the chief attraction of this small Iris, but perfume. This is rich and fruity recalling the odor of Freesias, though not so abundant. Because of this, I have had the greatest pleasure from the cut blooms of this Iris arranged with its own foliage in one of the Japanese flower leads, in a



AN UNFAMILIAR IRIS

Conspicuous because of most unusual coloring and still more unusual fragrance *Iris graminea* is still a stranger to most gardens

float bowl or better in a cream-colored bowl which flares open like a morning glory. This, on one of the black wooden stands that the Japanese devise for vases, with the strongly colored Irises, makes a delightful spot of color and fragrance for the table decoration.—B. Y. MORRISON, D. C.

The Rare Box Huckleberry

at nurseries and unless some one takes up its propagation it may be lost altogether to our gardens. The tract of land where it grows will sooner or later be turned into farmland and the plant will then become extinct. The Arnold Arboretum in a bulletin of 1917 has this to say of this plant: "Among the easily grown and perfectly hardy evergreen plants of the Heath Family none is perhaps more beautiful than the Box Huckleberry with its small, lustrous leaves which become the color of old Spanish leather in the autumn, small white flowers and blue fruits. The prostrate stems spread into broad mats only a few inches high and although the plant grows naturally in the shade of oak woods it thrives in full sunshine. This is one of the rarest plants in North America and is now known to grow naturally in only one place in Pennsylvania.—E. MORELL, *Harrisburg, Pa.*



ONE OF THE RAREST PLANTS IN THE WORLD
Luxuriant enough as it grows in its native haunt in Pennsylvania the Box Huckleberry is nevertheless almost certain to be exterminated eventually

A Greenhouse Heating Problem

A HOT water heater of proper size for a small greenhouse has such a small fire box that it is very troublesome to keep up a satisfactory fire and maintain a uniform heat. The solution would seem to be found in a heater using kerosene, but there seems to be no satisfactory burner on the market. There are kerosene-burning hot water heaters for domestic use but none of them are of sufficient capacity. Also, there are a number of kerosene burners of the vaporizing type, intended to install in a coal-burning boiler. These I know from expensive experience are not satisfactory for they one and all carbonize and the extremely small nozzle chokes up; also most of them work on the pressure system, which means much hard work. Has any GARDEN MAGAZINE reader any light on the problem?—MARSHALL P. SLADE, *New York.*

Continual Bloom In An Oregon Garden

FOR several years in my Oregon garden I have been studying how to get continual and plenteous bloom from the fewest kinds of flowers. Much that I have learned will apply to other states as well. Unless the winter is a hard one Violets bloom constantly—not much color about them, but they are there. No spring's sun shines in Oregon without seeing its gold and white reflection in the Narcissus of most dooryards. This family in our climate grows and multiplies "like weeds," and when the beautiful double Poet's Narcissus ends the season's display it finds itself in company with the great crimson blooms of the old-fashioned red Peony, than which no more gorgeous coloring ever graces a garden. Last year they began to bloom May 4th. Before they are gone, if you have taken a little pains the summer before, you

may have rows of Canterbury-bells to make glory for another month. They are sure from seed, and easy to grow; and though I lose some plants every year from stem rot, enough remain to make my place look like a big bouquet of white, pink, and purple. Before they are through another flower, Godetia, begins to bloom—not so well known as it should be, though varieties of it have run wild along our roadsides. For brilliancy of coloring from white to crimson, for prolific bloom, for ease of culture, and for perfection as a bouquet flower, Godetia is unsurpassed. Though an annual, it seeds itself and is almost as reliable as a perennial, and by having plants fall self-sown, spring-sown, and some sown later, one can have quite a season of bloom to tide over the hot days of July. At the same time the Gaillardias, with their red and gold, begin to bloom and keep it up till frost if conditions favor. Then, too, the Shasta Daisies splash their snow on the summer's heat, and presently the stately Dahlia is opening its great glowing bloom. By this time here along the coast the gardens are drying up and looking scraggly and the Dahlias call for water and more water, but they make good use of it, and all tastes can surely be satisfied! Without them and Gladiolus I have found it hard to tide over the hot days of August. Later come the Asters; then Cosmos; and the season's pageant closes with the Chrysanthemum. I have chosen from the list the things that by actual experience I have found most needful for a constant color display, and most easily produced. And this from a state that boasts

its Roses! But Roses are another story indeed and mean constant work.—MRS. A. I. C. BLACK, *Corvallis, Oregon.*

California Tree Poppy Defies Winter

A FEW years ago I wrote to THE GARDEN MAGAZINE a trifle vaingloriously, I am afraid, of my success with the California Tree Poppy (*Romneya Coulteri*). That very winter, the bitter cold one of 1917-1918 my pride was overtaken by misfortune and the beautiful thing was killed, notwithstanding the fact that it had had the same protection as usual with the shelter of the high wall at its back to keep off the north winds. To the right of the Poppy's dwelling place is a coldframe, and great were my astonishment and delight this spring when I lifted the glass to find a vigorous plant of *Romneya* in full growth. I do not know if this plant came from the seed of the other—which is said to require a year or more to germinate—or from a prowling rootlet that had found its way deep down under, or through, the stone foundation of the concrete frame. It grew nearly five feet tall and as many through and early in July bore twenty of the great silken, fragrant blooms, then addressed itself to developing fresh shoots and these, beginning to flower in September, continued until hard frost. The white petals are so thin as to be almost transparent; the whole flower looks frail and ephemeral to a degree, yet it lasts in water for several days. The perfume is a deliciousness somewhere between a Tea Rose and a Magnolia. It seems rather curious that a California plant accustomed to a long dry summer should have so plainly delighted in the past very wet one. The soil that is said to suit it best is a light loam, but that in my coldframe is very sandy.—L. B. WILDER.



—Plants and the Ailments of Man”

AFTER all the years and all the millions of dollars that have been spent in trying to fathom and solve the terrible problem of human cancer, it would be strange if the clues upon which ultimate solution hangs were supplied by the study of disease in plants! Yet such a development appears entirely probable when we summarize the results of certain lines of investigation in plant pathology—or when we have such a summary set before us as a recent issue of the Missouri Botanical Garden Bulletin furnishes. Here it is explained that different experiments with gall- or tumor-producing diseases, dating back some fifty years and receiving during that time the attention of some of our leading pathological botanists, have proved that different kinds of galls, knots and tumors in more than a score of plants are caused by the same disease, or rather that the different diseases causing the galls are all produced by one bacterial organism. Included under this grouping are the crown galls of the Marguerite, Chrysanthemum, apple, cotton, Rose, peach, etc., the tobacco knot, the underground gall on the grape, the stem gall on the quince, etc. The great similarity between crown gall of plants and malignant cancer of human beings has been pointed out by Dr. E. F. Smith upon several grounds, some technical, others clear even to the layman. Since all the plant cancers studied have been found to be the result of a single organism, Dr. Smith contends that all animal cancers are probably similarly caused by one bacterium. And upon this assumption it seems justifiable to hope that with the discovery of a cure, preventive, or ameliorant for malignant maladies in plants will come a fuller understanding and an early conquering of similar afflictions of the human family. It was over a quarter of a century ago the present commentator recalls that C. B. Plowright, a medical doctor, discussed this general idea in a series of lectures before the Royal College of Physicians and Surgeons in London.

—Lawn Troubles”

THE development of the accurately named “brown patches” on lawns is a far from uncommon trouble in moist, warm seasons—of which the past summer was a noteworthy example. Appearing first as small, dusty looking spots of mildew scattered over the greensward, these gradually grow and merge into larger areas in which a dead, brownish condition develops, at first in the centre, and then extending outward in all directions. Fortunately the fungus that causes the disease is rarely fatal, most affected lawns returning to their original condition with the coming of cool fall weather. Nevertheless considerable patches of grass are sometimes killed outright, and the effects of the mildew, even though temporary, are sufficiently disfiguring to make their cure and prevention much to be desired. As with many visitations, prevention is by far the most effective mode of warfare. This means first, measures tending to prevent the accumulation of excessive moisture, such as thorough surface and under drainage when making the lawn and the practise of watering early in the morning in midsummer so that the turf may be as dry as possible during the hot, muggy nights; and second, the use of grasses and other turf plants that have been found most resistant to the brown patch fungus. Bermuda-grass in the South and Blue-grass and White Clover in the North belong in this category; but as these are not the most suitable for certain purposes—such as the making of putting greens—agricultural specialists are hoping and working to produce highly resistant strains of others more satisfactory, such as the Fescues, Bents, etc. Where a mixture of several

species does not detract from the appearance or the usefulness of a greensward, it is found more resistant than a solid planting of one kind. The high susceptibility of the Mouse-eared Chickweed or “Creeping Charlie” is an added reason for making every effort to rid a lawn of this pestiferous weed. In the realm of actual cures, bordeaux mixture appears to offer about the only hope at present, and even that is not a permanent or definitely assured one. Naturally its effect wears off as soon as new growth develops; also constant repetition makes the cost of the treatment run up. However, in many cases where an especially fine turf appears in danger of serious disfigurement it will pay to sprinkle it frequently with half-strength bordeaux sufficiently to moisten all the foliage without soaking the ground. About one gallon to ten square feet has been found a generous allowance. Of course, the earlier this is done after the appearance of the first “brown patches” the better.

—Getting the Most from the Garden Tools”

A FAVORITE example of prodigal wastefulness is the farmer who leaves his plows and hay rakes and threshing machines out in the fields over night and over winter; but it may be possible that some of us gardeners are almost as careless—proportionately of course—in our handling or mishandling of the tools we use. And then there is the tendency to throw away an implement the moment it suffers the least injury, on the ground that “it’s cheaper to buy a new one than to bother to fix it up.” Probably that was partially true once; but that day has gone by, and he who would really help bring down the cost of living to-day thinks thrice before he throws away the broken rake or the mildly leaky hose—and on the third think sets about to mend it! Rarely is such a task difficult; very often it is successful. Take, for instance, the ubiquitous watering can. When it springs a leak, we assume that it means a trip to the plumber and heaven only knows how much fuss and delay before a tiny job of soldering can be done. Yet how simple the solution suggested by a correspondent in the *English Garden*. Thoroughly dry the tin around the hole, he says, and paste over it two or three strips of ordinary surgeon’s adhesive tape—the kind that has to be warmed before it is applied. In the case of a leak in the side or bottom of the can put the patches *inside*; in the case of a leaky spout apply a strip, spirally wound, around the spout. Afterward give the patch or bandage a coat of paint and the job is done.

—Bird Friends and Bird Enemies

NATURE lovers will perhaps be surprised to learn that the shy, insect and weed eating, meadow frequenting bobolink is a Dr. Jekyll and Mr. Hyde among birds. To the Northerner it shows only its friendly, useful side, during spring and early summer; but to the Southerner, whom it visits on its way south to its winter quarters beyond the Caribbean, it presents another side even as it displays another, duller coat. For in the South Atlantic States it is known and feared as the rice or reed bird, the devourer of hundreds of thousands of dollars’ worth of rice every year. Moreover it is there a pest for which there is no known preventive measure other than actual destruction. Wherefore, the Secretary of Agriculture has recently amended the Federal migratory bird law to permit the shooting of these birds under restrictions and during certain seasons while on the rice fields or migrating to them.

The Month's Reminder

"Come with me, then, behind the scenes, where we are concerned only with the joys of plant increase and rejuvenation"

The Reminder is to "suggest" what may be done during the next few weeks. Details of how to do each item are given in the current or the back issues of THE GARDEN MAGAZINE—it is manifestly impossible to give all the details of all the work in any one issue of a magazine. References to back numbers may be looked up in the index to each completed volume (sent gratis on request), and the Service Department will also be glad to cite references to any special topic if asked by mail.

When referring to the time for out-door work of any sort New York City at sea level in a normal season is taken as standard; but at best dates can only be approximate. Roughly, the season advances northward fifteen miles a day. Thus Albany, which is one hundred and fifty miles from New York, would be about ten days later, and Philadelphia, which is ninety miles southwest, about a week earlier. Also allow four days for each degree of latitude, for each five degrees of longitude, and for each four hundred feet of altitude.

JANUARY—THE MONTH OF PREPARATION

PEOPLÉ are prone to think that the garden year starts in March or April when the outdoor planting begins. As a matter of fact, the indoor work of planning, selecting kinds and varieties, and preparing and mailing seed and plant orders is absolutely essential to a well-ordered garden—and such work must be done not later than February; preferably right now. As to quantities some home gardens use enough seed to start a small farm. This is wrong and wasteful and oft-times causes crowding which leads to other troubles. We should know to some extent the productive power of our seeds (See GARDEN MAGAZINE for January, 1918, p. 190).

The Frames



Next month will be hotbed time—but preparation must begin three weeks or so before time to sow seed. Manure must be composted, bed made, and allowed to cool down before it is safe to plant. Get busy!

If you are running any frames through winter, be sure to remove snow from sash as soon as possible over growing plants. Over dormant plants that are being "wintered over" it is a good thing, however, for it keeps out both extreme cold and bright sunshine, and equalizes conditions in the frame.

Be careful to keep all drains and gutters outside of frames clear and free from surplus snow. A sudden thaw may soak or even flood soil in frames with bad results.

Give ventilation frequently, even if temperature inside does not make this necessary. Fresh air is important to health of plants—and it discourages diseases and bugs.

Small Fruits



It is not too late to mulch the strawberry bed if you haven't yet done so. It protects against spring "heaving," and prevents plants from starting into growth too early.

Go over the cane fruits and remove all canes that fruited at the last bearing season. Cut old canes back to ground. Cut back long tops of new growth likely to thrash about in wind. Go over currants and gooseberries in careful search for any wood that may be attacked by borers—affected shoots are light colored and wrinkled and shriveled, instead of sound and plump.

Espaliers and fruits trained against walls need protection from winter sun. Arrange a screen of evergreen boughs, corn stalks, or something similar to the south of them, if they are in a sheltered, sunny position. Mulch about roots also, to prevent growth starting up prematurely in the spring. This should be done while ground is frozen hard.

1. Measure your garden space and draw a good big plan of it, locating all permanent objects; then mark in your planting programme for the year. For convenience number the rows and letter the succession crops.
2. Order seeds and fertilizer early—immediately! Study several catalogues but make up the bulk of your order from one.
3. Do all pruning and winter spraying this month and overhaul, repair, and paint tools, sash and frames; also order new tools and get everything ready down to the last detail.

The Flower Garden



Not much doing here, but see that the mulching on hardy border, Rose bed, hardy bulb bed and so forth is in good shape. Sometimes December winds loosen or blow it off before snows have had a chance to settle it. Watch for mice in mulching on Rose beds and bulbs or where leaves have collected around shrubs. Use traps; and remove and replace if necessary.

Include bone for your flowers along with your fertilizer order: "inch-bone" or "knuckle-bone" for lasting results in making up new beds, bone meal for

top soil and for top dressing to rake in in the spring. Bone is great stuff for blooms!

The Greenhouse



Get everything in readiness for the under-glass drive that begins next month. Prepare soil for starting seeds and for potting and transplanting plants. Test all old seeds.

Start stock plants from which to get cuttings.

Start vegetables for forcing under glass. Use thoroughly well rotted manure and light soil, half and half. Paper pots are easier to care for than clay pots, do not dry out so often, and give the roots more room.

Start cauliflower now for growing in frames or in greenhouse.

Keep blooming plants well fed—fine bone, liquid manure, or liquid nitrate of soda, a tablespoonful to a watering pot—will all help to keep late blooms up to full size.

Keep plants healthy in general. Days are short and cold but some fresh air should be given practically every day—early in morning while sun is bright, and the temperature of the house is on the increase.

Ventilate and fumigate regularly.

The Orchard



Watch the young trees carefully, to see that they are not being injured by rabbits or other rodents, when the heavy snows keep these from getting at their other sources of food.

It will pay to "scrape" old rough barked apple or pear trees before spraying. Regular tree scrapers cost thirty-five or fifty cents. The back of a draw-shave, an old carving knife, or any stiff piece of metal will do for a few trees.

When pruning, clean out old wounds and cavities. They can be treated and filled later but cleaning them out now will destroy insect eggs or disease germs harboring there, and save time in spring. Bad cases need expert operators.

The Gardener Who Profits Most Labors Least

The wise gardener purchases the best seed and the best fertilizer—then plants and cultivates *properly*. This combination is bound to secure the best results humanly possible.

To cultivate *properly* the right garden tools should be used. Planet Jr. Farm and Garden Seeders and Cultivators are designed scientifically and are absolutely practical from every standpoint. They were designed by a farmer for farmers and gardeners.

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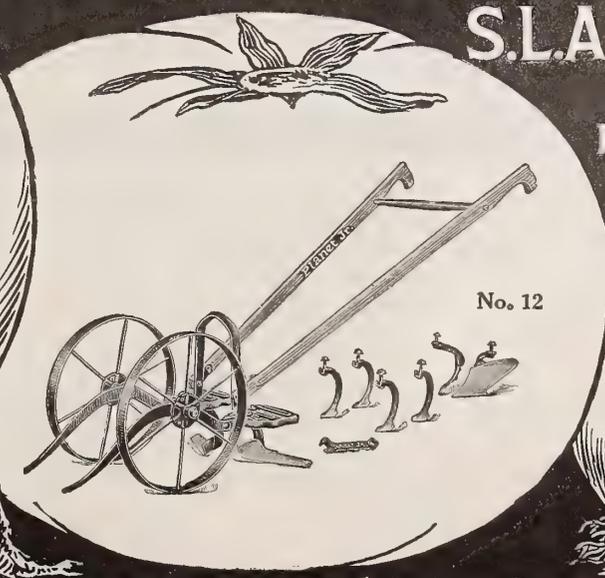
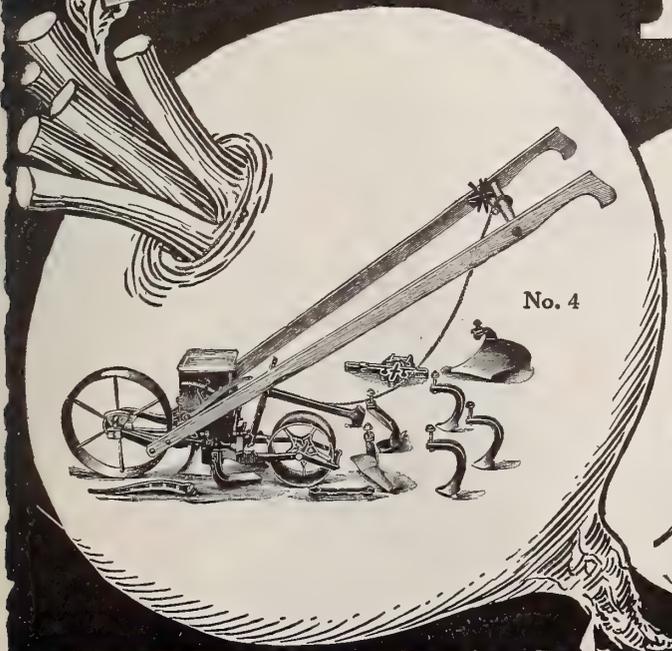
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No. 12 Planet Jr. Double and Single Wheel-Hoe has hoes that are wonderful weed killers. The plows open furrows, cover them and hill growing crops. The cultivator teeth work deep or shallow. The Leaf Lifters save much time in late work when plants are large or leaves too low for ordinary work. Crops are straddled till 20 inches high, then the tool works between rows with one or two wheels.



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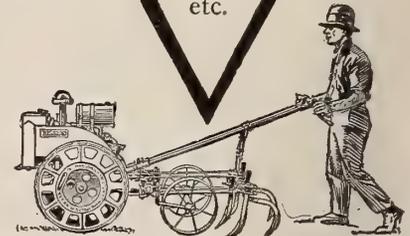
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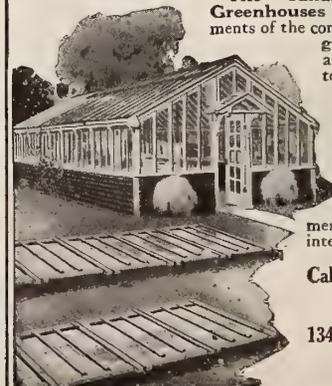
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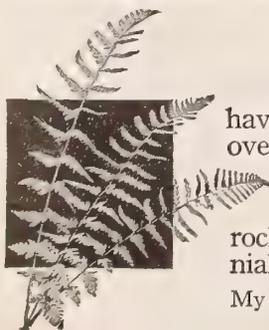
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GARDEN IMPLEMENTS

Hints on Dressing a Saw

IN DRESSING a saw, three operations are necessary, viz. (1) stripping, (2) setting, and (3) filing or sharpening.

Stripping is making all the teeth of an even length by running a file flat on its side along their points. By this operation the longer ones are cut down to the level of the shorter. If the teeth are not uniform a saw will "run," i.e., it will not cut straight, and a bad fitting joint in timber will result.

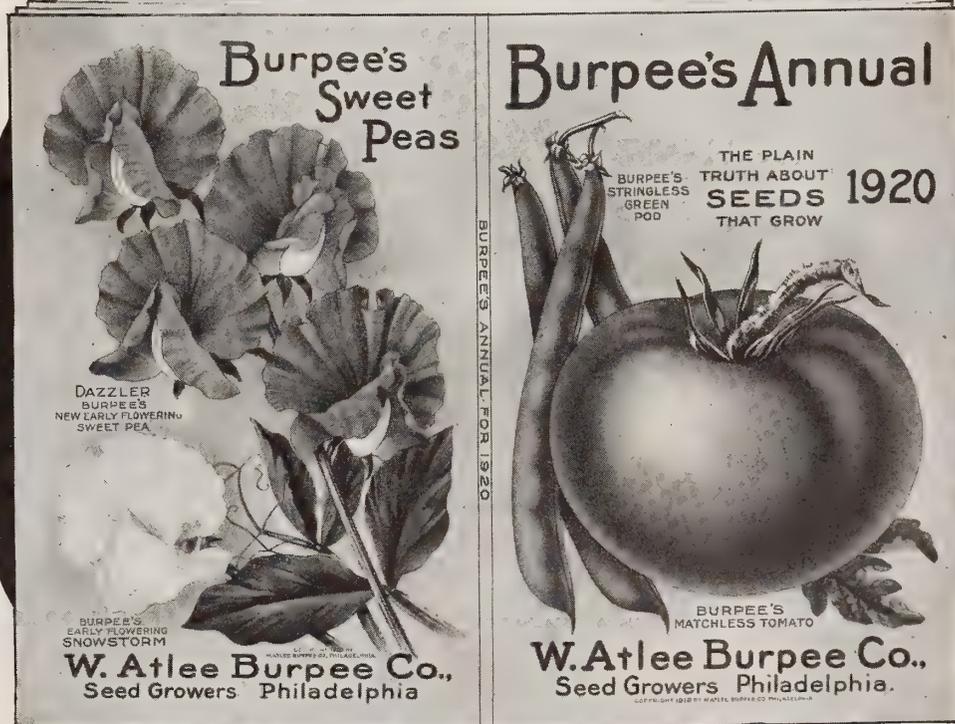
SETTING

In this operation every alternate tooth is slightly bent along the full length of the saw, which is then reversed in the clamp and the remaining straight teeth are dealt with in the same way. In setting a saw an operator should be very careful to see that the same amount of "set" is put on each tooth, for if one tooth is set more than another it will make the saw jump, and a rough, jagged cut results. In setting the teeth, bend them just enough to allow the blade to move forward and backward freely. There are many kinds of adjustable saw sets on the market. For different timbers varying sets are necessary, green timber requiring more than dry. The adjustable set is useful, as the adjusting may be quickly performed and the set made perfectly regular. In setting a crosscut, each tooth is treated as in the hand saw, but with an ordinary set, with gauge unattached. The gauge is a flat piece of metal with a small slot cut out of one corner. This is placed on edge against the blade of the saw, the top being level with the point of the tooth. The set is then applied with a gentle pressure to bend the tooth until it will just touch the gauge on top, every second tooth on one side being treated in the same manner along the full length, and, after reversing the saw in the clamp, the other teeth may be dealt with.

FILING OR SHARPENING

In sharpening a hand saw, a three-cornered file is used, the grading varying with the class of work and kind of saw to be treated. A tenon or back saw requires a fine or small file, and a rip saw a coarser file still. The file is inserted between each alternate tooth with a gentle, firm, even, forward pressure, the hand holding the file slightly downward, the point of the file being inclined toward the point of the saw. This position slightly cuts down into the blade, and keeps the teeth at uniform length. If the filing each time is done on the tooth and the blade is not cut into, the tooth is filed short, and the saw is very soon ruined. The file should be held slightly at an angle to the blade, i.e., the point inclined away from the handle of the saw. In filing a crosscut alternate teeth on each side should be filed on both edges, and by this action gums, or false teeth, are raised in the blade between each tooth. Dressing must always be carried out in the order given here.

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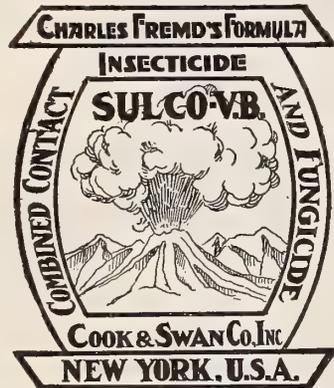
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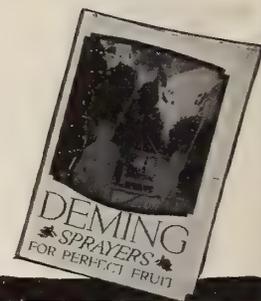
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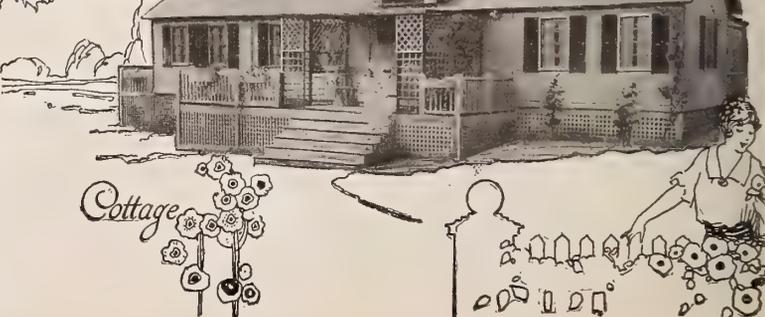
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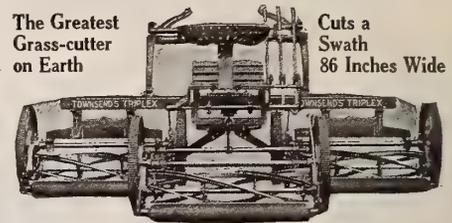
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Using Fertilizers With Sense

Feeding the Plant What It Wants

MUCH of the success of the garden often depends upon the proper employment of fertilizers. It may be pointed out that, after allowing for the carbon that the plant secures from the atmosphere, all the food of vegetation is absorbed by the roots from the soil. This material is taken up in the form of solution and it is always being absorbed so long as the cells of the plant are deficient in any particular substance. There is no evidence that the roots have any selective powers and, if the solution is of a proper strength and the plant cells are not already fully charged with the element, absorption is bound to take place. It appears that it is important to allow each crop the fertilizer that will give the grower the results he desires.

All the nitrogeous manures have a notable effect upon the foliage of plants. A soil enriched in this particular way is sure to encourage a rank growth of leafage; this will be carried out at the expense of flower and fruit. Quite plainly nitrogeous fertilizers are valuable in those cases where the foliage is the crop; this would apply in the case of many vegetables such as cabbages, brussels sprouts, spinach, etc. High grade guano is one of the best of the nitrogeous manures but must be used with care. The amount allowed outdoors should be about four ounces to the square yard. Guano may be usefully applied to growing plants in the spring if the soil is slightly stirred and the powder shaken over the surface. In ordinary weather no further steps are needful but, if the conditions are very dry, it pays to water the guano in.

Some of the chemical nitrogenous fertilizers are of great value. Those most generally used are nitrate of soda and sulphate of ammonia. The first mentioned is a very strong fertilizer and it should always be used with care. It has been said on good authority that one hundred-weight of this chemical contains more nitrogen that plants can take up than a ton and a half of farmyard manure. Light dressings should be given to ground in the proportion of about an ounce to every two or three square yards of land.

Sulphate of ammonia must be applied with great care in the case of growing crops. It should not be allowed to touch the foliage seeing that it burns rather badly. This chemical should be applied with a sparing hand not more than an ounce being allotted to every five square yards.

A sufficiency of potash in the soil will insure fruits and vegetables of large size and good flavor. Quite often in the case of land that has been regularly dressed with lime there will be enough available potash. This substance plays such an important part in the life of the plant that, in many cases, it is desirable to administer it in the form of sulphate of potash. Potatoes, for instance, are especially responsive to the presence of potash in the soil. A pound of sulphate of potash might suitably be added to every square rod of ground.

As is commonly known the presence of phosphatic material in the soil is needful where the production of fruit is concerned. The term fruit is used in its broadest sense to include many vegetables, such as marrows for example. Bone meal and superphosphate are the best phosphatic fertilizers for the small grower. The former is slow in action and it is important to get that which is finely ground to secure the speediest results. It is, however, extremely practical for general use. It may be sprinkled on the soil and then worked in with a fork. Superphos-

(Continued on page 240)

Prettier Teeth

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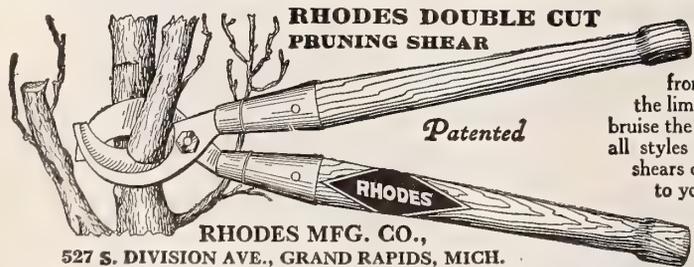
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M. G. TYLER

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PORTLAND, OREGON

phate is a particularly useful fertilizer for the spring. This should be well mixed with the soil, five or six pounds being allowed to each rod. In the case of tomatoes this fertilizer seems to exert an almost magical effect, if it is applied just as the fruit is starting to set.

Iris Society to be Formed

THE many suggestions that have appeared from time to time in THE GARDEN MAGAZINE that Iris lovers might get together and form an association have culminated in action; and a meeting of those interested is called for January 29 in the Museum of the New York Botanical Garden. Dr. H. A. Gleason is acting as secretary and will be glad to communicate with any one who may be interested. The keen interest in the Iris assures a good attendance and delegates are coming even from California. It is suggested that a trial ground for Irises be established in connection with the New York Botanical Garden.

The Secret of Growing Good Peppers

MANY gardeners have abandoned the attempt to grow the larger varieties of sweet peppers and others are highly dissatisfied with the results they obtain with this vegetable. So evidently the secret of growing good peppers has not generally been mastered.

The first thing to be considered is that the pepper is not a native of the temperate zones; it therefore is essentially a hot-weather plant. Yet, as in the tropics the weather alternates between blazing suns and drenching rains, so the pepper needs not only much sun but much water as well. In fact it is one of the few garden plants that appears fundamentally benefited by a sprinkling with the hose. Therefore sprinkle peppers often and generously whenever the weather becomes dry and dusty.

A second need is for ample warmth. This must be remembered from the time the seed is planted. Pepper seed can be safely started in a very warm hotbed; and the plants will flourish only in such a place. Once stunted by chilling, peppers seldom attain fine growth. My best pepper plants have been started in a hotbed early in March, in a mixture of loam and wood-earth over two feet of manure packed tight. By watering daily and by giving the bed some ventilation, the plants were afforded a quick and vigorous start. As they were thinly sowed, and as the roots of young peppers are very snappy, I did not transplant—this, too, because there was no hurry about getting them set. They were not put into the garden until May 20th, which in this latitude (Southern Pennsylvania) is about the vernal frost-limit. When set in the garden, they were eight inches high, stocky, and with heavy dark foliage. From one of these plants I gathered two dozen large peppers during the season. Of course, they were set in especially prepared soil.

A sunny, damp, well-drained situation is best for peppers. They should be planted rather deeper than other plants of the same size, for the roots are not deep-plunging. For fertilizer I have used with success ample stable manure and screened compost. A pepper plant, if top-dressed lightly with manure from the chicken-yard at the time of blossoming, will be greatly benefited. Pepper plants can be insured against blights by an application of bordeaux a week or two after they are set.

ARCHIBALD RUTLEDGE, Pa.

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Rouge Torch is a creamy blush, a tongue of flame on each lower petal—slender, graceful spikes. The bulbs are \$1.50 per dozen. \$9.00 the hundred, charges prepaid.
Catalogue describing many other unusual and exquisite varieties is sent upon request.

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grows 8 to 10 feet high, just like a hollyhock, but grows more in bush form with 6 to 10 giant spikes bearing hundreds of giant single mallow blooms 10 to 12 inches across, in an exquisite pale yellow shade, from July until December. The most spectacular new garden flower.
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Growing Nectarines Indoors and Out in New England

THAT nectarines can be grown on brick walls out of doors even in bleak New England has been demonstrated by James J. Storrow of Lincoln, Mass., who has been gathering generous crops of this fine fruit, which tastes like a peach and looks like a plum, for several years. Mr. Storrow's brick garage is built around a court yard, the walls on three sides of which are covered with trained nectarine trees.

The trees were brought from England and were intended for growing under glass. When the greenhouse had been planted, however, it was found that several trees had been left over, and the experiment of growing them on the garage wall was decided upon.

The trees were planted about a foot from the walls and trained on a light trellis. In the early part of July it is usually necessary to trim out some of the season's wood, and the new shoots which are left are looped with leather or raffia fast to the trellis.

Usually the fruit sets much too heavily and must be thinned. Spraying is important, too, as this fruit is subject to attacks of San José scale, aphid, curculio, leaf curl, yellows and mildew. On the Storrow place free use is made of lime-sulphur, bordeaux mixture and Black Leaf 40. The superintendent, Mr. Scott T. Doten, applies Thompson's fruit and vine fertilizer to keep the trees growing well throughout the summer, while rotted manure is dug into the soil in the fall to give them a good start in the spring.

The one secret of growing nectarines in a climate like that of New England seems to be to have the wood well ripened when cold weather comes on. Mr. Doten stops all cultivation in the middle of July and mulches the roots lightly with lawn clippings. The only protection in winter is provided by evergreen branches like Red Cedars set thickly in front of the trees.

A rather small even-span house is used for growing the nectarines inside. Trellises are placed crosswise of the house and the trees allowed to

grow to the top of these trellises, where they are stopped. Of course much more work is required to grow nectarines under glass than in the open air, for almost daily syringing is needed to keep down the red spider, new branches have to be trained and surplus wood cut out. It is as necessary to thin nectarines indoors as out.

In order to have a fairly early spring crop the fires in the greenhouse are started early in January, and the day temperature is kept at 45 degrees at the start, being increased to from 60 degrees to 75 degrees as growth advances. The night temperature is increased from 40 degrees at the beginning to 50 degrees later on. Care has to be taken not to allow the temperature to run much above 65 degrees at any time while the trees are in bloom.

The trees were chosen in the first place with the purpose of making a long season and nectarines from the greenhouse are enjoyed for fully two months, after which the outdoor crop comes on. Cardinal, the variety to ripen first, is a very early nectarine bright green in color except on the side toward the sun, where it is red. Early Rivers is the variety which ripens second. This is a very large nectarine of good flavor and greenish white in color, with a pink cheek. Out of doors it is ripe about the end of August and under glass comes early in June. Lord Napier is the third in the succession and is a particularly good kind for growing outside. The fruit of this variety is very large and pale green, although nicely colored when exposed to the sun. This is considered one of the best members of the nectarine family. The last variety to ripen is Elruge, which is very large, too, yellow in color, with a crimson cheek. This nectarine does especially well under glass, its season lasting well into July. Two other late sorts, Pine Apple and Victoria, are also grown to some extent, making a season which extends from June until the middle of October.

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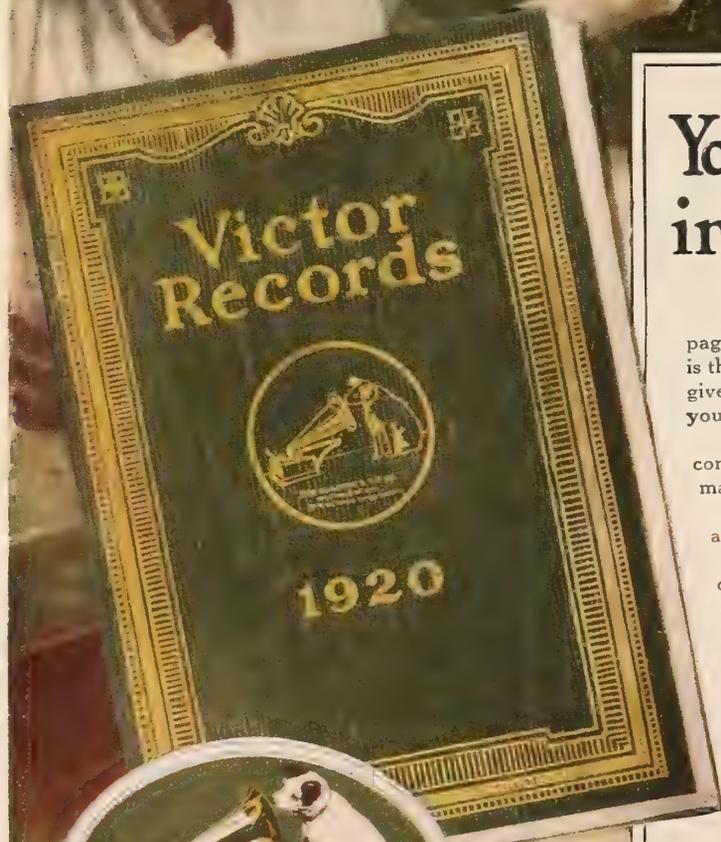
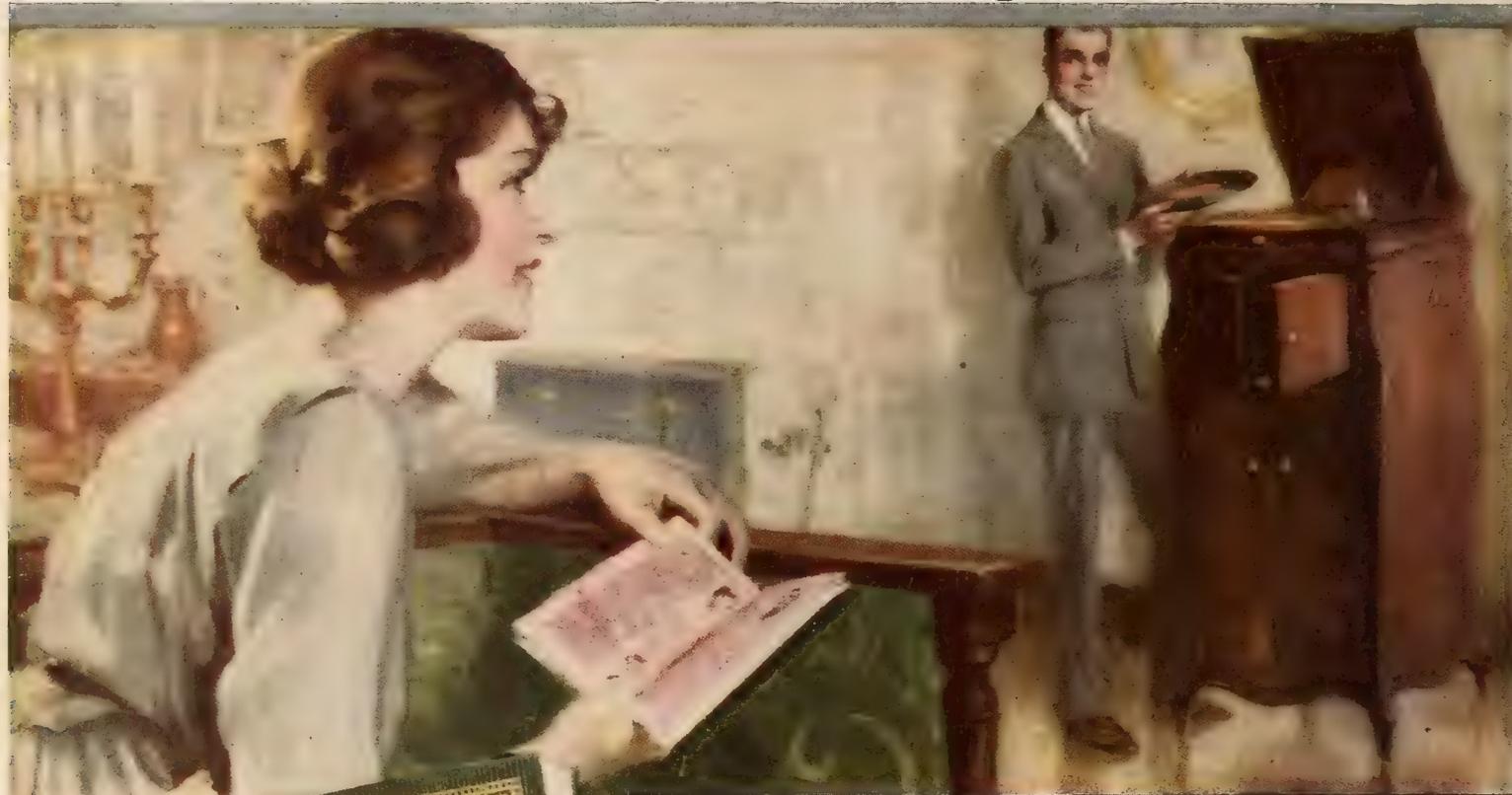
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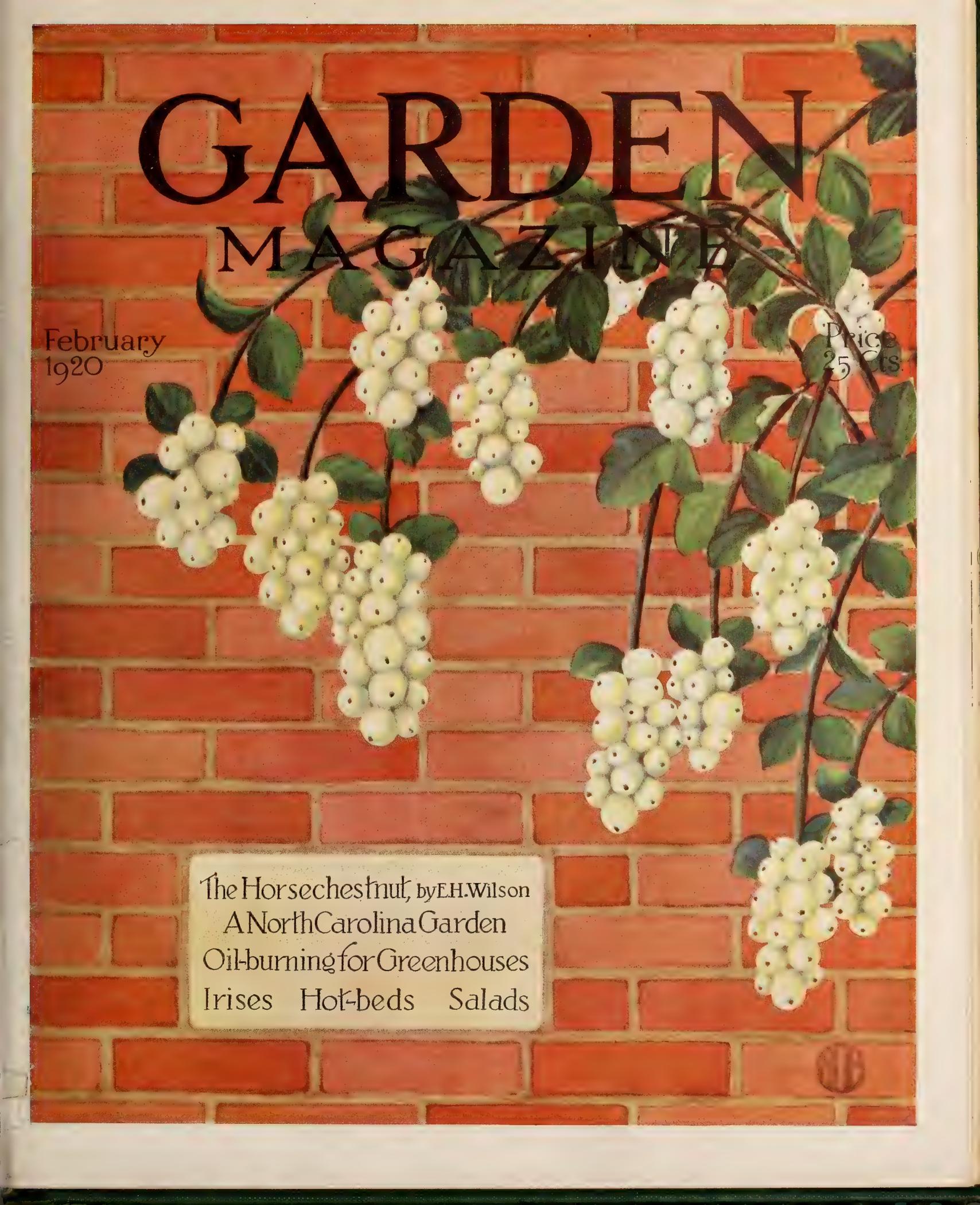
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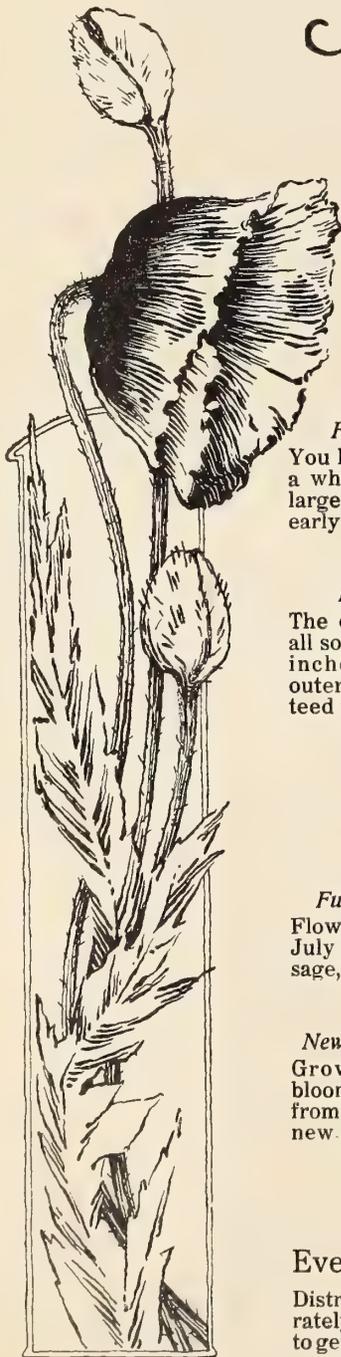
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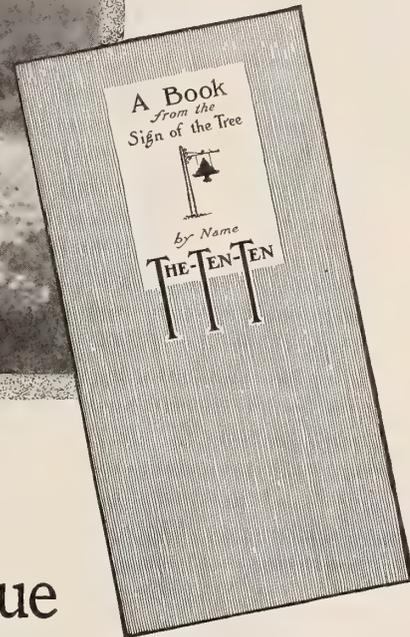
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and six more chapters, covering just the thing you would expect to find in the kind of catalogue you would make, if you made it the way you thought it ought to be made.

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R. Roehrs

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SPECIAL OFFER. We will mail 1 quart Beckert's Golden Evergreen and 1 pint each of Golden Bantam and Golden Cream, in all 2 qts. of choicest strains of Sweet Corn for **One Dollar Postpaid.**

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THE GARDEN

MAGAZINE

FEBRUARY, 1920

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LEONARD BARRON, Editor

Title page and contents to Volume XXX now ready and will be sent gratis on application

VOLUME XXX, No. 7.

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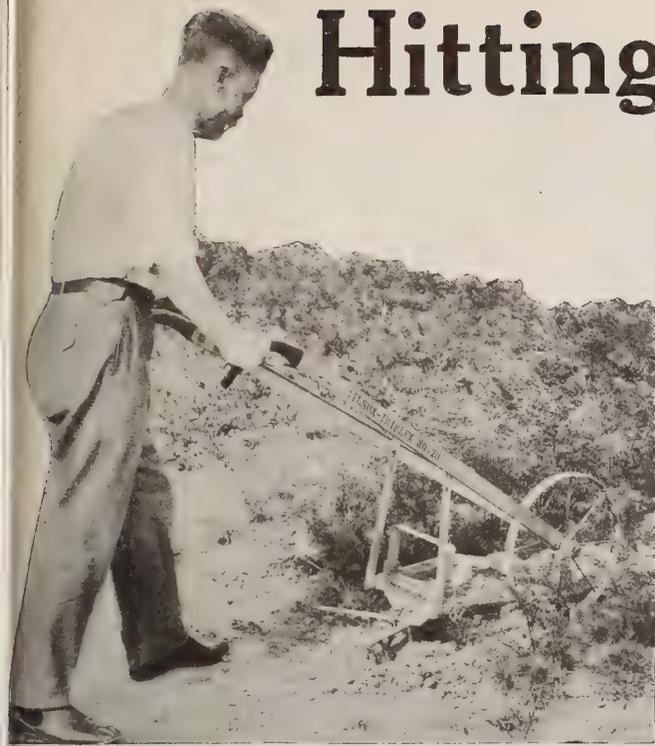
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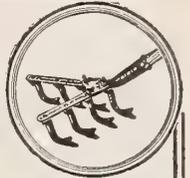
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Entered as second-class matter at Garden City, New York, under the Act of Congress, March 3, 1879

Hitting the Bull's Eye in Cultivators



Garden tools are our hobby. We are constantly at work to give American garden hobbyists better tools. The Gilson Liberty Cultivator Weeder (shown to right) with the scientifically shaped teeth marked a big step in advance of tools of similar character. The Gilson Weeder Hoe as shown in lower left-hand corner, is now recognized as the greatest single force ever introduced to make America truly a nation of gardeners. Putting these two together and adding a handy plow gave birth to



The Gilson Triplex Combines the Latest and Best

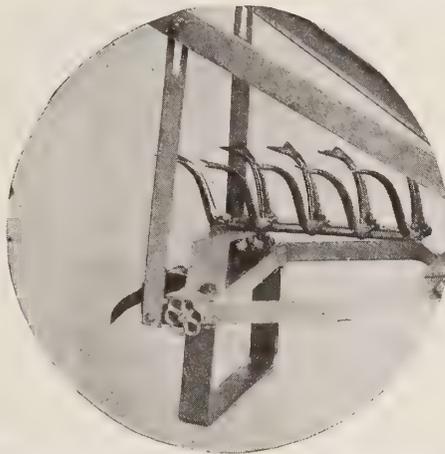
This all metal wheelhoe stands for 100% cultivator efficiency. A strong metal frame holds the matchless combination of 9 tooth Liberty Cultivator Weeder, the Gilson Weeder Hoe and a strong plowshare. The curved plow handles make pushing a joy while the tool is so well balanced as to be easily handled between the narrowest rows. The Liberty Cultivator is adjustable to various widths, the change from one tool to another takes but a moment. The pivot axle is easily loosened and quickly and securely "set" in any of the three positions by simply fastening the set screw by hand. No tools of any kind needed with this most modern of all garden cultivators. Ask

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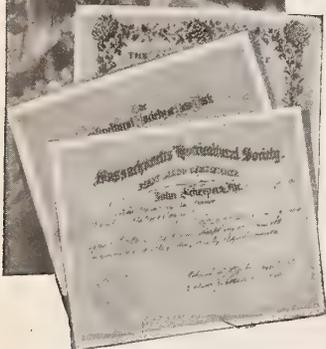
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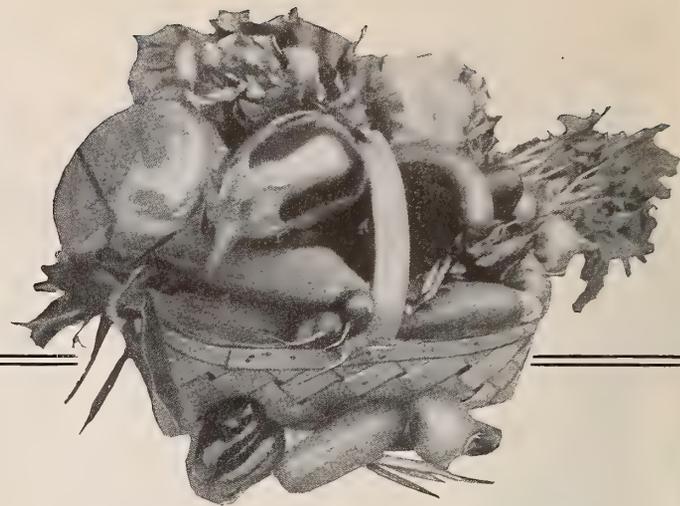
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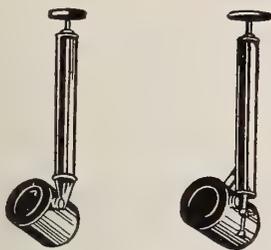


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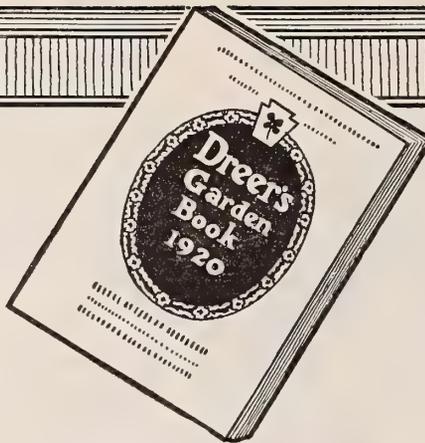
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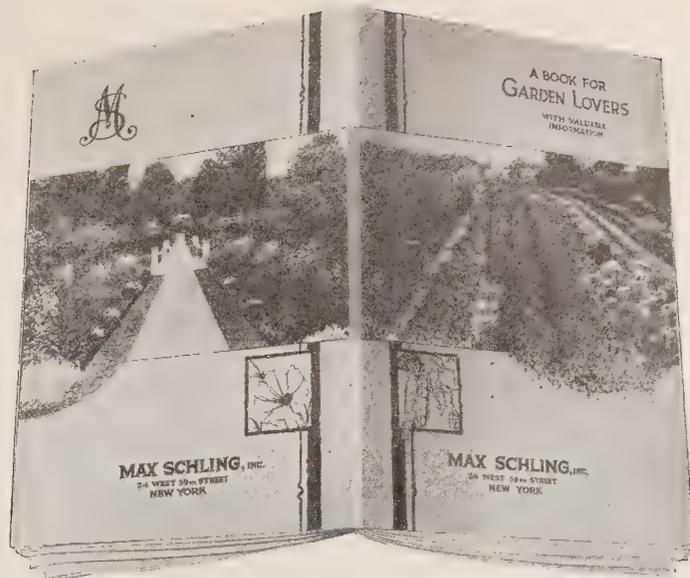
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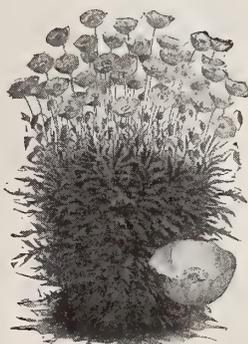
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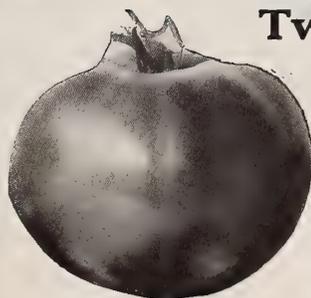
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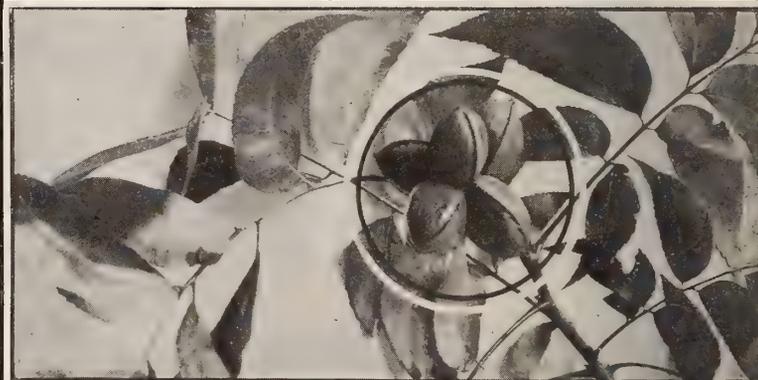
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The Garden Magazine

VOLUME XXX NUMBER 7
FEBRUARY, 1920



A PROPER SETTING FOR THE
QUEEN OF FLOWERS

Turf, wherever it may be retained to compensate for the bare earth of the beds, and picturesque walks of open stone mosaic such as these in the Rose garden of Mr. E. E. Baker at Kewanee, Ill. (Frederick Perkins, Architect), are links which unite the esthetic with the practical—always a problem in the culture of this distracting but exacting beauty



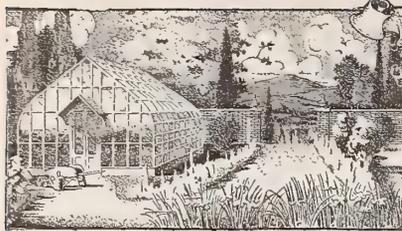
BRINGING REMINISCENT
CHARM FROM AN OLD
WORLD GARDEN TO A
GARDEN OF THE NEW

Too rarely do these ancient bits find themselves in congenial setting in their new environment, but here, from the position of this well-head beside the walk in the Garden of Weld, the residence of Mr. Larz Anderson, Brookline, Mass., to its fine wrought iron overhead work for hoisting the water carrier there is perfect harmony. The vertical break in an otherwise altogether horizontal effect, emphasizing the distant view as it does, is also noteworthy.



A PERFECTLY HARDY NATIVE SHRUB

The earliest flowering of our Azaleas (or deciduous Rhododendrons) is this pure luminous pink Rhododendron Vaseyi which grows wild in abundance in the mountains of North Carolina whilst we scour the far corners of the earth for novelties of striking beauty and merit! Verily it is not alone the prophet who is without honor in his own country. Such plants should be set as this one is against a dark, contrasting, background



PLANT BRIEFS



Turk's Turban—is one of those early appropriate, popular names that obviously fit, and the plant gets the name from the long enduring showy berries in a five rayed red turban crowned with a "globule" as it were of blue-purple. A native of the East Indies, the plant is hardy in Florida and adorns gardens in that section not only with its showy jewel-like fruits in December and January but also when in its flowering season the tubular white flowers (3-4 in. long) appear in immense terminal racemes. Hence its second name of Tube-flower which is just as fitting as the other name, according to season. The shrub grows to 8 ft. high and has a loose open habit; its proper name is *Siphonanthus*, but it is usually called *Clerodendron indica*.

The Marean Dahlias—have for some seasons past won envious attention at the exhibitions of the American Dahlia Society, and visitors to those meetings always wondered at the vigor of strain, the large size and general quality of the blooms staged by Judge Marean. It is a splendid illustration of what can be accomplished in a very short time by persistently breeding and selecting along a definite line, for the whole Marean Dahlia family has a striking similarity, showing a common origin. Hitherto the strain has been exclusive, but this season it will be offered in the trade, in a few varieties, and doubtless will become more familiar on the boards.

Buddleia Eva Dudley—is a new hybrid, the progeny of the tender *B. asiatica* and *B. Davidii magnifica*. The former adorns the greenhouses of the East in winter, and has been accepted as an outdoor favorite in the gardens of California; the latter is the already well known "Summer-lilac or Butterfly-flower." Both parents are introductions of E. H. Wilson, and the hybrid raised by Farquhar partakes of the fragrance of the former and the color of the other. It is named by the raiser in compliment to his wife. The plant is intermediate in hardiness apparently, and so, while not likely to stand as an outdoor plant in New England it may be a welcome addition to the gardens of warmer sections.

A Yellow Cosmos—is one of the most promising of the novelties among annuals. It was not widely disseminated the past season, but a considerable amount of seed was harvested the past fall, and will be available. It seems that seeds were collected in the Philippine Islands several years ago by a soldier who brought them to this country and put them into the hands of a grower of the Middle West. Small stocks are now to be found in different parts of the country. The Yellow Cosmos as it is called (probably not a real *Cosmos* at all) is more dwarf in habit than *Lady Lenox* and some of the other popular varieties, and has remarkably strong stems. The color is more nearly a deep cinnabar orange. The flowers are grown in great profusion and begin to come in midsummer

and last until after the first light frosts. They are excellent for cutting and some of them have been offered by the florists the past season.

The Yellow Clematis—Of the host of *Clematis* few are handsomer than *C. tangutica*. Moreover, it has particular merits of its own, and might well be used in a more general way. It is a rampant grower and will train itself over rocks, banks or walls as well as climb on wires or trellises. Give it a little pocket of good earth on the side of a banking or a rough wall and it will cover it almost as quickly and as satisfactorily as the Bittersweet or Waxworks. The yellow flowers are especially handsome and are succeeded by seed pods which make quite an unusual appearance, being carried on long, hairlike threads.

Of course there are other species of *Clematis* which have this characteristic, but in none is it so pronounced as in *C. tangutica*.

The Regal Lily—it has been found, can be forced for winter blooming as easily as any of the common bulbs. For several years it has been forced for blooming in early spring, but Mr. Anderson, superintendent of the Bayard Thayer estate in Lancaster, Mass., had Regal Lilies in full flower in November, or exactly twelve weeks from the time he potted up the bulbs and there seems to be no reason why it should not be available in abundance for Christmas and Easter. The bulbs force perfectly, after being kept in cold storage and can be forced two or three years in succession in the same pot. Bulbs which are to be forced for Christmas should be potted up early in September. They can be kept in a cold frame until growth has started and then moved to a greenhouse or a room with a night temperature of sixty. No manure whatever should be used in potting, no, nor when the Lily is grown in the open. None! Flowering bulbs are grown in three or four years from seed, so there is no reason why the Regal Lily should not soon be in very general use, and indeed it should be plentiful within the next couple of years.

Flowering Shrubs for Forcing—We have in the past received the great bulk of such forcing plants as Lilacs, Hawthorns, ornamental *Malus*, *Prunus triloba*, Laburnums, Wisterias, etc., from abroad. The new Quarantine 37 closes these avenues and we must depend on home supplies. If forced plants are well headed back after forcing, planted out in good soil and grown for a couple of seasons they will flower splendidly especially if potted or tubbed in the fall and kept in a cool cellar until wanted for forcing. In the case of *Deutzias* (of which *Lemoinei* appears to be the best forcing) gardeners agree that home grown plants lifted with a good ball are superior to the imported pot-grown stock. Cuttings taken in August of this *Deutzia* which are planted out and

Greatly Enlarged and Improved GARDEN MAGAZINE

On Sale March 1st

Recognizing that the interest in gardening created during the war is undoubtedly permanent, the editors and publishers of the GARDEN MAGAZINE offer it (beginning with the March number) enlarged in size and scope, thereby reflecting their confidence that the coming decade will see the greatest advance ever known in the development of gardening in the United States.

With its next issue, marking also the first month of spring, the magazine will be enlarged fifty per cent. in reading matter; the size of the page will be increased; the quality of the paper will be rich and heavy; and every subject that interests the new as well as the experienced garden maker will be treated in season by the highest authorities in their respective branches.

No such magazine has ever before been made as the GARDEN MAGAZINE will hereafter be.

In MARCH: The Complete Planter's Guide

Among other things:—

Mr. Wm. Robinson (of England) writes on the Cedar of Lebanon.

Flower Show Features deals with the great stars of the horticultural world including Mr. Wilson's new Japanese Azaleas.

Timely Vegetable Garden Warnings sounded by Mr. Kruhm.

A Planting Chart for the Whole Country by Mr. A. D. Taylor.

Perennials in Sun and Shade; Hedges; Vines (Planting and Keeping).

Mrs. Wilder tells how to grow Rock Plants without a Rockery.

Cut Flowers from the Greenhouse intimately treated by Mr. Henry Gibson.

Full Architectural Details for Building a Pergola.

Plant Briefs give interesting biographies of some strangers as well as friends.

The Gardeners' Reminder prompts and gives the cues for the month's work.

Nothing is missing; much is added.



grown for three seasons, make grand plants for forcing purposes and can be flowered as early as March if necessary. Another plant which does not force so early as the Deutzias is *Philadelphus Lemoinei*. Of this there are some beautiful varieties, blooming when of small size.

Nemesias—have become deservedly popular for garden purposes since Sutton (of England) gave us the improved strains of *N. strumosa*. Valuable as these are for the garden they are also extremely useful for culture in pots or pans in an ordinary greenhouse. Seeds sown in October will produce flowering plants in February, while for a spring crop if seed are sown in February the plants will bloom in May. Separate colors can now be purchased and all are very rich. Use five or six plants in a six-inch pan and seven or eight to a seven-inch pan, using a light rich soil and feeding with liquid manure when the flower spikes start to push up. There is not amongst annuals any more beautiful plant for forcing than the *Nemesia*. The seeds are very light and all the covering they should have is a little fine sand. Mr. W. N. Craig has saved seed from pot plants and has had excellent germination.

The Fringe-tree—The proper interpretation of the word *Chionanthus* is Snowflower, and this would really be a very appropriate name for the shrub which is more commonly spoken of as the Fringe-tree. This is a plant likely to become much better known with the growing tendency to use native American subjects because of the plant exclusion ruling. This American plant, *C. virginica*, is really worthy of



LOVELY FOR THE GARDEN AND THE GREENHOUSE TOO

The colorful *Nemesias* flutter above their foliage in striking likeness to the airy butterflies which give the plant its common name

familiar with the blue-black berries that are produced in August and which give the plant a very attractive appearance. In order to have fruit, though, it is necessary to grow pistillate plants, as this shrub is dioecious. The staminate flowers, however, are perhaps a little the showier. In the extreme north the plant may not be entirely hardy unless given a sheltered position. In the Arnold Arboretum, however, it grows well and bears a splendid crop of flowers year after year. It is one of the plants which always excites comment and admiration, and no garden maker need hesitate to include it in his planting list for the coming season.



IT LOOKS LIKE A "FRINGE" TREE

Hence a Fringe-tree it is regardless of the botanists having named it *Chionanthus* for snow

wide planting. It is very easy to grow, not being very particular as to soil, although preferring perhaps a sandy loam, and it thrives equally well in sun or slight shade. It never seems to be troubled by insect pest or plant diseases and doesn't grow with undesirable rapidity. While many people have had their attention called to its curious fringe-like blossoms borne in early summer in great profusion, few seem

Gladiolus—There are few flowers so easily increased as the *Gladiolus*, for well grown corms produce great numbers of "cormlets" which in from one to three years will make corms of flowering size. There are one or two points to be remembered, nevertheless, if success is to be won. These cormlets do not sprout as readily as the more mature corms. It has been found by experience that if they are planted in April, in which month there is usually an abundance of rain, they will come along without any difficulty. If planted later they should invariably be soaked for twenty-four hours in warm water before they go into the ground. It is desirable to get as much growth as possible during the summer, and this can be obtained only by giving the cormlets a good start in the spring. It is best to remove the cormlets in the fall or winter. Then they can be stored by themselves in sand or in paper bags tied to the cellar beams. When the cormlets are planted they should go in at least two inches deep. There should be no difficulty about their coming up.

One mistake which the novice often makes in planting mature corms is in putting them in shallow. These larger corms ought to be at least four inches underground. Then the flower spikes will not fall over, as they often do when shallow planting is practised.

A GARDEN THAT IS LET ALONE

BERTHA SCOTT

The Summer Home of Mrs. Emma Payne Erskine, "Lynncote," in Tryon, North Carolina, is Always A-bloom Yet Never a Care—Not Because it is in a Favored Clime but Because it was Planned that Way

MANY people—particularly those who are frequently absent from home—deny themselves the pleasure of a garden because of the constant care most gardens require—not realizing that Nature herself with only occasional aid will supply masses of bloom and color—and from March until October in this latitude of North Carolina! This can be accomplished with just bulbous plants, hardy vines, flowering shrubs, and trees—materials which lend themselves especially well to broad handling, too. And is not the ideal garden the result of having here and there a bit of harmonious color, massed in proportion to the surroundings—the whole a series of pictures—rather than one spot hedged off, crowded and precise? It seems to me so—and that "Lynncote" meets this standard. For here is constant delight to the eye everywhere. And what is more, here

things take care of themselves, thanks to careful planning and the use almost entirely of the hardy shrubs and plants native to the region.

In March the pageant begins. Entering the grounds there is on one side of the arbor the soft pink of the peaches in bloom, set off by the clear yellow of a border of Forsythia, and on the other side bordering the walk, masses of Daffodils and Hyacinths. This rich color, together with the tender green of the Lilac and Rambler foliage has for a background the depth and shadow of evergreens. Farther in can be seen Magnolia grandiflora and the house in its Honeysuckle bower. The Honeysuckle foliage is green here the year round.

By the time the Magnolias have faded the place begins a regular carnival of bloom and fragrance that lasts through



DRIFTING OVER THE COLORFUL STONE WALL

Masses of *Spiraea Van Houttei* cast shadow patterns on its surface that enliven all their portion of the garden



ROSE EMBOWERED TO THE PROVERBIAL DEGREE

The Ramblers at Lynncote have an exuberance that very nearly smothers the cottage—but that is a Rambler's privilege



AIRY PINKS AND TENDER GREENS AGAINST THE BLUE MARCH SKY

The whole place is extremely lovely as the first warm days bring leaf and flower buds to their debut in a cloud of soft pastels

April. The Japanese flowering trees—the Quince in all shades of pink, the Cherry, Plum, Crabapple, and Apricot—head the list. And of all the flowering trees, let me say in passing, the Flowering Crabapple alone has no rival. It bears countless thousands of big fluffy flowers, each blossom with the beauty of a delicate rose, and its season is comparatively long—at least three weeks.

With the bloom of these trees come the lavender and white Chinese Wisterias on the arbors and porches, closely followed by the native Wisteria. The Ramblers, crimson and pink, do well almost everywhere of course—and here they run riot. The Spiraea Van Houttei also attains unusual height and beauty, and used along the walls its snowy cascades are most effective. Tucked in all sorts of surprising nooks are the next comers in the floral procession, the many varieties of Iris, keeping company with the Hardy and the Tea Roses. And although their seasons are short, the Yucca and the Peony have honored places because of requiring minimum care as well as being showy. On the other hand there are perennials that are less showy but that bloom all summer—such as the Pentstemons—which have been included because of the length of their blooming season.

While the walks and arbors have been a succession of gay

colors, the terraced hillsides—the site is a mountain side—have been equally beautiful with the native wild flowers, shrubs, and trees. With the first soft mist of green in the trees appears the most beautiful native combination imaginable—the Redbud (*Cercis canadensis*) true in its color to its name and rose color when in full flower, and the Flowering Dogwood which everyone I am sure knows is white. Following these are the Rhododendrons, Laurel, and Azalea or Mountain Pink—and though perhaps not quite so decorative, the fragrant Locusts. Among trees too there are the Tulip Poplar and the Fringed Ash; and later the Sourwood (*Oxydendrum*).

Later, too, is the Australian Tree-vine (small flowers, shape and color like the Arbutus), and the hardy Chrysanthemums that wait until, with the brilliant foliage of the trees and shrubs, they may end the display in a final blaze of warmest colors.

One could not in every climate, to be sure, count on as many shrubs as are at home in North Carolina; but if you desire a garden which requires the least attention study first and use your native shrubs and trees. Later the exotics may claim attention if you like—if you feel that the native material yet leaves something to be desired.



MAY-DAY CROWNS THE ARBOR

And again Roses are the medium with which the timbers seen above are made regal

THE FLOWER GARDEN OF CHARM

F. F. ROCKWELL

Where Divers Elements Waiting Without the Gates To Be Translated
Into This Elusive Quality Prove Anew Its Defiance of Exact Analysis



ONE quiet golden September afternoon, I had wandered over one of the most beautiful estates in Connecticut by myself, while I waited for the owner to return. The fields and the orchard and the grounds and the greenhouses were all inspected in turn—and all quite “comme il faut,” as these things go on big estates; quite complete, perfect—quite without individuality! And then, through a little arched door in a vine-covered wall—one of those “this-is-private, you-ought-to-stay-out, but-I-dare-you-to-push-me-open-and-peep-in” little doors that would tempt any lover of gardens as quickly as the clash of swords and a maid’s cry down a dark street would have tempted an adventurer of knighthood days—through such a little door I caught a glimpse of just the kind of a garden one dreams of. And of course I went in!

And I found myself on a gravel path—but it was not a formal garden. It was neither formal nor informal; not Italian or Japanese, nor pink nor blue. But it was wholly a garden of charm; and above all a garden of *personality*. The greenhouses, and grounds, and other “features” belonging to that place could have been exchanged for those of any one of a dozen others and I doubt if the owner, making his rounds the following Sunday, would have noticed the difference before he was well through his first cigar. But that little garden any one would have known again in a thousand! Yet it was very simple; it looked perfectly “natural” as if, like Topsy, it had “just growed” there. Any one with experience in garden making could understand that no end of thought and loving care had gone to achieve that simplicity, however.

Inside the Enclosing Wall

FOR one thing, in spite of the wealth of material it was a nice, homey, comfortable garden. It was well ordered but not too neat and prim. It invited close inspection too, even to the setting of one’s foot on the turf, or in the beds themselves. A glorious mass of Anemones dominated one corner! The plebeian Kochia had been used with skill and telling effect. The air was almost heavy with the fragrance of Heliotrope from masses of this along the sides as well as a score or more of splendid tree Heliotropes several years old (in candy-pails, plunged level with the soil!), placed at the corners of paths, and along walks. These were charming in their semi-formal, old-fashioned effect. And against a tall gray wall at the far end of the garden tossed a perfect sea of pink and white Cosmos—the first Lady Lenox I had seen—which all but hid from sight a flight of steps going right up to the top of the blank wall!

“Here,” I thought, “is indeed an enticing garden. To what hidden trysting place do these steps lead? Luckily I am alone: I shall find out the real secret of this garden.”

I did. I mounted the steps and looked over—and it was a surprise! For what I saw was a big pile of manure; another of sod, stacked shoulder high; a compost heap with weeds and grass and faded cut flowers and what-not showing on the surface; and a big wire incinerator, with several barrels of ashes near it under a small open-front shed. In this were also visible tools and bags and boxes.

Someone laughed! I turned, balancing on the top step. The Lady of the Garden was looking up at me. I hoped I did not appear as I felt.

“I was attempting,” said I, trying not to fall into the Cosmos, and endeavoring to descend as gracefully as the gentleman burglar of a popular play—“I was attempting to discover the secret of your garden: and I think I have. Over the garden wall will have a new significance for me after this. The more completely spontaneous and natural and just-as-the-Lord-made-it-grow look a garden has, the more certain I’ll be of what can be found over the wall.”

“But you have looked over only one wall,” she replied. “The others are quite as important.”

So we went and looked over the east wall, which didn’t require any steps. Under it, nicely sheltered, was a long row of frames, some half of them full of perennials and biennials started for the spring. “You should see my Pansy beds in spring,” she exclaimed, enthusiastically. “I enjoy quite as much being behind—or rather ahead of—the scenes,” I answered. “Like Budge and Toddy, I like to ‘see the wheels go wound.’”

But when we looked over the west wall—or rather through it, for there was another door here—I was somewhat puzzled. Only a few trees, and the side wall of the house, with a bay window jutting out. I looked at my companion inquiringly. “That’s the most important part of all,” she assured me. “There is my study—my ‘padded cell’ my husband calls it. That is where I keep all my garden books, and my bound volumes of GARDEN MAGAZINE, and stacks of catalogues, ruled paper for making plans, and all that sort of thing. That is the *real* secret of the success of my garden if you will have it!”

The Tale’s Adorning Moral

THIS particular scene in this flower garden is described because it serves as an example of high efficiency and—example is always more compelling than argument. And efficiency in the flower garden always needs emphasizing! “‘Efficiency’ in the flower garden,” says someone, “might as well talk of efficiency in poetry, or efficient comic opera!”

Not at all. Efficiency has its place in the flower garden—though too often it has not!—even if the end and aim of that gardening be pleasure pure and simple. And just now with the war over and flowers coming into their own once more, it

is time for us to pay attention to it. We are all glad to get back to gardening for pleasure—just as we were glad to do our duty in our war gardens while the necessity lasted, almost to the exclusion of every flower. But the point that so many people fail to realize is that the pleasure garden won't evolve itself any more than the most practical of vegetable gardens! And the average gardener will not find any pleasure in his or her garden unless it is a successful garden.

The very first step toward success even with a few square feet of flower space, is *planning*—considering what to put in and how to arrange it. That was the receipt of the lady whose garden I have just described. "I plan—plan—plan—and then re-plan my garden," she said, "I live in it every day in the year."

Of course she was speaking figuratively. I knew that, for I knew she spent the winter months in town. But even there she carried the vision of her dearly cherished garden with her.

Certainly it is not possible for everyone who gardens to devote so much time to the enticing sport. But even if one has but minutes to give where she gave hours, remember that the poet wrote "My mind to me a kingdom is," and that it is in this kingdom of the mind that a garden must first be planted, if it is to grow as you would have it grow to its final development. Don't be afraid to dream about your garden! Don't be afraid to make it—in the kingdom of your mind—all you would like to have it. Stand on your porch, or look out of your window, and *visualize* the garden of your dreams—formal or informal; rose, or water or rock; pink or blue or yellow; as you may desire it.

And then develop that mental negative by putting the plan down on paper! That is the first great step toward having a wholly satisfactory pleasure garden. Make your flower garden by making first always a mental photograph of what you would like to have.

After that comes

working out the detail. Send for plenty of catalogues: study them carefully. Look up the back files of your magazines. Make yourself familiar with the newer garden tools; they will lighten your labors and help keep your garden cleaner and in better health than ever before. Buy your fertilizers in time, and the insecticides and fungicides that you are sure to need before the season's half through.—Why wait? There is nothing to be gained by waiting.

Get ready, outside your garden walls, to make a success inside!

Some Suggestions For Seed

Here are a few of the good old standbys that you will find use for in the various parts of your garden—material to

use in sun or shade, for cutting or keeping, for color or for fragrance.

For masses of color: Petunia; Marigold; Phlox Drummondi; Salvia; Aster; Verbena; Poppy.

For edges and borders: Sweet Alyssum; Dwarf Celosia (especially the new "Wool Flower"), Dwarf Marigold and Dwarf Zinnias (named sorts); Myosotis, Bellis Perennis.

For shady places: Pansies; Torenia; Aquilegia; Delphinium; Digitalis; Canterbury-bells; Myosotis.

For hot sun: Annual Sunflowers; Heliotrope; Portulaca; Ice-plant; Oxalis; Cockscomb; Begonias; Petunias.

For screens and hedges: Sunflowers; Ricinus; Cosmos; Kochia; Celosia; Sweet Peas; Echinops; Cleome.

For cutting: Asters; Chrysanthemums; Dianthus; Cosmos; Clarkia; Stocks; Gypsophila; Scabiosa.

For fragrance (and cutting): Sweet Peas; Mignonette; Heliotrope; Marguerite Carnations; Stevia; Stocks; Sweet Sultan; Wallflower.

For climbing: Nasturtium; Morning-glory; Moonflower; Cardinal Climber; Dolichos; Canary-bird Vine.



What Though the Snows Drift Deep!

Let's make a flower garden!—
Altho' the snows drift deep,
And down below in darkness
The living world's asleep.

Here in the chimney corner
Before the Birch log blaze,
Let's plant our paper garden
Full for the good June days.

There is a bed for Balsam;
And here against the wall
The airy Cosmos tosses,
And Hollyhocks grow tall.

And in this shaded corner
Long will the Pansies bloom;
And Mignonette—to mention it
Is fragrance in the room!

Around the beds and borders
Let Sweet Alyssum creep—
We'll make our flower garden
What though the snows drift deep!

F. F. R.

GARDENING ON THE EDGE OF THE PLAINS

CRAIG S. THOMS

Where Nothing is so Certain as Weather Extremes and the Uncertainty of Each Season's Advance; and Gardeners Would do Well to Cultivate a Sixth Sense

THE Great Plains—that belt of country running north and south through the Dakotas, Nebraska, Kansas, and on to the Gulf—formerly a grazing country, has of late years become largely a place of fields and gardens as settlers and cultivation have pushed westward. But the risk of late and early frosts is so great and midsummer is so hot and dry that gardening is tricky—and gardeners must be also.

These facts make numerous garden suggestions miscarry here which would be valuable farther east where seasons are less erratic and where there is also greater humidity in the atmosphere and the nights are warmer. To think of having lettuce in this region all summer, for instance, and until after frost, is a delusion. A few successive sowings in the spring are all that is worth while; but an excellent substitute for summer and fall lettuce on the Plains is the Chinese cabbage. It grows like Cos lettuce, but is larger and more vigorous and stands both heat and cold well. It must not be used until quite fully grown and then only the bleached inside parts.

Large lima beans are disappointing in this region. They require a long season with considerable moisture and warm nights. During our hot, dry months, they do little, and they are caught in immaturity by our early frosts. The Henderson limas, both bush and pole (Sieva) varieties, do well, however, and though frost finds many still undeveloped on the pole variety, yet an abundant crop is matured.

Few ideas are more alluring than that of "ever-bearing"—ever-bearing raspberries, ever-bearing strawberries and so on. But owing to our hot, dry summers nothing of an ever-bearing sort meets with success enough to be worth while here unless given special attention. Ever-bearing strawberries simply dribble along throughout the season, bearing a small crop at the usual time, doing practically nothing in the heated season, and picking up a little in the cool of autumn. If, however, they are well fertilized and frequently watered, the results are not to be despised. But unless one is willing to pay the price of abundant and constant care he would better give up the ever-bearing idea.

MOST that is said in catalogues and pamphlets, about "successive plantings" applies in this region only before hot and dry weather sets in. Two or three plantings of radishes, beets, lettuce, carrots, peas, etc., are all that is profitable. A hot-weather radish, however, has been found in Hansen's Turkestan radish, the seed of which was brought from Siberia by Professor Hansen in 1913. When other radishes are hard and stringy by reason of heat and dryness, this radish is in prime condition. I planted it last year at the same time as other radishes. When it was as large as the ordinary it was so peppery as to be almost distasteful.

But it kept on growing, and when it had attained the size of a hen's egg, which was during the warm season, it had lost its peppery quality without becoming hard and stringy. One radish was enough for a whole family—and they were mild, crisp, and juicy.

Owing to our hot, dry summers large onions are not raised from seed with much success. Their growing season, which must be cool and damp, is not long enough. The best success in onion raising comes from planting small sets raised from seed sown thickly the year before. Cauliflower may be raised with success if the quick-maturing varieties be used, such as Early Favorite, Gurney's Early Market, Burpee's Best Early, or other like varieties. It is not worth while to raise cauliflower late in the season. While it will head, the cabbage worms find their way into the seams of the coral-like heads and render them practically unfit for food. Brussels sprouts, like cabbage, grow well in this region, but in some sections it is useless to plant them because a certain small fly congregates in large numbers upon the finely leaved sprouts, and the wind so fills the half-opened leaves with dirt that it is practically impossible to make them fit for food.

In small home gardens of this region celery may be attempted with good promise of success. Here again it is the hot, dry summer that is the drawback, but it can be overcome if the plants are properly handled. It has been my custom to use the Giant Paschal variety, to raise my own plants, and to sow the seed in a hotbed by March first. It is important to give the plants an early start so that they acquire a good rootage before hot weather sets in. The danger from early planting is that many of the plants may run to seed, but if two transplantings be made this danger becomes negligible. It is important to mulch the young plants with well-rotted manure when they are first set out in the garden. The rows should be about 18 inches apart, and the plants set 6 inches apart in the rows. The mulch fertilizes them and holds the moisture about their roots. It also keeps the soil from baking after watering. Celery requires abundance of water. In the second transplanting each plant should be taken up with a solid cube of soil about its roots four or five inches through each way. The season is then becoming warm and the growth of the plant must not be checked. Only the strongest plants should be used.

For the second transplanting it is my custom to dig a trench between sweet corn rows wide enough to hold four rows of celery a foot apart and then set the plants a foot apart in the rows. The corn on either side partially shades the newly set plants; later, when the plants have become established in their new location, the corn will be harvested and the stalks cut. Before using the ground thus trenched for celery two rows of early peas may be harvested.

THE ROMANCE OF OUR TREES— V. THE HORSECHESTNUT

ERNEST H. WILSON

Assistant Director, Arnold Arboretum

Admitted to Be the Most Beautiful Exotic Flowering Tree in the Eastern Part of the United States—Would the Consensus of Popular Opinion Be as Overwhelmingly in Its Favor Here as It Surely Would Be in England?

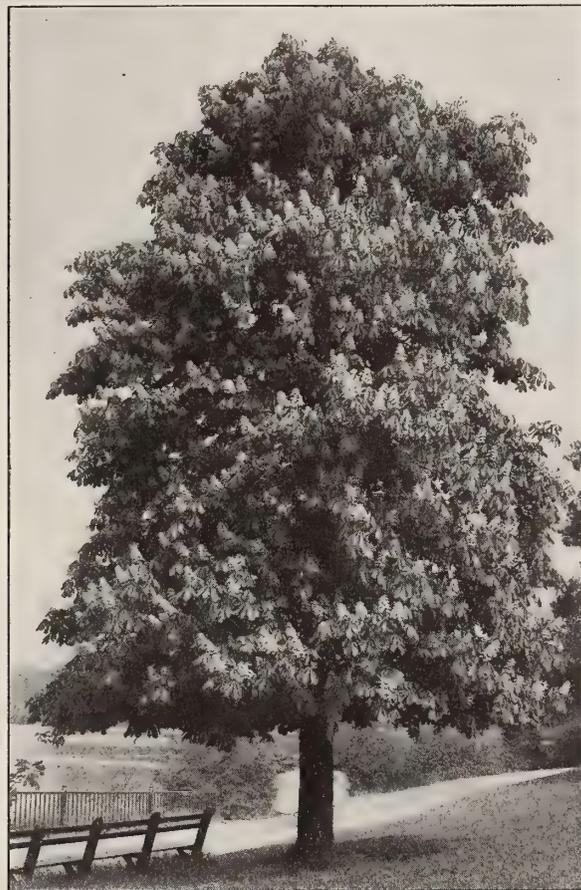
NO POET or writer of prose has immortalized it in the sense that the Holly, Yew, and Weeping Willow—not to mention the Rose—have been immortalized; and considering its striking appearance, its handsome flowers and its general popularity, comparatively little has been written about the Horsechestnut tree. Some have even seen in its prodigality of blossoms and the manner in which they strew the ground a symbol of ostentation, but surely this is harsh judgment. Should it not with more propriety be likened to the exuberance of childhood—healthy, carefree and as over-flowing with happiness as schoolboys on joyous holiday? Of all trees indeed it is most fitting to be regarded as the emblem of vigorous youth; and the manner in which it—an alien—came to the parks and gardens of western Europe and to those of this country and by merit of its hardiness, its sturdy growth, and its lovely flowers established itself among us and holds its own among the wealth of indigenous trees, strikingly bears out the analogy.

In literature and art Greece has given much to the world and the western world gladly acknowledges the debt it owes. But it is not generally known that to her many other gifts Greece added the Horsechestnut. This fact is established after a lapse of three and a quarter centuries. Western Europe's first knowledge of the Horsechestnut came through trees cultivated in Constantinople—just as happened with the Lilac, most familiar of garden shrubs. The two discoveries almost synchronized, the Lilac being sent from Constantinople to Vienna in 1560, and seeds of the Horsechestnut in 1576. The latter were sent from Constantinople to Vienna by Dr. von Ungnard, the Imperial Ambassador to the court of Suliman II, and a tree was raised by the celebrated Clusius.

This tree grew rapidly and is mentioned by Clusius, with a good figure of the leaves and fruit and the history of its introduction to Vienna, on page 7 of his work entitled "Rariorum Plantarum Historia," published in 1601.

But a Flemish doctor, one Quakleben, who in 1557 was attached to the embassy of Archduke Ferdinand I at Constantinople, first mentioned the tree in a letter to Mattioli as told in the "Epistolarum medicinalium libri quinque," published in Prague in 1561. Later Mattioli received a fruit-bearing branch and published the first description of the tree with a good figure of the leaves and fruit on page 212 of his "Commentarii in libros sex Pedacii Dioscoridis De medica materia," which was published in Venice in 1565.

Mattioli called it *Castanea equina* because the fruits were known as *At-Kastane* (Horsechestnut) to the Turks who found them useful as a drug for horses suffering from broken wind or coughs. Here then we have the origin of the popular name which has remained unchanged to this day. The generic name *Aesculus* (from *esca*, nourishment) was adopted by Linnaeus—but was first given by Pliny to a kind of Oak having an edible fruit. The specific name *Hippocastanum* was also adopted by Linnaeus in 1753 and is the vernacular name latinized.



THE TREE AS WE KNOW IT HERE

This young sugar-loaf specimen growing on the Parkway in Jamaica Plain, Mass., is the type of *Aesculus hippocastanum* familiar to us and beloved of young America under the name of "candle tree"

THE first Horsechestnut seeds were brought to France by Bachelier from Constantinople in 1615, and it was probably introduced to England about the same

time, for in Johnson's edition of Gerard's "Herbal," published in 1633, it is stated that the tree was growing in John Tradescant's garden at South Lambeth. In the original edition, published in 1597, Gerard mentions it as a tree growing in Italy and sundry places of the eastern countries.

In the early struggling days of this country its English settlers found time to introduce many plants of esthetic value as well as those of purely economic worth. But unfortunately dates are so often lacking that the exact history of any given plant is seldom available. This is a great pity, for though history in general as taught in schools may be as "dry as dust," the salient historical facts appertaining to the commonplace things of every day life and acquaintance are rich in interest. And moreover their teaching is not without its direct value in present day affairs. Our ancestors sought food for the body and things of beauty to delight the soul, even as we do to-day—and we enjoy the results of their labors.

Furthermore it is our bounden duty to pass them on with increasing worth, to the generations that succeed our immediate own. Improved strains of wheat, pulse, or cotton, of Roses and new flowers, of everything which increases the food resources or ministers to the soul, have to-day, as they always have had and must ever have not only immediate but progressive value to the human race—all of which may seem to belong more to the realms of philosophy than to the matter of the Horsechestnut, and yet the story of the tree is after all the story of the triumph of the beautiful over more sordid things. And it demonstrates anew the truism that beauty is transcendental.

Thanks to the letters published in 1849 by William Darlington in his "Memorials of John Bartram and Humphrey Marshall" the story of the introduction of the Horsechestnut into America is on record. Thus, page 146: "London, Septem-



TWO AND A HALF CENTURIES OLD

And grown to giants are the two first Horsechestnuts planted in Scotland which were set out in 1660. They are on the estate of F. R. S. Balfour, Esq., Dawyck, Peebleshire, and are probably the oldest of the species in cultivation

ber 16, 1741.—'I have sent some Horsechestnuts which are ripe earlier than usual; hope they will come fit for planting.' P. Collinson." Page 175: "April 16th, 1746. 'I have some hopes of the Horsechestnut though most of them were blue moulded yet some seemed to be pretty sound.' J. Bartram"; and finally p. 252: "London, August 4th 1763; 'But what delights me is, to hear that our Horsechestnut has flowered. I think it much excels the Virginia, if the spikes of flowers are as large with you as with us. To see a long avenue of these at Hampton Court— of trees 50 feet high—being perfect pyramids of flowers from top to bottom, for all the spikes of flowers are at the extremities—is one of the grandest and most charming sights in the world.' P. Collinson."

I have had some experience in sending seeds from distant lands and consider the Horsechestnut among the most difficult to transport safely. I marvel that in those days of slow sailing ships it should have been successfully done. From the lapse of time before Collinson's reply it may be inferred that more than one consignment was sent. But sticking does it! And to-day we benefit from these grand old plant-lovers' successful efforts. In this one accomplishment they made the American people their debtors for all time—and such debts are pleasant to acknowledge and to bear.

So well-known is the Horsechestnut that it seems superfluous to attempt a description of the tree. It will grow well on sandy or on calcareous soils but luxuriates in rich, cool loam. Given plenty of room in park or on lawn it will exceed a hundred feet in height and 20 feet in girth of trunk. Its massive branches with their laterals form a splendid oval or bell-shaped crown, and sweep the ground. In spring pyramids of flowers full ten inches high are upthrust from the ends of thousands of branches. No tree is more prodigal in its wealth of blossoms and none more spectacularly beautiful. The petals are erect and tend to curve backward, while the stamens—seven in number—and the style are slightly curved and projected forward and serve as a platform for bees—their chief visitors. On the face of the upper petal are yellow spots which later turn red and are called honey-guides.

A closer inspection will reveal other curious and interesting facts. In each thyrsoid inflorescence the upper flowers open first and these are potentially male. The lower flowers are perfect but the pistil matures first and is ready to receive the pollen immediately the flowers open; the stamens in these flowers are at first bent down below the style, later on they move up to its level. We see here a provision for cross-pollination from the upper male flowers and if this fails self-pollination is assured by the rising of the stamens in the same flowers.

The scent of the flowers is remotely like that of the Hawthorn and is not particularly pleasant. The bright green leaves unfold slightly before the inflorescence appears and are full grown when the flowers are wholly expanded. The leaves are disposed in opposite pairs on the shoots and have a long stout stalk, and the blade is of five to seven separate leaflets radiating from a common base like fingers of the hand. When they fall in the autumn they leave prominent scars on the shoots. The winter-buds are large, chestnut-brown and covered with resinous scale leaves and contain next year's shoots in an advanced state, including the flowers. If sliced vertically all this may be clearly seen in winter. In spring



BEHOLD WHAT OUR HORSECHESTNUTS MAY COME TO!

Specimens like this one in Kew Gardens shown in full flower with its thousands of "candles" alight are a prophecy and a promise of such transcendent beauty that its realization would seem doubtful if it were not attested by these very specimens

the buds expand very rapidly—as the least observant must have noticed—a whole shoot 1 to 1½ feet long being fully developed inside of three weeks. These viscid winter buds are characteristic and of importance.

IN EASTERN North America several species of Horsechestnut grow wild. Here they are known as Buckeyes—and is not Ohio the Buckeye State? But all these have gray winter-buds perfectly free from any suspicion of resin. The Old World species (of which there are six—one in Japan, two in China, two in India and one in Greece) and the two which grow wild in California have viscid winter-buds.

The large, nearly globular fruit with its prickly studded shell is well known. It splits and falls when ripe and liberates the seeds, which vary from one to three and are glossy, shining brown with a broad, pale gray base. The Horsechestnut is easily raised from seed, grows rapidly, and is readily transplanted. In dry summers and in towns and on shallow soils its leaves turn brown early and for this reason and also on account of its fruit it is not a good tree for street planting. For specimens and for avenues and parks, however, it is exemplary.

THE wood of the Horsechestnut is soft, lacks strength and durability and is of little or no value. It burns badly and is not therefore much good as fuel. The bark contains gallic acid and a bitter principle which gives it value as a tonic equalling that of the Willow. The seeds have many uses besides the ancient one of the Turks and that employed by schoolboys. Their taste is at once mild and bitter and they are rich in starch. Reduced to powder they serve as soap; roasted they are used as coffee; and fermented they make a spirituous liquor which yields alcohol by distillation. The young aromatic buds have been substituted for hops in the manufacture of beer. During the Great War the nuts were tried in England for the preparation of acetone by the fermentation process, and the difficulties attendant on their use for this purpose were in a fair way of being surmounted when the armistice was signed.

Until comparatively recently the Caucasus, Persia, north India and Thibet were variously given as the supposed home of the Horsechestnut. On the authority of Dr. Hawkins, Sibthorp says—in his "Flora of Greece," published in 1806—that this tree is wild on Mt. Pelion in Crete, but later investigators have decided that it was only planted there. For centuries the native country of this tree was a matter of



WINTER REVEALS THE LAYERING OF LOWER BRANCHES

Even as it shows the tree's sturdy frame radiating from an approximate centre very much as the leaflets radiate from a common base in the Horsechestnut leaf

doubt which was not definitely removed until 1879 when Theodor von Heldreich published a full account of its wild habitats—the mountains of Thessaly, Epirus, and other parts of northern Greece. In 1897 it was found growing wild on precipices in the district of Janina in Albania, below the lower limit of the coniferous belt. It is true nevertheless that the Horsechestnut was introduced to cultivation in Greece by the Turks, who planted them in and around the towns.

Quite naturally in a tree so long cultivated several varieties have been detected and perpetuated by vegetative propagation. Among the most distinct are vars. *pyramidalis*, *umbraculifera*, *tortuosa*, and *pendula*—sufficiently described by their names. A form with leaflets incised into narrow lobes has been distinguished as var. *laciniata*; another with short-stalked, yellowish variegated leaves which suggest a diseased condition ought to be discountenanced. A variety with double flowers (var. *flore pleno*) has merit since the flowers last longer than those of the type, and as it bears no fruit it may be planted where the type is objectionable. In connection with this it is interesting that in 1822, near Geneva, a Mr. A. M. Baumann discovered on an ordinary Horsechestnut tree a single branch which bore double flowers. This branch was propagated by the Bollweiler Nursery in Alsace—and is the source of all the plants of the double-flowered form in cultivation.

For no other tree is a day especially

feet tall and from 10 to 20 feet in girth of trunk, with handsome crowns and branches sweeping the ground.

THE tree is so common a feature of the landscape of the British Isles that a majority of the people take it for granted that it is a native tree. And though schoolboys are rarely interested in trees—and I know of no tree other than the Horsechestnut that the boys of my time took interest in unless to satisfy their appetites—their enthusiasm for the Horsechestnut is boundless and many a mile in England do



THE SAME TREE IN MIDSUMMER

Its height is something above 100 feet even as its spread is nearer to 160 feet than to less and the dense leafage transforms its interior into an impenetrable sanctuary

set apart in England as is Chestnut Sunday for this famous exotic. According to seasons it is a rather movable feast, but it usually comes between May 19th and May 26th. And from London and its suburbs people journey in thousands to bask in the glory of the avenue of Chestnut trees in Bushey Park on the banks of Father Thames. The width of the avenue is 170 feet and its length about a mile. It was planted by the celebrated architect, Sir Christopher Wren, in 1699. There are one hundred and thirty-seven trees on each side and they stand 42 feet apart in the line. A quarter of a mile from the Hampton Court palace end of the avenue a round pond 400 feet in diameter, with a noble fountain in the centre, forces the Chestnut trees from the straight line to a circle with magnificent effect. Some of the larger trees have died and are replaced by younger, smaller ones, but the show of blossoms is wonderful year after year. The largest trees are fully 100

they walk to gather the great Horsechestnut seeds—for are they not essential to playing the famous game of “Conquerors”? Among my own earliest recollections is that of a grove of trees in an ecclesiastical seminary and how

AS THEY SHOULD NOT BE PLANTED

It is just this mistaken use of this noble tree close-set along village streets that accounts for the slight esteem in which it is held in most American communities.
(A village near Harrisburg, Pa.)



ENGLAND'S GREAT AVENUE

Here at Bushey Park by Hampton Court are the magnificent distances and majestic intervals which the tree demands and its litter, the bane of neat householders, is of no consequence

much I used to think of a generous gift of nuts from the student priests—and my proudest possession at a certain time was a long rope of them. How carefully we used to bore a hole through them—a horse shoe nail being the favorite tool—dry them afterward and test their strength at the end of a string in battles with other boys. Some were clever in hardening them by roasting, but as far as memory serves mine always burst when placed in the oven! As to their edible quality, deer eat the nuts greedily but cattle leave them alone.

Of the other Horsechestnuts in the world it is not my intention to tell. A Chinese species is planted sparingly in

temple grounds in Peking. The Japanese species grows to as large a size and is no less beautiful than the common species. Several of the eastern American species have colored flowers from yellow to orange and dark-red. Also, there are hybrids between the American and Grecian species and two of these (*carnea* and *Briotii*) are strikingly beautiful. But we are concerned only with the Common Horsechestnut—the favorite of the schoolboy, one of the most accommodating of all trees, hardy, quick-growing, floriferous, perhaps the handsomest of trees in the north temperate regions, familiar to all, a tree of beauty, a joy to behold—*Aesculus Hippocastanum* L.

IS OIL A PRACTICAL GREENHOUSE FUEL?

Conditions Must Govern the Choice of a Heat Source—Not Entirely a Matter of Relative Cost

EDITOR'S NOTE: *The recently published "Greenhouse Heating Problem" question opens up the whole subject of oil burning, so interesting to fuel users at the present time, that we have made an effort to get a concise presentation of the available facts. At its meeting of November last the Horticultural Club of Boston discussed the subject of Oil Burning. Prof. E. F. Miller of the Mechanical Engineering Department of the Massachusetts Institute of Technology; Mr. A. H. Ballard, Oil Engineer; and Mr. J. C. Scorgie, experienced user of oil for fuel, were speakers. Mr. Fred A. Wilson, himself a mechanical engineer, is secretary; and it is from the secretarial notes and his own technical knowledge of the subject that this article is derived.*

VERY little has actually been accomplished in the burning of oil on a scale small enough to judge of it in the greenhouse for the average country home, yet there are definite deductions that can be made from experiences with large scale operations. In the matter of cost alone, the oil to be used is fuel oil, and not kerosene or any other derivative. The large oil companies have made extensive preparations to handle fuel oil. Crude oil once came chiefly from the paraffine base oil fields of the Appalachian region, but the growing use of gasolene, a derivative, extended the supply to the asphaltum base oil fields of the southwest, and of Mexico. Crude oil at the wells costs little; transportation to the refineries costs four times as much, and the refineries take off about 8 per cent. as gasolene, and market the remainder as fuel oil. It is certain to supplant soft coal to a very large extent as steam fuel, and increasing demands will place it at the disposal of any customer in a convenient manner.

The consumer's cost of fuel oil varies according to the expense of delivery. But this cost seems not the important feature, for sharpening competition between coal and oil is likely to result in a price accommodation so that the cost of fuel per unit of heat will be about the same with either material. Just now oil fuel will figure cheaper, except near the coal mines. Broadly speaking, as prices are to-day a plant using 1,500 tons of coal at \$10.00 a ton could with good efficiencies save \$400 to \$500 by using oil at the average present cost, but the real savings are in other directions.

In a large power plant with mechanical stokers, underfed, and with overhead coal pockets, one man can care for twenty thousand horse power. In a small hand-fed plant one man can care for only about five hundred horse power. With oil fuel one man can handle a tremendous capacity. The labor is therefore a serious item in favor of oil burning on a large scale. The freedom from ashes is another, and in some instances the storage, for where space is limited oil has the advantage. It may happen that where additions have been made to a greenhouse range heated with coal the original chimney capacity is now inadequate. In such cases a change to oil would be a distinct advantage, for the stack capacity needed for oil is far less than for coal.

Under ordinary conditions an efficiency of 68 per cent. is good for a coal-fired boiler. With expert supervision the efficiency runs higher, even to 80 per cent. A pound of coal can only use 12 to 12½ pounds of air for complete combustion. Uneven thickness in the coal bed lets the air draw through thin places in greater quantity than needed, so that with all parts of the fire getting at least enough, a common consump-

tion of air is 20 pounds per pound of coal. This excess air is heated and goes off up the stack, taking away heat even to the extent of 20 per cent., while radiation and flue gases waste more. The loss reaches 30 per cent. or more. The other extreme of too little air is a worse alternative, for incomplete combustion to carbonic oxide results, instead of complete combustion to carbonic dioxide. With oil containing 68 per cent. carbon and a larger amount of hydrogen the heating value is greater. There will be excess air, but not in such great amounts. There is less wastage and a corresponding greater efficiency, which may easily be around 80 per cent. Comparisons of heating values do not mean much in specific instances, but it may be said, taking average efficiencies, that a long ton of coal at 65 per cent. efficiency, has an equal heating value with 168 gallons of oil at 80 per cent. efficiency.

INSTALLATION costs vary with conditions. Burners are inexpensive, and should have large holes and be easily removable. Oil contains sand and burners must be easily cleaned. The most expensive items of first cost are the pump and the storage tank. The pump delivers oil under pressure, and an auxiliary outfit may furnish steam for atomization. Mechanical atomization may be developed for small hot-water heating plants, but steam is in common use for stationary work. Atomization except under pressure is insufficient and therefore wasteful. The storage tank is commonly a water-proof reinforced concrete underground tank. If one is to carry 3½ barrels of oil for every ton of coal formerly held on hand, this tank would be about half as large as the coal pocket, and far more expensive to build.

On the basis of a 60 day supply, for a plant using 6 tons of coal a day, the tank will contain 8,000 cubic feet. A small electrically driven pump is perfectly practicable for a small installation but the whole conditions are more complicated, especially because skilled and continuous attention is not devoted to such a plant. Kerosene may be the fuel for these, even at three to five times the cost of fuel oil, for atomization is easier, and clogging and carbonizing should be less troublesome. To sum up—an exact appraisal of the value of oil as a greenhouse fuel in any specific case requires engineering service. The general statements made here will serve as guides, however, in the consideration of its possibilities.

Finally answering the question "are oil fires dangerous?" While perhaps not so completely "fool proof" as coal fires, the best answer is that insurance companies do not change their rates when oil fuel is used.

A SELF-DETERMINED IRIS GARDEN

JOHN L. REA

Accomplished Pursuant to the Verdict of a Plebiscite Following a Period of Considerable Unrest



ONE lovely May morning I paused—as so often before—in front of a great clump of the lovely pale blue *Iris pallida dalmatica*—not the lavender-tinged *pallida* foisted upon so many of us by ignorant or conscienceless growers but the true *dalmatica*, so like yet so unlike her sister—and caught in her very manner a suggestion of silent protest. And the truth flashed upon me! Not that it had altogether escaped me hitherto. I had indeed realized for a long time that conditions in the upper end of the long border were far from satisfactory.

I was convinced, too, that the trouble traced to its source would lead to the Irises as the chief, if not only disturbers of the general peace. For from the melting of the last snow up to their blooming time everything was in harmony with everything else. The little blue Squills and Snowdrops in their allotted patches, the Crocuses along the front of the border and the early Tulips just back of them, then the Daffodils and late Tulips, all found and left a world peaceful enough. Further, all signs of friction vanished after the Irises were through flowering and the Peonies came on—to be followed in succession by the blue and white Peachbells and buff colored Foxgloves, the towering Larkspurs, the early white Phloxes, the Madonna Lilies, the gorgeous late Phloxes, and lastly the jewel-like Daisies and Chrysanthemums of autumn.

All these came, flourished, and passed away with never a suggestion of discord. There was just that one short period of the proud Iris, in all the summer, when the inhabitants of my border seemed at odds with each other. And at last I saw that it was a plain-as-day case of that current phenomenon which we call social unrest. The whole Iris family were out of place, discontented with their neighbors and more particu-

larly with the clothes these neighbors would persist in wearing, and mutely but eloquently informing me to put in force the principle of self-determination and give them a corner somewhere all to themselves. I could see now with half an eye that the situation in which the Iris family found itself was unbearable!



THE LENGTH OF THE IRIS GARDEN IN MAYTIME

Where the demon of unrest cannot enter and all the clans dwell in that unruffled serenity that comes of having one's own way

EXCEPT for a few clumps of some broad-bladed sort placed in the front of the border solely for the accent the foliage would furnish, the Irises should obviously never have been planted where they were in the first place. Plainly enough they had all along been misfits in that gracious company—not because they were less lovely, but rather because they were more so. Here amid the gay Tulips and Daffodils the effect of their soft, beautiful, exquisitely blended and penciled colors, and the wonderful structure of the Iris blooms was all but wasted. In respect of surpassing workmanship, exact and delicate as jewel cutting and to be appreciated in much the same way, no flower of our gardens seems to me of equal charm and wonder.

What a landing stage for a bee is that tip-tilted outer edge of the velvet “fall”! And how exquisitely

arranged are those guiding hairlike lines of purple or blue—the bee's favorite colors the scientists say—that lead not to a pot of fool's gold at a rainbow's end but to a sip of nectar fit for a golden bee. And is there anything more delicate and dainty in all creation than the canopy under which the nectar is to be found? The Iris more than any other flower in my garden seems to me to invite close inspection—and no other flower so resents being placed next a flower of another sort or color. Irises, indeed, unlike most flowers, are often quarrelsome among themselves! I have a great mass of a smoky old gold and reddish bronze colored Iris that will combine

with no other color under the sky as far as I can discover. So it is all planted in a clump of cherry trees and bushes—and thus framed it receives an almost undue amount of attention and praise!

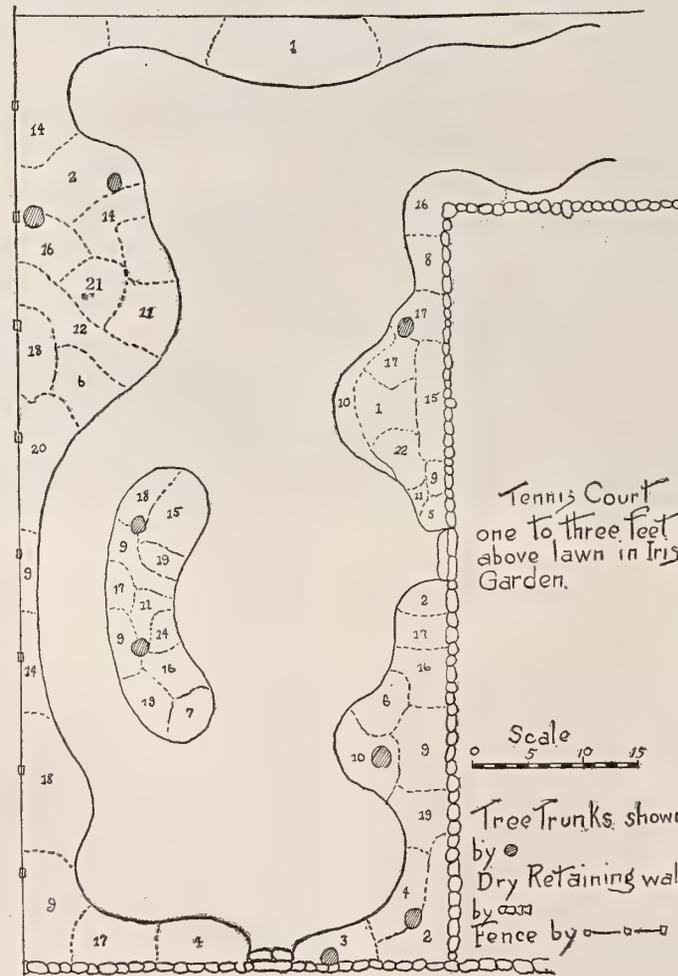
For the unrest in the border there was plainly but one remedy—moving the whole family to new quarters. This turned out to be something of an undertaking, for when the plants were lifted and the roots broken apart, there were hundreds to be set out again. Having come to see that in gardening as in life haste is quite as nearly akin to error as ignorance is, I studied the matter rather carefully. Gardening, we all find—unless we are wise beyond our generation—isn't a mere matter of planting and cultivating, but—during the period of our novitiate at least—a question of digging up and planting somewhere else! And these moves, like the moves of chess, must be sure to be effective.

But this time I went somewhat against my better judgment, after all, for I selected a heavily shaded plot of ground lying some three feet lower than the newly built tennis court and between it and the fence along the highway. The location was ideal but for the shade, which could be only partially removed as much of it was cast by the row of old Maple trees outside the fence. However, by trimming these and the apple trees within the grounds, standing in the place selected, I did manage to let in a certain amount of sunlight; and this, though not really enough, seems to answer.

THROUGH the mistakes I have made by over-eagerness to see results, I have at last learned to do my moving always on paper first. So in this case I began by carefully working out to scale a planting plan, the final form of which is given here. The problem was not very complicated. The beds had to be so arranged as to give access to the stone steps up into the lawn and the tennis court, and to leave the grass plot in the centre in such shape that the spraying machinery could be drawn in, turned, and taken out again with a team of horses. There was of course an attempt to make the lines generally as graceful and natural in appearance as might be. Then there were perhaps thirty varieties of Iris to be placed so as to show their colors to the best advantage, and with some thought as to pleasing color groupings and to following nature's plan by putting the colors and blues—lavenders and blues—at the far end of the garden.

The accompanying plan and the photographs give an idea of what was intended and of what my Iris garden looked like the third spring after planting. As the reader may have surmised, my garden contains mainly the Flag Irises. There are a few Japanese sorts included and the season could of course be greatly extended by the addition of the early Dwarfs and the later Orientals. I realize what an improvement this would be and plan to bring the change about. By introducing these other sorts into the scheme the color grouping can be made much more effective, because the sorts blooming at the same time can be separated by clumps of such as flower earlier or later. Possibly I shall introduce also some of the low, small flowering perennial plants such as white Moss-pink, Alyssum, and Arabis—not as "carpet bedders," however, for Flag Iris doesn't thrive unless its rhizomes can bask with their backs in the summer sun.

The favorite Iris in my collection is the pallida dalmatica mentioned above. Her Majesty, I believe, takes second honors. This is a beautiful nearly pure pink variety, the falls darker than the standards and heavily veined. Of the rest the most desirable seem to be the old-fashioned Florentine queen Emma or alba odorata, whose roots furnish the sweet orris of the apothecary shops; Mrs. H. Darwin, a white with violet-marked falls; the soft rose-lilac colored Queen of May; and Edward Simmons, very late with purple-splashed yellow standards and velvety dark violet falls; neglecta has pale lavender standards and purple falls reticulated with white. Of the white sorts frilled with a blue border, Madame Chereau is the best, the border being clear blue and not clouded. Trojana, a blue and purple variety, is the tallest and largest-flowered Iris in my garden.



PLANTING KEY

	LOTS NO.
Pallida dalmatica	1
Pallida speciosa	2
Her Majesty	3
Florentina, alba odorata	4
Queen of May	5
Edward Simmons	6
Maori King	7
Dandy	8
Sans souci	9
Mrs. H. Darwin	10
Penelope	11
Britannicus	12
Neglecta	13
Duc de Nemours	14
Charles Dickens	15
Madame Chereau	16
Lady Jane	17
Zenobia	18
Lurida	19
Gazelle	20
Trojana	21
Trautlieb	22

PLANT FRUITS BY ALL MEANS!

C. EMERY

Fruit Trees that May be Used as Shrubbery and Framework for the Garden and Trailing Cane Fruits that Yield Delicious Crops for the Table

THROUGH long and prosperous years it has been the custom to think of fruit in the terms of orchards and large tracts, and the average dweller on a less expanded area is inclined to think that his field is too limited for that sort of thing. So he lays out his grounds in grass and flowers and regretfully lets it go at that—whereas in his planting he could with equal ease, and approximately the same expenditure, have many decorative things that serve a utilitarian purpose also. It is not the purpose of this article therefore to deal with the home having ample grounds or acreage. On such places there should be no "fruit problem." It is rather that the owners of these smaller plots—especially those having one or two lots in the city or suburbs—should become more keenly alive to the possibilities of even small space. Furthermore, reliable nurserymen in every community should be awake to the need for this material and preparing to supply the fruits which the thinking public begins insistently to demand. For the illuminating lesson of economic home production which we have recently learned is one which we shall not forget.

Dwarf trees of practically all the standard varieties of apple, pear, and cherry have been perfected and with a suitable assortment of these the "postage-stamp gardener" will materially augment his food supply without obstructing the view, shading his home, or overcrowding his all too limited space. He can supply his table with choice fresh fruits that are easily gathered and at the same time be freed from the care of large trees and the burden of waste or oversupply.

While not strictly in this "dwarf class," the low-growing, hardy pie, or sour, cherry is a valuable asset to any home garden. It is a prodigious and regular bearer and decorative to the highest degree with its glossy foliage, its snowdrift of blossoms and its brilliantly colored tart fruit that serves equally well in salads and for all cooking purposes. One of these will occupy the ground that might have been given to a Lilac, will cast up no suckers, and will remain free from blight and be a joy as well as a money saver. The quince tree is an-

other hardy, low-growing and productive tree for the small garden, the improved Pineapple quince being very attractive in its blossom time and still more so at harvest.

Strawberries, raspberries, both the red and yellow varieties, gooseberries, red and black currants can all be accommodated along the boundaries of even the smallest domain and will soon grow into hardy, decorative and highly productive hedges; and only a few plants of one of the everbearing raspberries will give a continuous supply till late fall. The Japanese wineberry will be perfectly at home upon the fence or about the bricks or stones of the outside chimney, as will the quick growing and productive Loganberry or the Himalaya blackberry in warmer sections, and the fruit from these is invaluable for canning, jam and jelly making as well as a rich syrup for fruit drinks. The back porch or a high and unsightly fence will provide the necessary trellis for the Giant Himalaya blackberry, or it may be trained up on the sides of the garage and allowed to clamber at will, repaying a hundred-fold with its abundant and delicious fruit.

Grape vines will cover a porch trellis when the space for an arbor is not available, providing a more agreeable shade than that of the annual climbing vines and giving a full quota of fruit besides. A few clumps of the tropical looking brilliant red giant rhubarb is not out of place in the decorative border; and one may gather an indefinite supply of horseradish for boiling or roots for grating from a few glossy-leaved plants tucked in among the Rose bushes.

There are advantages that accrue from fall planting in some sections, but the fact that one is rushed at this time of year should not deter from doing the work now. It merely emphasizes the need of having everything ready in advance so that the planting may be accomplished with as little misdirected energy and effort as possible.

Intelligent effort in every direction further intensifies the desirability of delightful home surroundings and increased productivity. "Let there be no waste" has come to us with a new meaning in more ways than one.



A BIT OF FRUIT GARDEN AT LENOX, MASS.

Between plum trees growing on the wall and dwarf pears alternating with currants and such small fruits the walk passes to a greenhouse snugly placed

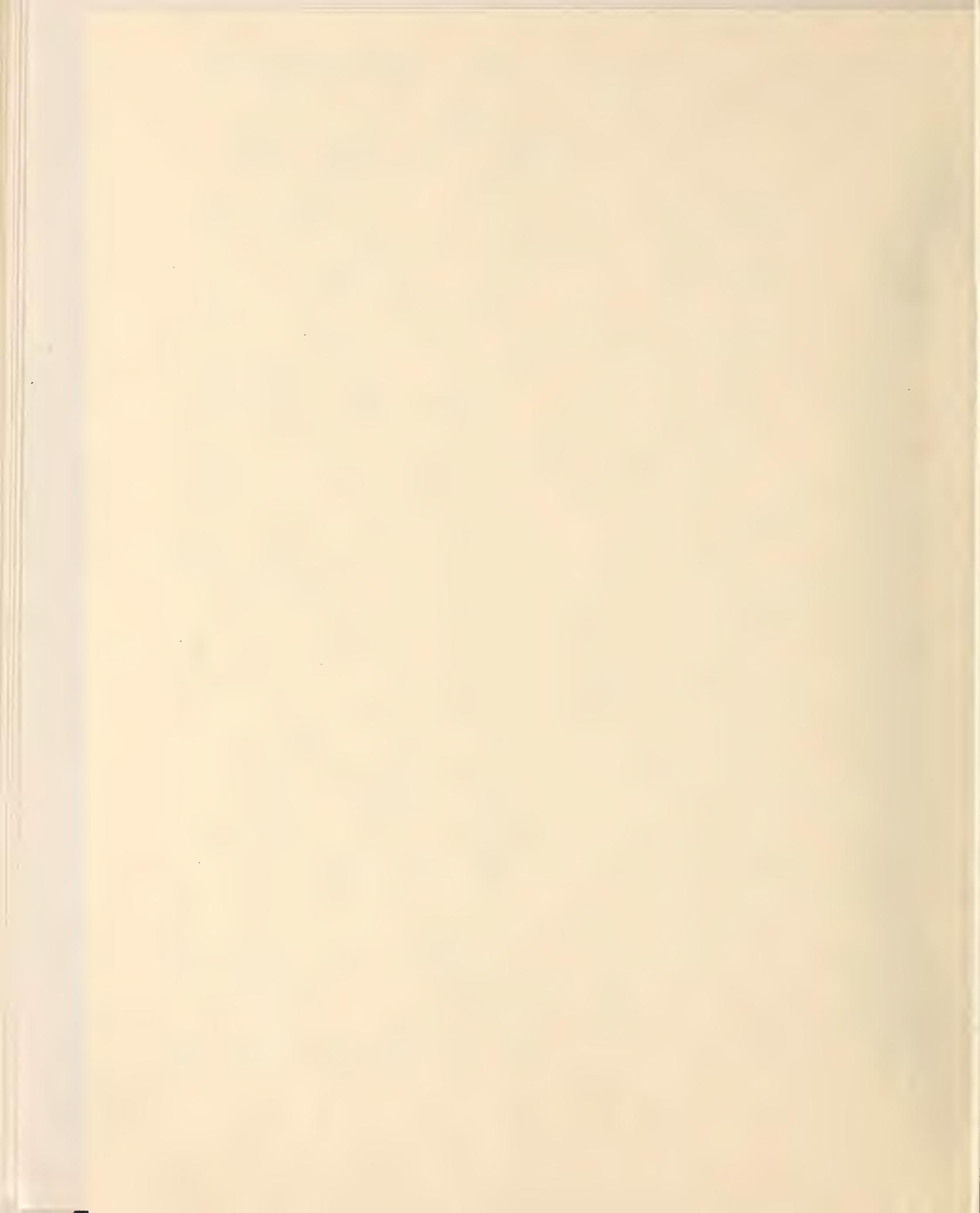


FROM SEED THE SIZE OF SAND GRAINS SPRINGS A WILDERNESS OF BEAUTY
SUCH AS THIS IN THE GARDEN OF MRS. JOHN MAGEE AT MT. KISCO, N. Y.



Photo by Mattie Edwards Hewitt

Backed by Rambler Roses massed against Pines, with a Dwarf Hemlock in front, are the Foxgloves, Campanulas and Sweet Williams of the foreground within their Boxwood border, while Tree Heliotropes and Hydrangeas in pots retire within the pergola and Aristolochia and Wisteria festoon its pillars



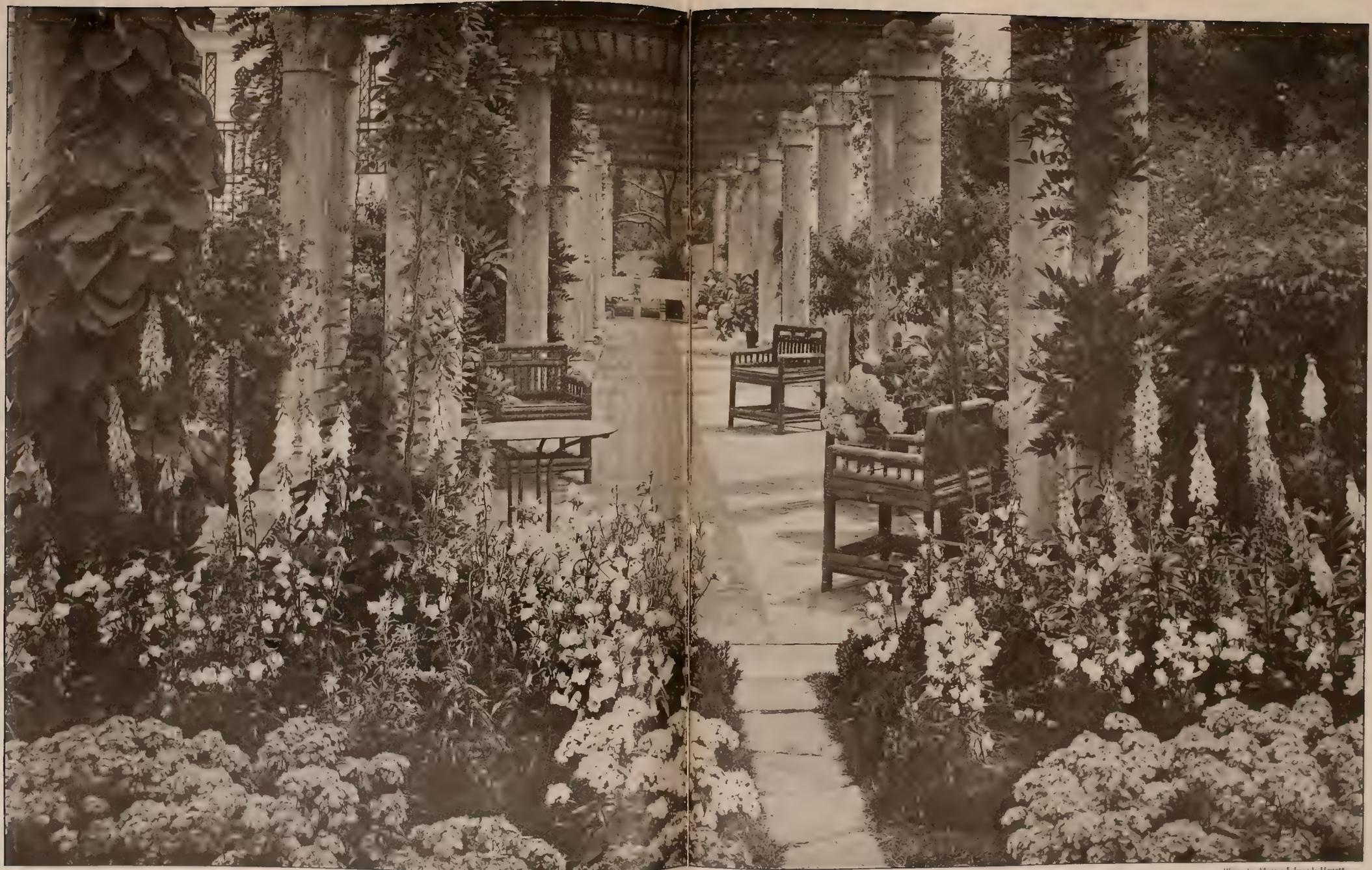


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FROM UNDER GLASS COMES THE MATERIAL FOR EARLIEST CROPS

THE FIRST SALADS AND GREENS

AT NO time of the year possibly is gardening quite so replete with satisfaction as when it is done in the hotbed—partly because the succulent freshness of things just out of the earth is craved by the appetite at the season when the hotbed makes them available, but largely because circumventing the season and the weather is so altogether astounding. It brings a thrill annually that is always new.

One of the first things to get fixed firmly in mind, however, is that beyond a certain point there is something more than climate or weather contending. This is the spark of life in the seeds themselves. For it has its season, its appointed time of waiting or lying quiescent apparently; and if it is prematurely disturbed, it lags through all its life thereafter. Hence gardeners know that nothing should be started before the first of February; and say that vegetables "don't thrive" if seed is sown earlier than this date.

There are five vegetables which may be sown in the hotbed as soon after February has arrived as one chooses. These are radishes, spinach, lettuce, beets and carrots; and onions from sets, which may be planted in the vacancy left by the first harvest toward the end of the month, make a sixth. The first harvest consists of radishes. Of these Rapid Red or French Forcing will come to the table three weeks from the

date of sowing, allowing a day or two leeway both ways. Sometimes eighteen days will bring sufficiently grown radishes to pull, and again it may take twenty-two to twenty-five.

Eight days later usually the first crop of spinach may be gathered. And then will follow a week later Grand Rapids lettuce, with Electric beet five or six days behind it and French Forcing carrot winding up the procession at the end of another five days. And of course the instant a row is cleared something else must be sown; for every minute counts in a hotbed. The best succession is lettuce, spinach, and onions following where rows of radishes, carrots, and beets have been; and radishes, beets, and carrots following the lettuce and spinach. These and the onions from sets are grown to maturity and harvested from the hotbed. Usually the last named follow the earliest lettuce plants, and thus it is around March when they are put in. There is no reason for not setting them as soon as the bed is ready, however, if there is space.

The matter of space raises a nice little question of adjustment which ought to be answered before any planting is done, since an embarrassment of plants is not to be desired. Where a system of frames is maintained they should be divided up and perhaps only one seeded in the beginning while the others are held back, some to take the seedlings when they are ready

LIME AND ITS ACTION ON SOIL

ELMER O. FIPPIN

Formerly of Cornell University

The Kinds of Lime That Are Available, How, and How Much to Use, And How to Judge Your Soil's Requirements

TOO often transpires that the last phase of soil management to be stressed is its treatment with lime; yet lime occupies a place in crop economy comparable with moisture and fertilizers. Its functions are those of a plant food as well as a conditioner of the soil—by which latter term is meant the regulation of all those processes and materials that contribute to make a fertile soil. Like humus, its effects on the soil and on vegetation are multiple. Chief among these is the regulation of the balance in the soil between acid and alkaline constituents.

Action of Lime

THE first and primary function of liming material is to swing the soil balance away from the acid condition—in other words, to sweeten the soil. The microscopic plants in the soil—the bacteria—are quite as much affected by the presence of lime as are the higher crops, and of these the useful forms are benefited. The function of some is to bring about the decomposition of organic matter into the form of humus, thereby liberating nitrogen and mineral plant constituents, while others have to do with the fixation of nitrogen from the air in forms that plants may use. Lime holds the phosphorus of the soil in favorable forms, and it seems to economize the potash needs of the plant also, though it probably does not unlock potash from the minerals in the soil in any direct way. Further, it improves the tilth of the soil, helping to regulate the growth of some disease organisms.

The detection of an acid soil may be accomplished in several ways. The kind of plants that thrive is one good indication. Scab in potatoes is a pretty good indication of a non-acid soil, also the growth of beets as well as alfalfa. The canteloupe thrives on a fairly sweet soil. On the other hand, when sorrel is the dominant vegetation, when potatoes are free from scab, where watermelons thrive [or where Laurel and Rhododendron grow luxuriantly], the chances are that the soil is acid. As a matter of fact, there is very little land in the country, especially the eastern United States, that is not in need of lime to some extent.

Kinds of Lime

THERE are two general classes of liming material suitable for use on the soil. These are the carbonate form, which includes pulverized limestone, marl, and mussel shells; and the burnt forms of lime. The carbonate is the natural form in which free lime occurs in the soil, but it is important to remember that such material must be very fine to be effective within any reasonable time. Carbonate forms of lime should be reduced to grains below one twenty-fifth of an inch in size to be effective within an ordinary rotation of four or five years. While material coarser than this size has some value it must be remembered that particles as coarse as a wheat

grain will persist in an acid soil for a great many years; therefore, insist on having it finely pulverized.

The other class is derived primarily from limestone by burning it to produce either lump lime or hydrated lime; both are commonly called caustic or burnt lime and are from 30 to 50 per cent. stronger in essential material. They further have the advantage in concentration.

Caustic Lime and Humus

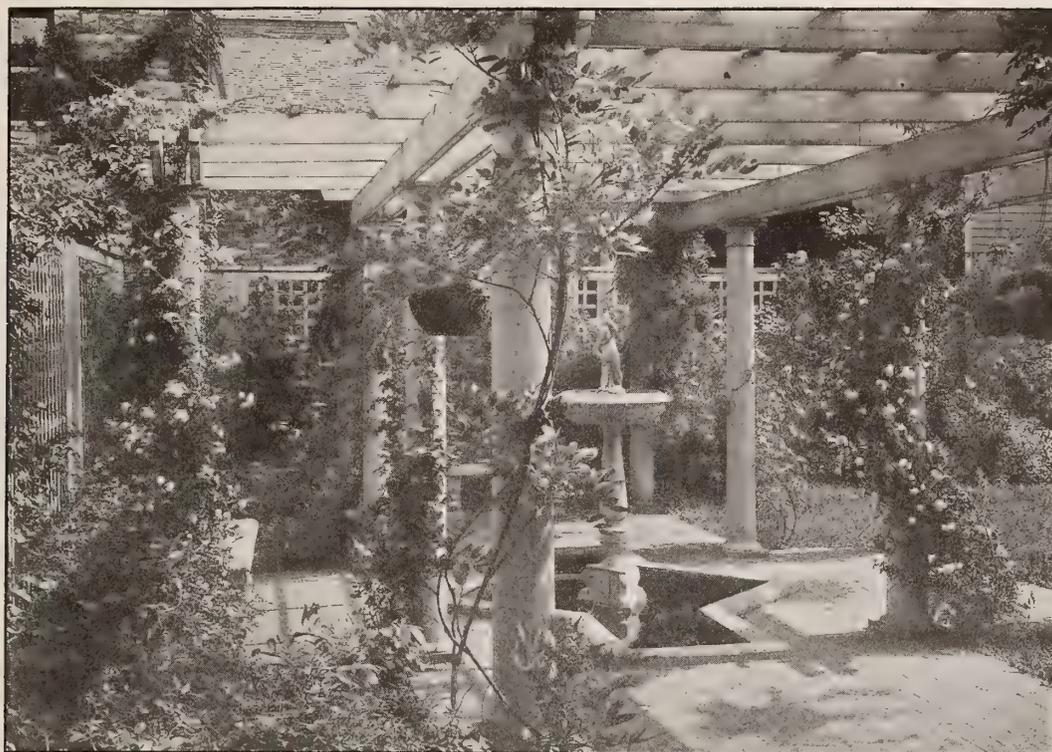
THE mention of caustic lime is much like a red flag before a bull to the minds of some because it has been so many times said that caustic lime burns out humus in the soil. The repetition of this does not make it true; and attention is directed to the careful investigations of Dr. McIntire at Cornell University, and of Dr. Mooers of the Tennessee Agricultural Station. Their work has demonstrated beyond question that there is no possible destruction of organic substance by caustic lime even in a very strong solution. On the other hand, it must be recognized that any material that sweetens the soil favors the growth of the bacteria in the soil and hastens the destruction of organic matter. This applies to carbonate forms as well as to caustic forms, and is a perfectly legitimate process; and if any further argument were needed concerning the innocent character of caustic lime it is found in the fact that caustic lime applied to the soil quickly changes into the carbonate form.

The carbonate and caustic forms should be rated upon the basis of the cost of available oxides delivered upon the land. This method takes account of three factors—(1) the purity in the oxides of lime, (2), the fineness, and (3), the handling cost. Special emphasis is put upon this matter of the comparative value of carbonate and caustic forms of lime because of the many loose and incorrect statements that are given to the public bearing on this point.

Quantity to Use

THE amount of lime to apply varies according to the acidity of the soil, and the sensitiveness of the crop to an acid soil. A very acid soil coupled with a very sensitive crop would require a large application of lime, a tolerant plant on a very acid soil might respond to a light application of lime.

Small applications frequently are likely to be better than large applications at long intervals. Three to five hundred pounds of burnt lime to the acre (or 20 to 30 lbs. to 50 x 50 ft.) twice that quantity of finely ground limestone, or three to four times that quantity of coarsely ground limestone, once in every year or two, would be a fair application, and correspondingly larger amounts at longer intervals. The lime should be thoroughly incorporated with the soil; therefore, it is usually best to apply after plowing but before cultivating.



INDOORS ADVENTURES OUT WITH RARE FELICITY

The little plaza in the garden of Mrs. Hiram Price Dillon, at Topeka, Kansas (Charles E. Birge, Architect), where the utmost seclusion reigns, notwithstanding the place, totals only a little more than half an acre, is fragrant with memories as well as flowers, for the evergreens and large shrubs all about were brought from "Knollcrest," the late Judge Dillon's New Jersey estate, to this home of his son

A GARDEN THAT IS LIVED IN



DELIGHTFUL PLANT RECEPTACLES BEFORE THE
WINDOWS

From Venice they came, along with the lions that pose against the well-grouped evergreens of the entrance, as supercilious as only stone lions can be



FROM TURF TO TILE UNDERFOOT
UNCONSCIOUSLY

The levels in garden making are factors that have not been sufficiently studied, inasmuch as they are most potent influences for or against union

AMONG OUR GARDEN NEIGHBORS



".....to be satisfied with your possessions but not contented with yourself until you have made the best of them."

VAN DYKE

IN THE matter of enterprises wherein we find diversion someone has said that up to forty we accumulate while after forty we eliminate—with which the only criticism would seem to be that the assertion applies to more than our pleasures. For is it not true generally that things take on their real values, even for the superficial, at this time? Or better, perhaps, vision clears so that real values become apparent.

Who, having a garden at forty for example, willingly gives it up—unless it is a drudgery garden? Drudgery is of course one of the things that forty eliminates, or turns by some alchemy into a game of one kind or another. At least it is one of the things that wise forty eliminates—but unfortunately all are not wise upon arriving at that age. With many indeed the times are out of joint altogether through the very clarity of vision they have gained; and in place of that deep sense of deepened understanding and finer appreciation which is the logical sequence of experience, there comes only an acid pessimism and antagonism to life and ennui therewith.

These are the artisans who have mistaken living for a trade, dependent upon the puny tools of man's devising for its very essence. Whereas living is an art—the very greatest of all arts, since it embodies the great mystery of life—and every man's an artist, potentially at any rate. And all the world's a canvas on which to paint, shall we say? Or clay for modelling? Or a studio, perhaps? Or stage?

This matters not. But it does matter vitally that the larger vision which recognizes fundamental truths be quickened, and that the larger life which acknowledges the demands for pure loveliness be lived. There is no valid excuse in the world for flowers if such demands be disdained—which alone refutes such disdaining, if it needs refuting. But how many go far enough in responding to these demands? How many throw drudgery overboard and permit themselves the expansion which comes of close company with beauty and with concentration upon its development—just in a garden for example?

ART for art's sake is a poor enough philosophy, but art for beauty's sake, and beauty for beauty's sake are the food of the spirit whereon it shall wax strong and fine and come to full perfection.

And nowhere does beauty wait so eager to reveal itself and so eager to instruct and educate as in a garden. Here any one who seeks may find, whether the scene of their efforts covers a mountain and a valley in extent or is confined to the little square of a town dooryard. Moreover, each one who has found has something to offer all the rest, regardless of their field of search; for the beauty that lies in any garden always has something to suggest to another gardener.

IT IS high time that we change our point of view about gardening and consider it from what it will do for us instead of what we may or must do for it. For embraced as an opportunity to create a beautiful thing, apart from the natural beauties of flowers and shrubs which go to make up its adornment, a garden becomes altogether different in its effect upon its intimates from the rather grim, uncompromising utilitarian plot which the word signifies to too many of us. There are indeed no limits to the possibilities of a garden of this concept, even though its actual area is very limited. For even as a miniature painted by a master captures as much of beauty and true art as the broadest canvas, so is it possible to embody in a scrap of dooryard supreme loveliness. Gardening indeed is everyman's medium; let everyman employ himself therewith diligently—long before he is forty preferably, but certainly by the time he is. Especially if the times are out of joint for him then, let him acquire a garden and turn himself loose in it!

WITH the March number of THE GARDEN MAGAZINE, which is the Planters' Guide, we come to practical consideration of perennial shrubs and trees, and the actual work of handling these. A planting chart showing for every section of the United States the seasons when material may be shifted and handled will be a feature that even the experienced gardener will value while to the novice it is sure to prove the greatest help. Planting details will accompany the text wherever these make for greater clarity.

THE OPEN COLUMN

Readers' Interchange of Experience and Comment

What They Think Abroad

THE GARDEN MAGAZINE has come and I was very glad to have it remind me as it does that your side is moving on with the *garden*—which some of us think is the finest toy given to man in this world. The gardens as given in the pictures seem to lean rather much on the architectural leg, and not enough on the beauty of the living thing."—J. C. WILLIAMS, *Caerbays Castle, Cornwall, Eng.* "This is absolutely tip-top."—W. J. BEAN, *Kew Gardens, Eng.* [From letters in reference to Mr. Wilson's series on the Romance of Our Trees.]

A Personal Encounter With Quarantine 37

I AM still rather "sore" from this head-on collision between our hearts' desires for garden gems and those in power, since I have been hard hit. Early last June after much correspondence with my true and tried importer and the Federal Horticultural Board I received permission to import a few thousand Muscari and Scillas. The order was placed and spring garden planting schemes planned with the clear porcelain blue of the bulbs in mind. They finally reached New York, as I was informed by the brokers, who asked for a payment of \$12 as duty, carriage charges, storage charges, etc. The cheque was dispatched and still the bulbs did not arrive and, as the planting season drew to a close, an interchange of letters—and opinions—brought the news that they had been sent to Washington for examination. The days passed, the winds grew chill, the skies gray and all proper bulbs were safely bedded for the winter night, but still my poor bare brown little Scillas and Muscari were roaming around Washington begging to be examined and sent home. Now, practically at the gates of winter, I was informed by the New York brokers "that the case seems to be lost and their agents cannot locate it." Woe is me! Lost is the spring vision of "heavenly blue" Muscari and creamy-golden Munstead Primroses; of nodding Wood Hyacinths, and Alyssum "Basket of Gold." *Sic semper tyrannus!*—HELEN M. SHARPE, *Penna.*

Is This the Lost Larkspur?

WE READ with great interest in the December GARDEN MAGAZINE Mrs. Streeter's sympathetic article, "A Century-and-a-half Old Garden," now owned by the New Hampshire Society of Colonial Dames, upon whom falls the pleasing task of preserving and restoring, where necessary, this lovely garden. We note that in trying to replace the Larkspurs, the originals of which have run out, the Garden Committee "have never been able to find the lovely pale flower of his daughter's recollection, that blossomed in spraying 'clouds of delicate blue!'" Was not this older Larkspur for which she seeks *Delphinium Chinensis*—a lowly brother which the tall hybrid *Delphiniums* seem to have pushed out of most gardens, but which has a dainty charm of its own? Each crown sends up many slender flower stalks, which grow about two feet high, much branched and covered with delicate blossoms. There is a white variety, and a pale blue which we feel sure must be the "delicate blue" which Mrs. Streeter is looking for; also a deeper blue—a vivid sapphire, shot with metallic glints. Either variety is beautiful; the plant as a whole is extremely graceful and should be more universally planted. Its foliage is quite distinct from the hybrid *Delphinium*—a brighter, glossier green, with finely divided leaves. The catalogues give its blooming season from June to October, but in the writer's garden it rarely lasts after July. It is very hardy and seems free from disease, but if there be a single cut-worm or slug in the border he will find his way to the tender young stalks of our Chinese *Delphinium* and lay them low.—ANNA M. BURKE, *Mass.*

Iris as a Plant for Shade

CATALOGUES and magazines frequently publish lists of shade-loving plants, but I have never noticed the Flag Iris included, yet our experience and that of a friend has been that it thrives about equally as well in shade as in sunshine. I have seen Irises growing under trees blossom and multiply freely. Some of ours are planted at the base of the house on the east where they get only the morning sun; some are in the garden in full sun; and others at the west base of a barn so they get no morning sun, and fruit trees to the west of them almost exclude the afternoon sun, so they get only about an hour of sunshine at noon. Three varieties (the name of but one, Madame Chereau, is known to me) are the same in all three situations, and the plants seem to bloom equally well. I had always been told, too, that Iris requires considerable moisture, but that at the barn is on the driest part of the lot, while the others are frequently watered, so that apparently does not make much difference, either.—MARY RUTNER, *Traverse City, Mich.*

Hastening Germination

IT IS not sufficient that one have good seed and good intentions. Seed slowly or improperly germinated means plants handicapped in the beginning of their growth. What, then, are the conditions for ideal germination for such plants as the average man handles in his garden—for tomatoes, peppers, eggplants, and the like? A shallow box with rough gravel in the bottom to insure good drainage is the first essential. Over the drainage material put good soil composed of equal parts of wood's earth, sharp sand, and garden loam, the three ingredients being sifted together through a fine wire screen. As a fertilizer a small quantity of pulverized sheep manure will be found satisfactory. Soak the soil with warm water. Place the seed on top of the damp soil. Cover with a fine sprinkling of sand; do not let this covering exceed $\frac{1}{2}$ of an inch for tomatoes or peppers. Over the box place window-glass so that there will be a space of warm air immediately above the seeds. It is well to lay a piece of paper over this glass for the first two days. As soon as the seeds have been covered, place the box where it will get a temperature of about 70° all the time. Sudden chilling is especially to be avoided. It is not necessary for the box to be in the sun before the seeds start; but immediately upon their cracking the ground, the box should be so placed that the sun will shine upon it for the greater part of the day: both the paper covering and the glass being removed. This note is merely to urge the necessity, the vital importance of swift and perfect germination. A neighbor and I planted Earliana tomato seeds (my stock) the same day, February 20th—I had ripe fruits July 10th by the method described—he was 15 days later on the old way of handling!—A. RUTLEDGE, *Penna.*

A Californian in Rebuttal

SOMEONE "cannot help wondering how people who live out in California manage to make plans at all. For if they can be actively digging and planting, transplanting and pruning any day in the year, when do they sit down, quietly? etc., etc." (from a February GARDEN MAGAZINE.) Please may a faithful garden-planning and soil-tilling California reader righten some queer ideas held by "back there" folks about out here? While our winters may not be as noisy as in some sections, this is *not* a land of steady sunshine—glory be! We have rains in November, and at long or short intervals on through to April showers, and occasionally April deluge. So, though our gardens are not snow-bound we are quite as effectually barred from outside activities. It is dawning on wise gardeners that very early fall should see the start of most strenuous effort—that winter rains

should fall on gardens practically made—for the year ahead. Aside from seed sowing spring becomes, under this system, mainly a season for finishing touches—of delightful leisurely effort.—E. A. S., *Cal.*

Clematis as a Vine Over Shrubbery

THOUGH of all the Clematis perhaps the most plebeian, *Clematis virginiana* is one of the very few vines that may be depended upon to grow among shrubbery in a very satisfactory manner. Many a better vine can be found for the fence or against the wall, but among shrubbery, there to bring additional color when the shrubs themselves are out of bloom, this native is as to the manner born. Among the sturdier shrubby groups, such as might be built of Chokecherry, the Bush-honey-suckles, the Viburnums and others, this vine becomes a distinct addition to the variety and interest of the group. The foliage though distinctive enough, does not stand out in marked contrast to that of the shrub it may be growing upon. It is a summer bloomer, when spring flowers are all gone and autumn has not yet announced itself. I have known it to bloom some years as late as the end of August and the beginning of September. Then there is the additional effect produced by the feathery plumes of the tiny fruit, another reason for growing it over shrubbery, though the fact that staminate and pistillate flowers are borne on different vines, makes the fruit a matter of chance. The vine thrives in rich or poor soil, resists drought or excessive moisture equally well; it prefers, however, a cool moist soil.—C. L. MELLER, *So. Dakota.*

Little Known Flowering Peas

GET a great deal of pleasure every year from the Tuber Pea (*Lathyrus tuberosus*), obtained many years ago from the Palisades Nursery but I have never seen it elsewhere, nor does the "Standard Cyclopedic" make mention of it. Mr. William Robinson, however, in "The English Flower Garden" says it is a native of Europe and West Asia and has become naturalized in England. It climbs like other Peas, and it is like a Sweet Pea in miniature tiny leaves, the most thread-like tendrils and small blossoms of an unusual wine-red shade. It is a true perennial and perfectly hardy. I planted my one tuber at the top of a low retaining wall, but it has very clear ideas of its own as to where or how it will grow and I do not think it has appeared twice in the same place. It has come out through various joints of the wall face, sometimes forcing itself through the thick growth of some other plant already occupying the joint; often it makes its appearance at the wall top; but never by any chance where the faded label bearing its name still stands. It has apparently never increased and the whole plant is so slender and delicate, that usually I do not notice it until sometime in early July I am surprised by its charming blossoming. Last summer the small tangled thing greeted me from

the top of a stalk of dwarf Chinese Larkspur. I should say this Pea wanted good soil with some stones in it and plenty of sun. Two other members of this family grow in the garden though I am able to say little definite about them. *Lathyrus cyaneus* has dwelt here for four years without accomplishing more than the three inches of its first season. It appears quite cheerful and sturdy but has produced none of the bright blue flowers for which it is supposed to be valuable, nor has it arrived at its promised height of eight inches. The other is *L. pubescens*, raised from seed last season and already a slender lax-stemmed plant about six inches in height. I also planted *L. rotundifolius*, but with no result as yet. However, hope is not relinquished, for germination takes place very slowly with the seed of these plants and this spring may bring them forth. *L. vernus* is, Mr. Robinson says "one of the most charming of border flowers."—LOUISE B. WILDER, *N. Y.*

What Name for Iris?

WHY not simply Iris? No genus name is more musical or poetic than this. If all nurserymen, as many do, would adhere strictly to botanical nomenclature, with the folkname, when known, added instead of falling into loose commercial inexactness, sometimes "faking", the gardening public would be thankful. Mrs. Wilder's suggestion, that the folk name of "flags" appeals is true and when it is made the "flag flower" of Indian legend, what can be better?—ELLA PORTER MCKINNEY, *New Jersey.*



DRESSING THE SHRUBBERY IN MIDSUMMER

Though not in itself a striking plant, *Clematis virginiana* is charming when its delicate flowers are scattered over any of the strong shrubs such as this Chokecherry, which supports its growth with no injury to itself

An Oil Heated Hot-Bed That Works

FOR the past two or three years

the purchase of suitable manure for hotbed heating has been difficult. So I purchased, in January, 1918, a small hot-water heated garden frame, 5 ft x 8 ft. This is built like a very small greenhouse—a ridge in the middle 28 in. high from the ground with two sashes fitted and hung on hinges on both sides. The sides are 18 in. high and double glazed—as is the entire house. One end is entirely glazed, but in the centre of the other, on the outside of the house is built a small box which contains the heating apparatus, a galvanized iron two section boiler holding about two gallons of water heated by means of a two-blaze oil burner. The oil tank that supplies this heater holds a gallon. The heating pipe is 2 in. galv. iron and runs around all sides of the house and thence back to the boiler. The first season of its use this heater could hardly be called a success. With almost no exception just as the first true leaves were formed, the seedlings would have a mottled appearance thence turning to black and finally withering altogether. I had come gradually to the conclusion that the heater box was too closely connected to the frame as I detected strong odors such as are always associated with kerosene lamps, and by the end of six weeks the glass around the sides of the house was streaked with a brown, greasy substance. Several other objectionable things I found. On either side of the

box were six one-inch holes: three at the bottom to supply fresh air and three at the top to allow the old air to escape. Light breezes blown in at the sides and through these holes caused the blazes to jump up and down and to smoke, and this smoke entered the house. Heavy winds blew the blazes out and several times I went out in the morning only to find the fire out and the water cold. I did remedy this temporarily, however, by sheltering the box. I was never able to keep the temperature where it belonged. The highest night temperature would average 40°. If the outside temperature went below 7° above it would drop to 32° or 34° inside, sufficient to prevent freezing, but not satisfactory. In the daytime 45°-50° on cloudy and 50°-60° with ventilation on clear days was the best it would do—more often much lower than these figures. During the six weeks' experiment there was an average oil consumption of 3 to 3½ quarts a day:—on extreme days a gallon. Success was achieved by a few changes. I moved the box six inches away from the frame, extended the pipe to fit, boxed in the space between and packed with sawdust. This effectually isolated the heater. I placed boards over the holes in the box, with holes bored from the bottom up. This made indirect air passages through to the inside, and now, even during an 80-miles an hour gale, the blazes never even flicker. Lastly, the boiler was covered with thin sheet asbestos to stop the loss of heat by radiation in the box. And the top opening (a 5-in. diameter cup-shaped affair), where the boiler was filled and which last season was left open, I fitted with a tight cover to reduce loss by evaporation. The result of these alterations has been quite beyond my expectations. The air is clear. The blazes never blow out. The oil consumption varies from 2 to 2½ quarts a day at present. And finally, I keep the temperature at exactly the desired point in nearly all weather—52° at night, 60° on cloudy and 65°-70° with air on clear days. The only time I was unable to maintain these figures was during abnormal and extreme cold weather, when the official temperature dropped to 16° below zero here. At that time it went to 42° in the little frame.—CLAYTON G. BROWN, *Rhode Island*.

Ants in the Garden

THE complaint about ants arouses my ire, for I find them about as mischievous as any insect going. I do not pretend to know how they handle, or help multiply, aphids; my difficulty is that they are up to many other things. They ate holes in my strawberries before they were ripe and sometimes formed their dens under the roots of plants and undermined them. In the sod they are quite as much of a nuisance. I had heard of poison and of sugar traps but did not try them. One day I was watering some plants with a big watering pot and wondering how to save an otherwise beautiful plot of Dusty-Miller they had undermined, when I took the idea of watering the ants, too. I poured water on their burrow till it stood on top of the ground and I repeated the treatment as often as convenient. The ants could not stand it and soon the plants, with the earth now well packed about their roots, were growing and the ants gone. After that I never saw an ants' burrow without soaking it with water

over and over. I have reduced the pest to a very small number already.—JOHN W. CHAMBERLIN, *Buffalo, N. Y.*

Using Bold Foliage for Perspective



CLEVER EXAGGERATION OF PERSPECTIVE

Although it is well known that a large object in the foreground deepens the distance beyond it, foliage alone used for this purpose is as unusual as it is unusually effective

IN THE accompanying photograph it will easily be seen that the total picture is largely dependent upon the strong foreground produced by the branches and foliage of the Wier Maple and Sumachs. The fact that these have coarse, vigorous texture, as compared with the softer textures in the distance,

assists greatly to increase the impression of a long perspective. Most planting of trees and shrubs is done for its effect in middle-ground. The expectation of the planter is that the planting will be viewed from a medium distance, say fifty feet to two hundred feet. Very few plantings are made for the effect which they produce at a greater distance, and it is very rare that a planting is made for the effect which it produces at a distance of eight or ten feet.—FRANK A. WAUGH, *Mass.*

Crinum as a Hardy Plant

THE note in GARDEN MAGAZINE for last

April may keep some lover of the Hardy Crinum Powellis from trying that very satisfactory bulb in the open border. So I give my experience with it in southern Illinois. In Aug., 1917, I received some bulbs, "put them in a bed that had been prepared for Roses but made 3 or 4 in. higher than the surrounding ground so no water could stand over them; they were set 10 in. deep, with sand under each bulb. They bloomed well in 1919 (June) some very tall—one of the stalks 3 ft. 3 in. and the best having 15 blooms; one of the longest leaves is 66 in." In 1918 they only had about 9 blooms to the stalk. For the past 20 years I had grown Crinums in pots. I don't think this one would ever be at its best in a pot, as I find it to be a very strong grower. Another Crinum I find hardy here I received under the name of Crinum amabile, some 18 years ago. Having more than one bulb I left one out last winter, and in late April I found it coming up. The foliage is much the same only not so long. It belongs to the large blooming class of Crinums. It grows more upright than the other, blooms white with pink stripe, the leaves grow up quite a way then turn down. It is a sure bloomer if given half a chance. Another bed of "Lilies" I am very proud of is the hardy white Spider Lily (*Hymenocallis occidentalis*). Their blooming time is in August and a large bed of the white Spider Lily is a lovely sight when in full bloom. It thrives best in part shade.—MRS. G. M. DOTY, *Ill.*

Beginning with the March issue THE GARDEN MAGAZINE will be further improved in appearance and greatly enlarged, both in size and number of pages. The publishers are urged to this expansion by the great pressure of the "more and better gardens in America" idea which is daily gathering momentum.

The Month's Reminder

"Come with me, then, behind the scenes, where we are concerned only with the joys of plant increase and rejuvenation"

The Reminder is to "suggest" what may be done during the next few weeks. Details of how to do each item are given in the current or the back issues of THE GARDEN MAGAZINE—it is manifestly impossible to give all the details of all the work in any one issue of a magazine. References to back numbers may be looked up in the index to each completed volume (sent gratis on request), and the Service Department will also be glad to cite references to any special topic if asked by mail.

When referring to the time for out-door work of any sort New York City at sea level in a normal season is taken as standard; but at best dates can only be approximate. Roughly, the season advances northward fifteen miles a day. Thus Albany, which is one hundred and fifty miles from New York, would be about ten days later, and Philadelphia, which is ninety miles southwest, about a week earlier. Also allow four days for each degree of latitude, for each five degrees of longitude, and for each four hundred feet of altitude.

FEBRUARY—WELL BEGUN IS HALF DONE!



TAKES, trellises, row markers, tree protectors, wire fencing for trellises, tomato stakes or racks, paper pots or dirt bands for transplanting, plant-forcers, and all accessories of this character are to be made ready or purchased this month. Labels should be lettered with the names of crops to be planted and essential data about each—the planting date, depth to plant, width between rows and distance between seeds or plants.

General

Cut well budded branches of Willow, Red Maple, Peach, Cherry, Forsythia, Japan Quince, Red-bud, and Spice-bush, and place in water to force into bloom at once. Change water daily. Get birdhouses ready for placing by St. Valentine's Day. Plant Dutch bulbs (that were forced) in an obscure place in the garden where they may be allowed two years to recover. Sort and cull vegetables in the root cellar. Open outside doors when the thermometer is above freezing. Frost leaves the ground slowly under a dressing. Do not spread manure therefore until time to plow or spade. Force rhubarb in the garden at the end of the month.

Greenhouse and Frames

Have a general clean-up. Remove soil from benches, spray everywhere inside with extra strong bordeaux mixture and nicotine sulphate combined. Whitewash before refilling. Sterilize the soil with steam; by baking; or with a drench of formalin. Provide space under benches on sunny side of house for things that will not require head room for a few weeks. Fumigate just before new stock comes in. Repot and start Calla, Amaryllis, Gloxinia, and Tuberous Begonia. Start Cannas, Dahlias and Gladiolus in pots. Bring in the last of the potted Dutch bulbs. Sow seeds of hardy annuals. Start Sweet Peas in pots.

Cut back and feed up old plants to produce cutting material for next month.

Make first hotbeds by the middle of the month, others at two intervals of two weeks thus securing a succession of high, medium and low temperature.

Lacking greenhouse or hotbed, start Cockscomb, China Aster, Verbena, Marguerite, Carnation, Sweet Sultan, Periwinkle and Vernon Begonia in the dwelling now. Start also Oxalis, Gladiolus, Amaryllis and other bulbs for late spring bloom. Prune back house plants wherever necessary; replot if necessary; give a little bone meal; water carefully. No other tonic is needed.

Replot cucumbers, tomatoes and melons started last month for growth inside. If to be grown in solid beds give bottom heat.

Sow radishes, carrots, beets, lettuce, dwarf peas, beans and all salads for greenhouse and frames crop.

Sow beets, onions, lettuce, cabbage, cauliflower, Brussels sprouts, kohlrabi, leek and parsley at once; sow tomatoes, peppers and celery the middle of the month; sow lima beans, melons, corn, and squash the end of the month—all for outdoors later.

Force roots of asparagus, rhubarb, Witloof chicory and seakale. Sow parsley, thyme, sage, summer savory, marjoram and any other culinary herbs desired, this month.

Plant fair sized potato tubers with the end showing the greatest number of eyes up, in flats of sand until sprouted, then pot singly in eight inch pots half full of soil. Fill in as they grow.

Fruits

Secure "whips" or "buds" of new varieties of apples for grafting. Keep cool and moist in sand in cellar, or sawdust in icehouse.

Prune grapes, raspberries, blackberries, dewberries, currants and gooseberries.

Take cuttings of currants and gooseberries, using the one-year prunings. Tie in bundles and bury in a cold place.

MAKING A HOTBED.

SSELECT a spot sheltered from the north if possible. Spread the manure, which has been previously turned daily for three days with one third its quantity of leaves mixed in, to a depth of two feet on the ground and two feet beyond the limits of the frame all around. Pack it down in layers laid 6 inches deep at a time. When it is packed thus to the requisite depth, set the frames upon it. Add more manure outside of these, banking up two feet on to the frame. Add another foot within the frame, and it is ready for the soil, which should be 8 inches deep. Sift this through a half-inch sieve, and spread the rough material first on to the manure, then the fine; put on the sash and let the bed heat up.

The manure should be obtained within the fortnight preceding its use, and must be from the stables of grain-fed horses, bedded with straw. One ordinary load of manure to each sash of the regulation size—3 by 6 feet—is sufficient. If it fails to heat properly during the interval it is piled to allow for this, wet it down—preferably

with hot water—and firm it by tramping and allow a further week for reheating following this. The proportion of straw should be one-third to one-half but leaves may make up a deficiency if there is one. Fork it over to secure uniform heating and prevent burning.

A hotbed means four to six weeks' gain over outdoor planting; which with a crop like radishes means actual mature vegetables on the table at the time that the first seeds can be planted outdoors and with vegetables like tomatoes, eggplant, peppers, cucumbers and melons, a season six weeks longer than the garden affords. The same is true of flowers of course. To make a pit bed take out two feet of earth over a space just large enough to admit the frames, set these into the excavation, fill in with manure to the ground level and bank up 18 inches around on the outside. This does away with so large a mass of material above the ground. There is no advantage particularly in this style of hotbed except the appearance; and of course the pit cannot be dug when the ground is frozen.

Get more from your garden

Don't waste time and effort in producing short crops when you can get greater ones. Don't waste energy on poor quality fruits and vegetables when you can get the most delicious ones from the same ground and seed with less effort by using Planet Jr. Farm and Garden Tools. They are scientifically designed and of the most practical construction. They plant and cultivate thoroughly, accurately and uniformly—an impossibility by hand or with out of date, back-breaking tools.

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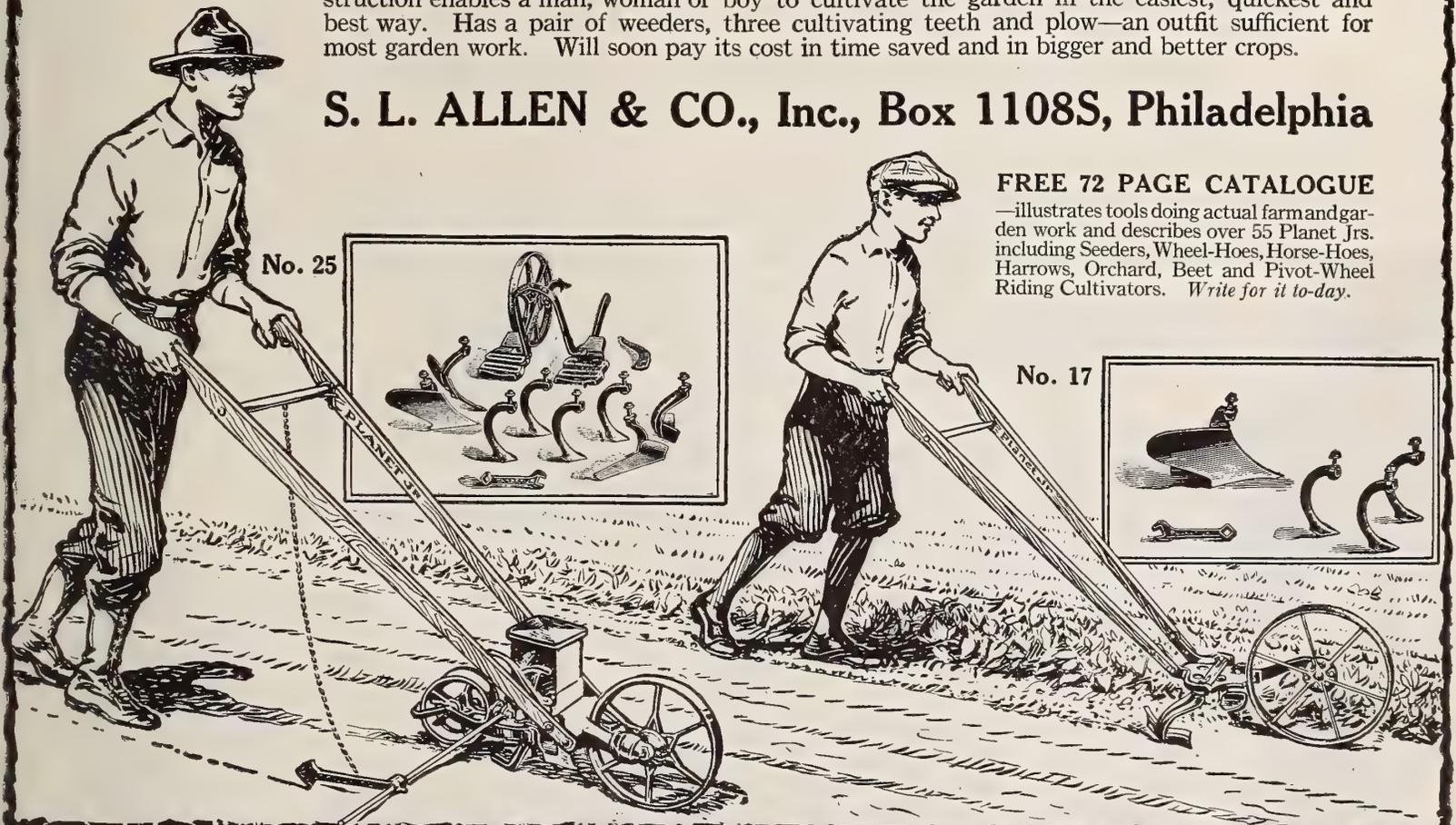
No. 25 Planet Jr., Combined Hill and Drill Seeder, Double and Single Wheel-Hoe, Cultivator and Plow sows all garden seeds from smallest up to peas and beans, in hills or in drills, rolls down and marks next row at one passage and enables you to cultivate up to two acres a day all through the season. A double and single wheel-hoe in one. Straddles crops till 20 inches high then works between them. A splendid combination for the family garden. The wheel-hoe attachments furnished with the No. 25 are what gardeners use most and they will be found invaluable throughout the cultivating season.

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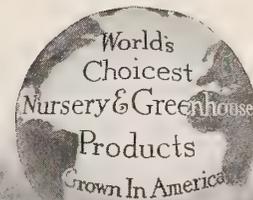
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NURSEYMEN AND FLORISTS

Rutherford

New Jersey

ONE who has never seen a bad case of botrytis disease of the Peony is hardly competent to say it does not amount to anything. As to its not attacking the roots, however, I guess the writer in last August's GARDEN MAGAZINE is right, for I believe it to be wholly an above-ground disease; but the roots can be so weakened by its above-ground effects as almost to kill the plant, and to require years for recovery. The summer blotching of the leaves may or may not be the work of the botrytis, but its injury is measured only by the amount of leaf-area destroyed. The botrytis does its work early in the season, and reaches its culmination at blooming time, when the affected buds discharge their spores.

The disease can probably be kept under practically full control by pinching off affected stems and buds. In all such pinching, and also in ordinary disbudding, the operator should be very careful never to touch a bud which is left.

Where the plantation is extensive, spraying is a much easier method—using bordeaux (one pound of bluestone to one-half pound of stone lime in fifty gallons of water). This is much stronger in copper formula than the standard formula, but more dilute. The lime must be slaked with hot water on the stove as lime cannot be slaked with cold water in so small a quantity.

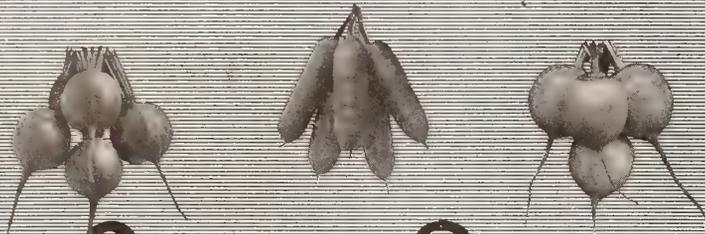
For an elaborate (and I should consider, theoretically complete) programme, I should suggest (1) when a fair proportion of the shoots are through the ground, taking pains to moisten the whole ground surface as well as the shoots themselves: (2) after all the shoots have come through the ground: (3) when the leaves have unfolded from the stalks and the side-buds are exposed: (4) as soon as the blooms are cut. If I could give but one spraying, it would be number three. Number four need never be given unless conditions at blooming time show it necessary. One or the other of numbers one and two may be unnecessary at any time, and I would give both only in a planting that was badly affected the preceding year. If I gave only one of them, I might delay the first a little, and make it do for both.

In spraying with a compound like bordeaux use high pressure so as to have the spray in a fine fog rather than in drops; and spray only until the plants are fuzzy with the mist—not until they are drenched. Also spray in bright weather, or in the brightest part of the day, so the spray will dry as quickly as possible.

As to the Peony plants taking a rest for the sake of the rest—they do not. If they fail to bloom, it is on account of causes adverse to the health or vitality of the plant. One of these is the botrytis disease. The aforesaid writer has enumerated sufficient others to make any "rest" hypothesis utterly superfluous, and also unlikely, seeing many plantings of Peonies never do rest. His reference to orchard resting also is unconvincing, as the causes for orchard resting, other than the growth programme of the fruiting spurs—which does not apply to the Peony—are causes adverse to the trees, or, rather to the fruit buds; spring freeze destroying the buds, scab destroying the buds, rains washing out the pollen, or chilly and damp weather preventing insect activity, with consequent failure of pollination.

As to cultivation about the roots, with a soil that sets like cement heavy cultivation is a necessity, but it must be properly timed.

B. C. AUTEN, Missouri.



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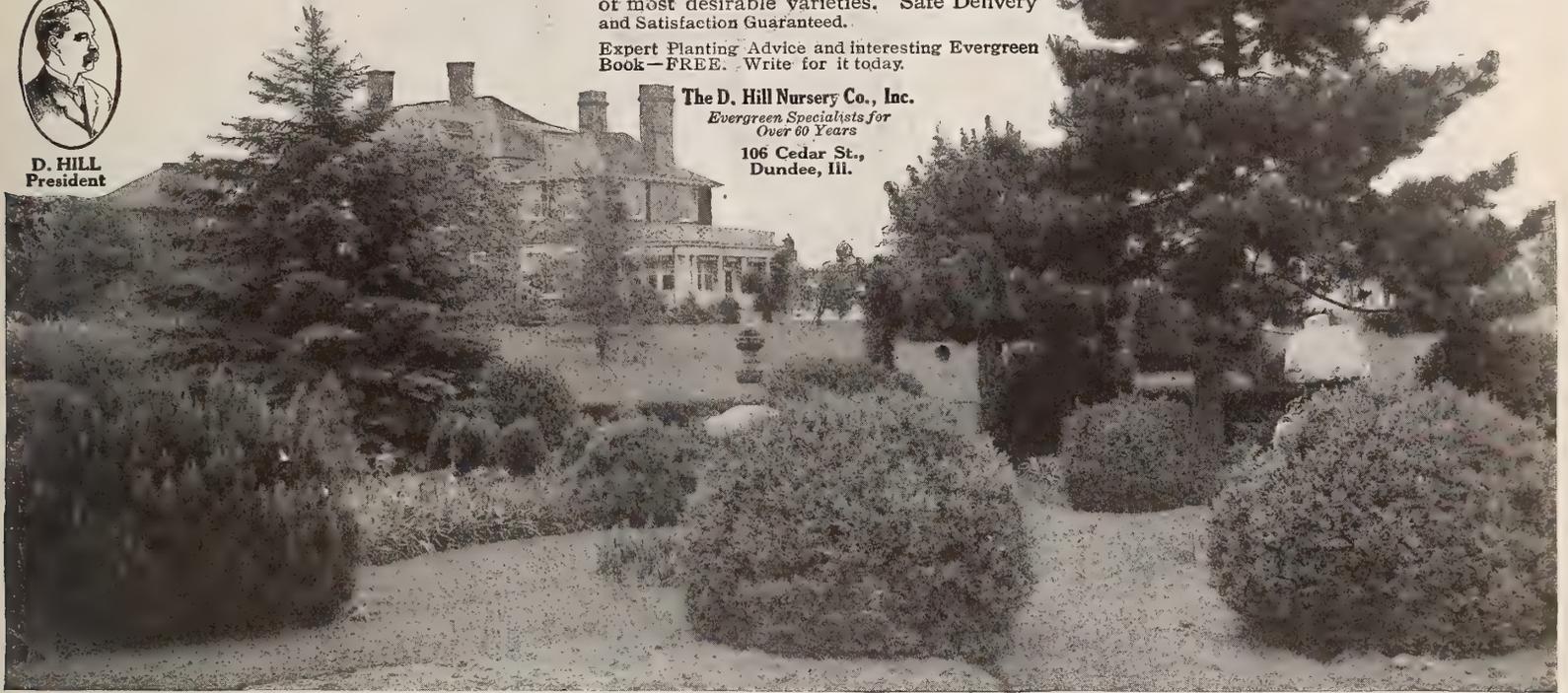
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OAKTON

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Landscape architects agree that no evergreen excels the Douglas Fir for all-around purposes. We grow this and other Conifers in great numbers. Indeed, our entire nursery stock is, we believe, the most complete in sizes and varieties to be found in the Empire State.

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- Future Publications** Place my name on your mailing list. I have given below the area of my grounds so you can send what will be most helpful.

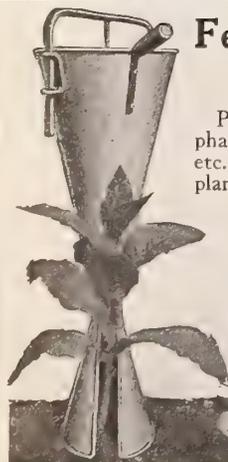
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Fertilizer—Ring Depositor

Places any material, phosphate, nitrate, lime, salt, ashes, etc., in a ring around growing plant or seed. Amount can be varied.

Tested and approved by Agricultural Experiment Stations and Farm Bureaus.

Valuable on a large or small area. The greatest invention in the history of agriculture and horticulture for nourishing growing plants.

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FROM PERSIA, CHINA and JAPAN
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A. E. WOHLERT
The Garden Nurseries

Narberth, Montg. Co.

Penna.



Killing Poison Ivy by Spraying

VARIOUS SUBSTANCES TRIED, BUT SULPHATE OF IRON WITH OIL GAVE BEST RESULTS

POISON IVY abounded in quantities on our grounds, and its presence during the summer was a continual source of annoyance. The vines grew in and over the stone walls, on fences, and even persisted in climbing trees. It was present in such large quantities that pulling the vines was out of the question, even if someone was at hand who desired the work.

CUTTING BACK DID NO GOOD

Our neighbors tried to eradicate the Poison Ivy by cutting the vines. We also cut the vines flush with the ground in late summer, and they grew the following spring as vigorously as ever. This treatment seemed to give them a kind of beneficial pruning and aided in developing a much stronger vine the following season. Some of the vines were pulled up, but the roots had ramified in the ground under the stone wall, so that getting them all was impossible. Where it existed on wooden fences we pulled the vines, and found that they came up fresh in the ground from the sprouts made by the roots.

Sulphuric acid was tried at the place where the stem joined the ground and the Ivy sprouted up ten for one around it. We sprinkled an entire piece of ground with sulphuric acid, and the result was that nothing else would grow on the area treated. Kerosene was also tried on some vines. It surely killed the leaves, but also killed the grass around it.

WEED KILLERS TRIED

We had previously secured a quantity of a patent weed killer for killing Dandelions, and in our spraying experiments in the grass near spots where Poison Ivy was prevalent it was observed that the weed killer blistered the leaves of the Poison Ivy. Closer observation revealed the fact that the older leaves were blistered and that the young growth was not affected by the spraying. To use this weed killer was an expensive proposition, so we decided to find out what the general run of weed killers were composed of, our object being to secure an adequate weed killer which would be inexpensive. Copper sulphate was first tried, but it did not adhere to the foliage when applied alone, and while it burned the foliage of some plants it did not seem to have much effect on the Poison Ivy. Sulphate of iron was next tried, and it seemed to adhere better to the foliage and didn't kill the grass. This chemical will stick to the foliage of plants having hairy leaves, but seems to roll off from the grasses and grains.

SULPHATE OF IRON MIXED WITH OIL

A small quantity of oil emulsion which was used for San Jose scale was added to the sulphate of iron, and it seemed more effective in killing the leaves than sulphate of iron alone, but would not

(Concluded on page 294)




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Greenhouses
 come to
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This is the
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AN absolutely indispensable appliance for the up-to-date garden either vegetable or flower. A sturdy, hard-wood stake $\frac{7}{8}$ of an inch square, 3, 4, or 5 feet long, with a strong wire support instantly adjustable to the required height, with no tool except the hands. Stake and wire painted green making them inconspicuous.

The "Adjusto" saves space because it keeps your plants in the air and sun, and from the ground. Enables you to cultivate close to the plant and so increases growth and fruitfulness. "Adjusto" supported tomatoes ripen to perfection. "Adjusto" supports bring out the full beauty of Dahlias, Chrysanthemums and all the slender, tall-growing varieties. They will help you to grow premium-grade blooms, either for your own enjoyment or exhibition.

Buy "Adjustos" at a garden-supply store or write direct to us

FORREST SEED COMPANY
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Honest Seeds, Honest Prices, Honest Packages

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On your table will be served the vegetables money does not buy—fresh, tender and luscious. Best of all, you can say with pride, "I raised these!"

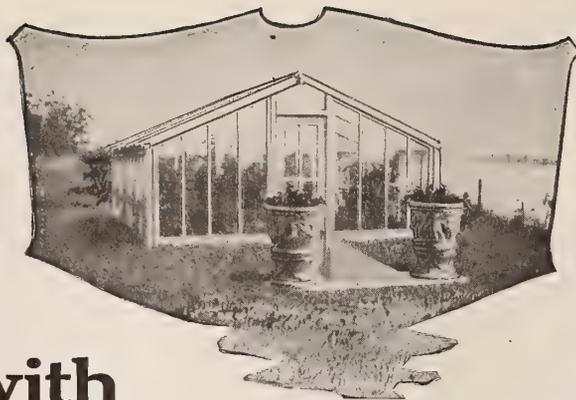
Vigorous seeds, trees, foliage, shrubbery—all the requirements to start seeking contentment in successful home garden and beautiful grounds—are described in the 1920 Storrs and Harrison catalogue. A postcard will bring it to you—send today. For 66 years we have pleased our customers.

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Plants thrive and grow under SUNLIGHT DOUBLE-GLASS SASH because their only covering is a transparent blanket of two layers of glass, $\frac{5}{8}$ inch apart, which retains heat, excludes cold and gives them full benefit of *all the light all the time.*



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built entirely of cypress and glass and covered with Sunlight Double-Glass Sash, are the first choice of successful growers everywhere. Handsome, strong and durable, as well as practical, yet inexpensive and economical to operate. They are shipped in perfect-fitting sections, are easy to erect and so made that each sash can be removed at will and used on hot-beds or cold-frames.



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The last word in scientific seed selecting and testing, and revolutionary in its application to the farmer and gardener.

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S. A. ROGERS COMPANY

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Newark, N. J.

go through the sprayer as well as the sulphate of iron solution when sprayed separately. The applications which we made on sunny days were more effective than those made on cloudy days.

THE TIME OF YEAR

In our previous experiments we did not attempt to kill the Poison Ivy until late in the season, but for this latest test operations were started at an early date, and we performed our first spraying as soon as the leaves were well developed. Our first application of spray mixture did not kill the plants but blistered the leaves, and the second application killed the leaves. This was early enough so that a new set of leaves was put out by the plant, and as soon as they were large enough to spray, we gave them another application, and repeated it where the leaves had not withered after a week. This kept the plants devoid of leaves, and it was evident that it had weakened the plants so that they did not start the following season in the same manner as they would if allowed to run their natural course. In some places we had killed the plants entirely, while in others, where we could not reach all of the plants, they started again, but not as vigorously.

I am of the opinion that methods of this nature would be of advantage in destroying Poison Ivy where it abounds in large quantities, because the leaves are the parts of the plants where raw food is digested and sent back to the stem and roots for use in the following season. If they are not present it will either check the growth or kill the plant. Our work the first season checked the growth, and by repeating the work the second season it killed the plants.

HANDLING THE SPRAY MATERIAL

The spray mixture is very inexpensive, as the sulphate of iron only costs a few cents a pound. As it is much heavier than water it must be suspended in a bag in order to make it dissolve quickly. This chemical will corrode iron vessels, and should be prepared in a wooden barrel or pail. A gallon of water will dissolve about two pounds of iron sulphate, and it is used at this strength; weaker applications have not been satisfactory. After it is ready to use, the spray oil should be added at the rate of one ounce (liquid measure) to a gallon of water, and applied as soon as thoroughly mixed.

In spraying it is not advisable to use a machine having an iron tank; the brass tanks do not corrode, and are more economical in the end. Applications made with sprinkling pots or watering cans are very wasteful of the material, while by using a sprayer about three times the area may be covered.

The above mentioned spraying mixture is satisfactory for saturating stone walls, spraying Poison Ivy along fences which are not painted, or applying it where the Ivy grows among weeds or brush along the roadsides. I do not advise using it among valuable shrubbery, but if necessary would give it a trial on a few leaves of the shrubs before performing spraying on a large scale. Where vines climb into trees we cut the vines close to the ground, and as soon as the roots put out shoots they are sprayed in the same manner as among the fences.

We have been quite pleased with the results from our spraying work against this disagreeable weed, and our experience might be the means of someone else trying it out in a small way and perhaps obtaining good results.

GARRETT M. STACK, Connecticut.



Flowering Dogwoods!

THERE is a charm, delicacy and sentiment about the Dogwood that make it peculiarly fascinating to plant-lovers. It flowers so young (no tedious waiting) and so profusely—has such brilliant deep crimson autumn foliage, with ruby berries which tempt the birds in flocks—and looks so becoming in almost any situation, alone or in group planting—always yielding beauty, never demanding any particular care or worry—you simply can't help loving it! Experts say we have the best Pink Dogwood they've seen anywhere—and we think our White is just as fine! (White, 3' to 12', \$1 to \$5; Pink, 2' to 10', \$1.75 to \$5). They blend, by the way, beautifully.

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MORRISVILLE PENNSYLVANIA
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Cheaper Greenhouses—and Better

In the construction of a greenhouse the cost of erection after materials are on the ground is a large part of the total cost. Callahan Sectional Greenhouses *eliminate this expense.*

All of the actual work *is done* in our factory, from cutting the materials to attaching the hardware. You simply bolt the sections together.

CALLAHAN SECTIONAL GREENHOUSES

Give you the advantages of correct design, best materials, machine cut exactness and skilled workmanship—all at such a *low cost* you can't afford to garden without one.

ORDER NOW TO HAVE FIRST VEGETABLES

Callahan Cut-to-Fit Greenhouses save labor and money for commercial growers. Expand to any size.

Callahan Duo-Glazed Sash for hotbeds.

Write to-day for Free Catalogue of type desired.

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Crimson Glow

All critical culturists write us that our CRIMSON GLOW is easily the best of all reds—while some say it is the one best Gladiolus to-day—based on comparative test as to vigor, virility, productivity, grace, size, substance, tallness, and its rich, glowing crimson color.

When we sent it out that is what we claimed for it and it has proven its claims. Out of many thousands of seedlings it is the only one we considered as "Betscher Quality" although many were very fine—unless a new sort has exceptionally extra merit it should not be named and sent out.

Every amateur or grower should buy CRIMSON GLOW—it will pay large dividends in pleasure and money. Ask your grower or dealer for it, or send to us. \$1.00 each, \$10.00 per dozen, post free, cash.

Prim. Hybrids, Betscher's

This is a very fine type, early blooming, is very satisfactory, is recognized by critical buyers as a superior strain—forces well. Boston growers admit it is the best forcing type, early, sure, fetching, good size, tall, vigorous. Mostly yellows, inferior ones discarded.

Prim. Hybrids, Yellows

These average as fine and better than named yellow sorts, healthier, more virile, taller, much earlier, a very good forcing type—selected to color out of our mixed Prim.

Our Primulinus, being early, are done before America, etc., open. They pay us very well for cut flowers. Planted July 1st to 15th they come in at a time when flowers are scarce, again paying well. About all Primulinus $\frac{3}{4}$ " and up bloom well.

We have tested out about all Gladioli, world wide, so know the subject of Gladioli from A to Z.

We offer as above and a list of the better commercial sorts—choice and select mixtures.

Our growing season was ideal, so our bulbs are fine, large, plump, etc.

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Gladioli, Cannas, Dahlias, Peonies

ALL THE WORLD'S BEST ONES

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Gardening with Buist Top-Notchers

Make sure of full-measure returns from your 1920 garden by planting *types* and *strains* of vegetables that have *stood the test* of time. For 92 years Buist's Seeds have enjoyed liberal patronage on the part of *exacting* gardeners.

Sorts that Stand for Bountiful Crops

All are as dependable under widely differing conditions of soil and climate as our many years of practical experience have found any vegetable can be.

Beet, Buist's Perfect Model. Of particularly fine home-garden quality, sweet and fine grained. Rich color and small tops. **Pkt., 5c; oz., 20c; ¼ lb., 60c.**

Cabbage, Copenhagen Market. Greatest "discovery" in cabbages in a decade. Ready in 100 days and twice as large as any other early. **Pkt., 10c; oz., 50c.**

Carrot, Buist's Improved Rubicon. Sweet, tender and entirely free from coarseness at all stages of growth. Medium early. **Pkt., 5c; oz., 25c.**

Lettuce, Buist's "Veribest" Butterhead. Early and of "second-to-none" quality, crisp, tender and free from bitterness. **Pkt., 5c; oz., 20c; ¼ lb., 60c.**

Onion, Buist's Prizetaker. The famous mammoth yellow home garden sort of America, mild, crisp and of good flavor. **Pkt., 5c; oz., 30c; ¼ lb., 90c.**

Radish, Buist's Scarlet Button. Very early, crisp, mild and tender. Bright scarlet in color, ready for the table in 21 days. **Pkt., 5c; oz., 15c; ¼ lb., 50c.**

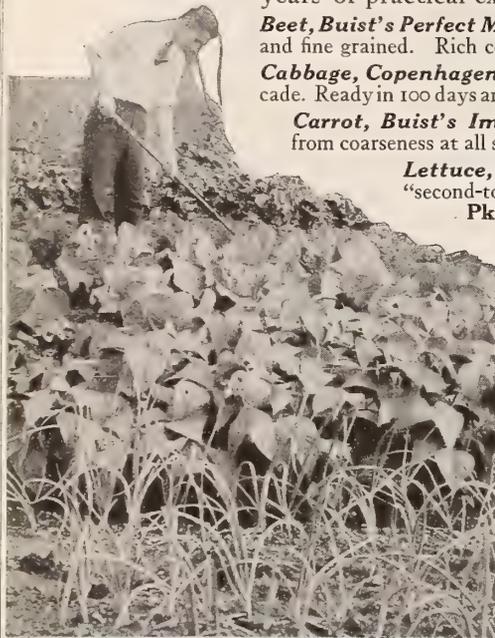
Tomato, Buist's Earli-Belle. Choicest early bright red sort of great solidity and prolific nature. **Pkt., 5c; oz., 35c; ¼ lb., \$1.15.**

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Tells what, when, and how to plant for best results: there's something on each of the 140 pages you'll be glad to know.

Free Flower Seeds with Orders of 50 cents and over

ROBERT BUIST COMPANY
DEPT. H PHILADELPHIA, PA.



"First Aid" to an Amaryllis

ACCIDENTS will happen to the most carefully cared for plants sometimes, but, if one uses a little ingenuity, he can usually remedy things. However, my success with "first aid" measures to my beloved Amaryllis this winter scores ahead of all past feats. I had been keeping my plant, an Amaryllis Johnsoni, up stairs in a sunny window until the buds would be about ready to open. There were to be five beautiful flowers and I had watched it day in and day out as only a real plant-lover watches a pet flower. When the time came for it to open I asked my "man-about-the-house" to carry it downstairs for me as I wished to have it on the library table during its blossoming, where all the family could see and enjoy it. But, in some manner, in moving it, the lovely long bud-stalk was broken. As it was borne into the room I saw with consternation, that it was hanging limp and the life juice of the plant was already pouring out. Being a surgeon's daughter I thought of adhesive plaster. I made a little light wooden splint, about three inches in length just long enough to stiffen the stalk, then around that wrapped adhesive plaster, enough completely to cover the wound and stanch the flow of juice. I awaited the result. Well, the result was gratifying enough to suit any plant-surgeon. In proper time the buds opened; the flowers lasted as long as they ever do, and the plant, aside from the rather unsightly plaster, was as much a thing of beauty as ever.

K. D. B., Iowa.

Lengthening Narcissus Season

I HAD an interesting experience with Narcissus last year and the year before. A row of the Emperor variety was planted beside the house wall from front to rear. Nothing unusual in this! When the spring opened, the specimens to bloom first were at the rear end of the row. Fully a third of the total number of plants blossomed before the front third appeared above ground. The middle third was intermediate in time of appearance and blossoming. The whole row lasted nearly six weeks. Had there been different varieties I would not have been surprised but with only one kind I was at first surprised. In another place I had a bed about two feet wide and six or eight feet long where the specimens next the wall were three weeks earlier than those on the outside. The warmth of the cellar was the cause in each case. In the former, the rear third was beside the furnace cellar, the intermediate third beside the "cold cellar," and the front third by the veranda. Here's a hint for extending the season of early blooming bulbs.

M. G. KAINS, Long Island.

Planning for the Summer Garden

SHORTLY after Christmas last year I began to plan for the coming Summer's garden, and suddenly decided to try and get the seedlings started early; for here on the Sound our real hot seasons are late and short, so while my orders were being filled by the seedsmen I began preparing the earth for these precious seeds. Shocked to discover that I had no earth as the ground was securely frozen, I had to resort to thawing out the window boxes all around the house. After sifting the earth

Continued on page 306

Shrubs and Evergreens

Of Best Quality for City and Rural Landscape work. Prices right and we pay the freight. No money with order. Ask for 1920 Catalogue, it explains why they buy of

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Strawberry Plants

We offer some very choice and selected plants of Strawberry, Raspberry, Blackberry, Rhubarb, and Asparagus for the home garden where quality is of the utmost importance and we will gladly send our descriptive booklet of nursery stock and vegetable plants upon request.

Glen Rock Nursery and Stock Farm Ridgewood, N. J.

Better Seeds for Your Garden

The per cent. that will grow is marked on the package

Harris Seeds are the kind that make the garden more productive and the vegetables more delicious. Bred as carefully as prize live stock on our own Seed Farms five miles from Rochester, Harris Seeds have for years been used by the largest and most successful market gardeners.

You can get fine results from this pedigree seed because every lot is tested and the percentage that will grow is marked on the label. So you know just how thick to plant.

Send for our free catalogue and learn about our new strains of Peas, Beans, Beets, Corn, Cauliflower, Tomatoes, Melons, etc. See why our method of selecting the Seed from the best individual plant enables you to produce better sized and more delicious vegetables in greater quantities.

Write for the Free Catalogue To-day

It shows how to have a truly successful garden and enables you to buy direct from the actual grower at wholesale prices.

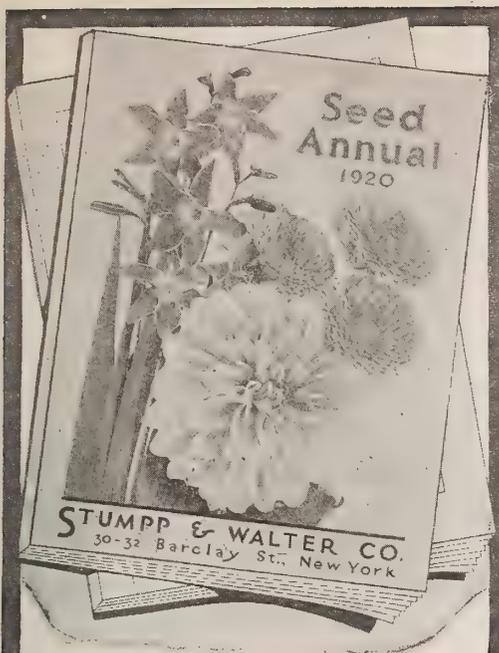
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OUR 1920 Spring Seed Annual is now ready for distribution.

It contains a complete description of the latest *Novelties* and *Specialties* in vegetables and flowers, as well as *Standards*, which can be grown in your garden.

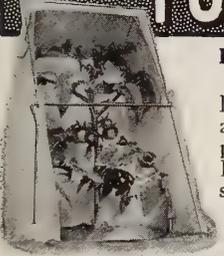
It is attractively and conveniently arranged, with pictures and text, and we feel sure that it will help you in planning your vegetable or flower garden.

A copy of this Annual sent free upon request. In writing kindly mention "Garden Magazine."

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No matter how backward the spring, it's easy with

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cheap enough to use them by the thousands. Send for my Beautiful Free BOOK, HOW TO GROW BIGGER, BETTER and EARLIER CROPS than you ever had before. It gives you gardening information found in no other publication. It tells you how you can have a garden with flowers in full bloom and vegetables for your table a month earlier than you ever had before. Just drop me a post-card and I'll send you your copy by return mail.

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THE perfect grounds that you dream of having, don't just happen. They are the logical result of planting according to the original plan of long experienced landscape artists. The lovely garden that you wish is waiting for you. It may cost much less than you expect, too. You have only to call on the Wagner Landscape Gardeners, who will prepare plans and plant for you, if you wish, in the most charming manner, Wagner roses, hardy flowers, vines, shrubs, evergreens, and ornamental trees. No matter whether your grounds are large or small, you will be delighted with Wagner Plans and Planting. If you desire, you may secure Wagner Plans by mail. Send to-day for our new catalogue 165.

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The Bushel Basket Strawberry *The Sensation of the Fruit World*

Grown in the hill system the plants become gigantic in size. They also make an ideal matted row. Immensely productive of extra large, bright red, delicious berries. Surprise your neighbors with them. Interesting illustrated circular free describing Strawberry, Raspberry and Asparagus plants.



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Macedon, N. Y.

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Order Sun Boxes Now Start in February Boosting Your Garden

Gardens are a lot like automobiles. Cranking and starting them when cold, takes time before the engine is running along sweetly and giving its full power.

Our sun boxes do for gardens what self starters and warm garages do for an auto. They give you a running start on the other fellow.

When he is struggling along next spring trying to get his garden to start, yours can be all set out with goodly sized plants and running in a way that will make your neighbor look over your fence enviously and say: "Oh, what's the use of trying to compete with you fellows who have self starter attachments!"

Just naturally that will be the time you will chuckle, and give reign just a wee bit to a feeling of gardening superiority.

But before you can chuckle, you must have the chuckle maker—our Sun Boxes.

The boxes that grab every warm ray of the sun and imprison it to boost along your seed plantings.

There are some things which ought to be started in February if you want an extra early start. By middle of March, all your seeds ought to be warming their toes in the Sun Boxes.

Which you see, means ordering now is none too early to make sure of having the Boxes early enough.

A two sash Junior Sun Box 3' 2 1/2" wide x 5' 10 1/2" long costs \$14.51 complete. \$20.36 for 3 sash, \$26.16 for 4 sash.

Our Two P's booklet tells you every detail about the half dozen different sizes and prices of our Sun Boxes (or Cold Frames).

It also includes helpful directions for starting, time to plant and so on. You are most assuredly welcome to a copy.

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Also the best Strawberries, Raspberries, Blackberries, etc. Fruit, Nut and Ornamental Trees, Shrubs, Vines, Roses, Hedge Plants and Garden Roots. Our descriptive Catalogue No. 1 gives details. It is FREE.

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Berry Specialists for 42 years

The Needs of St. Regis Raspberry

CONTINUOUS CLEAN CULTIVATION CLAIMS SUCCESS

THERE probably is a greater diversity of opinion about the St. Regis Everbearing raspberry than about any other kind of fruit. My interest in this variety has led me to observe it carefully in my own gardens, in those of my neighbors, and in experiment station plots during the past eight years. During this same time I have received written and verbal reports from dozens who have tried this fruit. Opinion among these latter seems to vary about fifty-fifty, on the one hand to the effect that it is a poor variety and on the other that it is one of the very finest varieties in cultivation. What are the facts? Why these extreme differences of opinion?

Every one will agree that St. Regis is extremely hardy. Away up in Auburn, Maine, the other day one grower assured me that St. Regis was the only variety of five he had grown which never showed any winter killing. This assuredly is a strong point in its favor especially for northern sections. Every one too who has tried it knows that St. Regis produces when left to itself more suckers than almost any other variety. In two years from planting, unless special precaution is taken, the new shoots will stand so thickly on the ground that it is difficult to tell just where the original rows were laid out. It is in this one characteristic alone that the plant in nine times out of ten has bred the cause of its own partial disrepute. Excessive suckering is nearly always the cause of failure or meager success.

I find where the St. Regis is grown in very narrow rows, or better yet is grown in hills and the new canes or suckers are kept severely thinned out, success invariably results. From my observations I am led to believe this variety is always better when grown in hills and cultivated both ways. The hills should be about five feet apart and only about five or six new canes should be allowed to grow up in the hill each spring. This will mean ten or twelve canes to each hill during the first part of the summer or until the canes of the previous season have completed their spring crop. These last named set of canes should be topped back to a height of about three and a half feet in early spring and should be cut out after the early summer crop. Other than this no pruning of canes is necessary or desirable.

The St. Regis will produce a very fair crop of its bright red berries in early summer on side shoots from the previous season's canes. This fruit will ripen early and be out of the way before the varieties Cuthbert or Herbert begin to ripen. We have many times had canes loaded with ripe red berries on exhibit at the fairs in September and October.

The fall crop on St. Regis is produced from flower clusters which terminate the season's canes much in the same way as Hydrangea blossoms terminate the growth of that shrub. In order for this fall crop to be as large as possible, not only must the canes be strong so that the flower heads may be large, but these summer canes must be pushed ahead fast so as to come into flower early and afford a long period for fruit growth and ripening. All of the above practice tends to accomplish just this end, and it may be still further hastened by top dressings of nitrate of soda and acid phosphate, at the acre rate of about 100 pounds (1/3 oz. per sq. yard) and 250 pounds respectively, in the early spring. Three quarts per hill, which is the equivalent of five thousand quarts per acre may be and very often is secured when St. Regis is grown in this way.

W. H. WOLFF, *New Hampshire.*

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OUR CATALOGUE of Flower and Vegetable Seeds for the Home Garden tells you how and when to plant. It can be depended upon as an authority on seeds and their planting, for it was written by Charles H. Vick, America's best known and most thoroughly informed seedsman.

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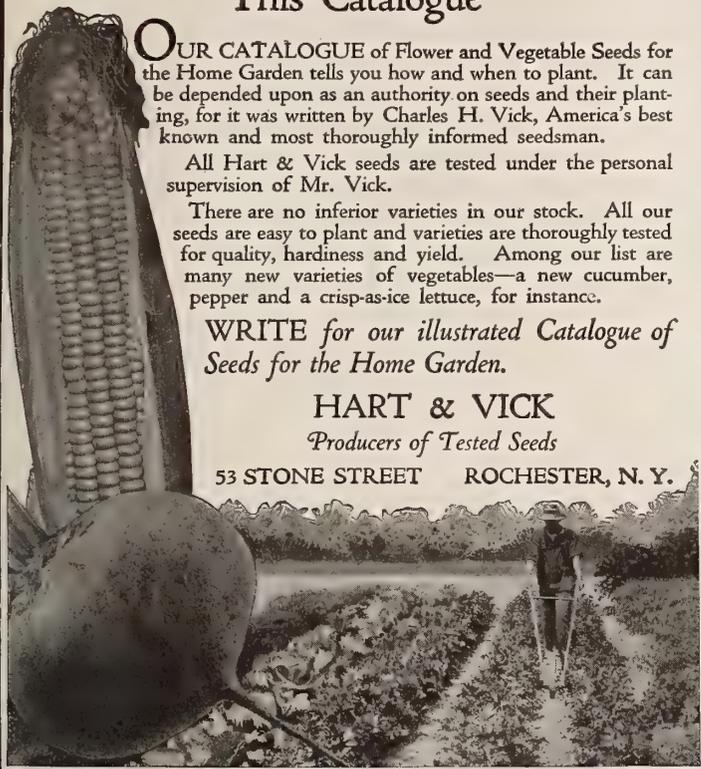
There are no inferior varieties in our stock. All our seeds are easy to plant and varieties are thoroughly tested for quality, hardiness and yield. Among our list are many new varieties of vegetables—a new cucumber, pepper and a crisp-as-ice lettuce, for instance.

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Cottage



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Bianca (Hybrid Cactus). Rose-lavender.
Cardinal (Peony-flowered). Purple-crimson.
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Mrs. Brandt (Incurved Cactus). Orange-buff.
Yellow King (Hybrid Cactus). Giant yellow.

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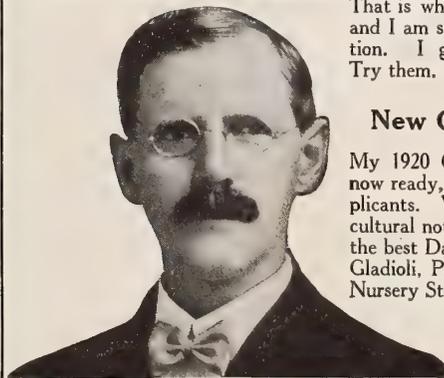
Ella Kramer (Cactus). Rose-pink.
J. H. Jackson (Cactus). Deep maroon
Mina Burtle (Decorative). Scarlet.
Queen Wilhelmina (Peony). Pure white.
Stradella (Show). Purple-crimson.

If you are a flower lover you will be delighted with these six wonderful Dahlias. They are of gigantic size, exquisite colorings, perfect habit, and have good stems.

That is why I can recommend them highly, and I am sure they will give perfect satisfaction. I guarantee every bulb to grow. Try them.

New Cultural Guide Free

My 1920 Catalogue and Cultural Guide is now ready, and will be mailed free to all applicants. Write now as it contains valuable cultural notes and a collection of over 500 of the best Dahlias, and a complete collection of Gladioli, Peonies, Phlox, Hardy Plants and Nursery Stock.



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All Statements Approved by High Dental Authorities



The Cloud is Due to Film

When pearly teeth grow dingy they are coated with a film.

There is on all teeth a slimy film, ever-present, ever-forming. It clings to teeth, gets between the teeth and stays.

Brushing in the usual way does not end this film. That is why so many teeth discolor and decay. Most tooth troubles are now traced to film.

That film is what discolors—not the teeth. It is the basis of tartar. It holds food substance which ferments and forms acid. It holds the acid in contact with the teeth to cause decay.

Millions of germs breed in it. They, with tartar, are the chief cause of pyorrhea.

Now We Combat It

Dental science, after years of searching, has found a way to combat this film. Able authorities have proved this by many care-

ful tests. Leading dentists all over America are now urging its adoption.

For home use the method is embodied in a dentifrice called Pepsodent. And all who ask are sent a ten-day test to show them what it does.

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Pepsodent is based on pepsin, the digestant of albumin. The film is albuminous matter. The object of Pepsodent is to dissolve it, then to constantly combat it.

A recent discovery makes this method possible. Pepsin must be activated, and the usual agent is an acid harmful to the teeth. But science has now found a harmless activating method. Now active pepsin can be constantly applied.

Pepsodent is now doing for millions of teeth what nothing else has done. We urge you to see what it does for your teeth. Compare it with the old-time methods and judge the results for yourself.

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Watch the Results For Ten Days

Send this coupon for a 10-Day Tube. Note how clean the teeth feel after using. Mark the absence of the slimy film. See how the teeth whiten as the fixed film disappears.

Better Than Bananas

TUCKED away in an inconspicuous corner of the muskmelon section of a seed catalogue was the first description of the Banana Muskmelon that I had ever seen. It looked good to me, and as I have an un-failing propensity for trying out novelties, the fact that the melon was something new to me was an added reason for my ordering a package of the seed.

That was four years ago. Since then I have had no place in my garden for any other muskmelons or cantaloupes.

It would seem that in the Banana is found all that is good and desirable in muskmelons, and so far as I have been able to discover, its undesirable qualities are nil. The plants are thrifty and heavy-bearing and seem to be practically free from disease and insect injury. The vines do not run excessively but, being much branched, cover thoroughly the relatively small area of ground that they occupy. A fairly rich loam is best for this variety and I have found that it does very well on soil that is slightly moister than the usual garden soil. If the best growth and the most melons are desired, the plants must never be allowed to want for water. The melons themselves should not be picked until almost fully ripe and then only in the morning before the heat of the day.

"Composite muskmelon perfection" is as good a way as any of describing the Banana Muskmelon. In shape it ranges from that of the "big stick" to that of a real banana with the latter form the more common. The melons average about eighteen inches in length and about four inches in diameter and weigh from four to ten pounds each. The cavity is small, the seeds are few in number, and the flesh is thick, firm and melting. The taste and flavor, however, are the features that possess the greatest appeal. The flavor is exquisite and the taste delicious. I may seem over-enthusiastic but if I could share with you some morning a half of one of these wonderful melons, fresh from the garden and with the dew still on it, you would agree that my enthusiasm was more than justified. Real bananas have no attraction for me when I can obtain the muskmelon bearing the same name.

Then there is the financial side of growing the Banana melon if you are gardening for profit. A hill covering an area about eight feet square produces from the four plants twelve to twenty good melons. As to the price that the melons bring—it is rather difficult for us to keep enough melons for our own table because of the eagerness of others to take them off of our hands at prices ranging from forty to seventy-five cents each.

If you have a "hankering" to raise in your own garden muskmelons that have a size, quality and flavor not found in those bought at stores, suppose you just try the Banana.

R. E. ALLEN, *West Virginia.*

[This is the type of melon offered by many seedsmen as Honey Dew or Honey—EDITOR.]



Everbearing Strawberries

For the Home Garden

Fall or Everbearing Strawberries are no longer a dream of the future. They have been thoroughly tested and proven worthy. Plant your own patch this Spring and have ripe Strawberries until the heavy frosts of Fall come.

Our 1920 Catalogue will tell you about the best tested varieties of Fruits, Small fruits, Shades, Shrubs and Roses. It is free. Write to-day.

We ship all orders at proper planting time. ACT NOW.

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6 Ornamental Evergreens \$5
2 Ft. or Higher
Delivered to Your Door

1 each, Silver Fir, Juniper, Douglas Spruce, Arborvitae, Red Pine, Austrian Pine—choice, high quality stock raised at "Little Tree Farms"—all for \$5.00. Remittance with order.

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Our trees live and please:

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Earliest Forcing Lettuce . . .05	White Icicle Radish05
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Euonymus radicans vegetus

A lovely climber, adaptable to all locations; unsurpassed for covering trellises, walls or stumps. Rich green all the year, with crimson berries in winter. Can be planted at any time.

1st size, 50c each; \$5 per dozen
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\$700 NET From 1 1/2 Acres of Strawberries

That's what one of our customers got for his crop last year. It's just a matter of good healthy plants and proper attention. At least half the secret of success lies in the stock you use.

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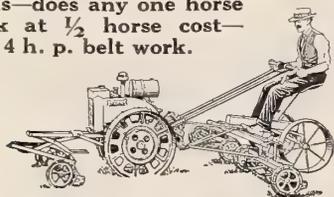
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It plows—harrows—drills
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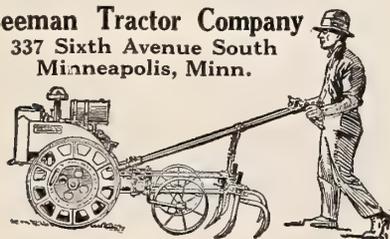
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1920
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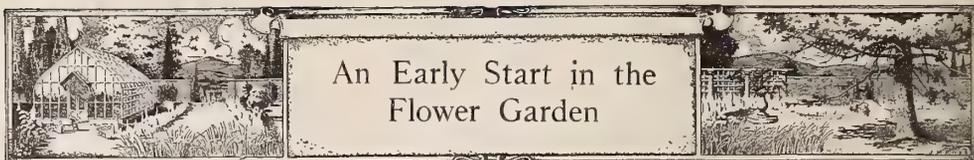


The Modern Gladiolus

THIS is to inform my friends and the expected new customers, who will be my friends, that my new catalogue of gladiolus bulbs is ready and will be sent out to all who send request. I aim to keep up with the procession, and offer all the best tested varieties of this most popular flower, and I offer some new sorts, which are highly recommended, for us to try this year. After cutting out a number of old sorts the list still contains about 125 named ones, besides choice mixtures.

Geo. S. Woodruff
Independence Iowa

Always mention the Garden Magazine



An Early Start in the Flower Garden

IF YOU can start your flower beds with plants having roots and stalks and leaves instead of with seeds which the early rains may wash out of the ground or a few days of dry weather slay just as they are germinating, of course you will have flowers earlier and therefore longer, and much more certainly.

Here is how one amateur does it—and every item in the plan came originally from THE GARDEN MAGAZINE, either through an article or an advertisement. These are the ingredients:

A box full of good soil put in the basement in the fall.

Two screens for sifting the soil.

A number of twelve-inch square clay seed pans—wooden flats will do, but are not so good.

An outfit for making paper flower pots.

A small coldframe, made out of four boards and an ordinary three-by-six storm sash.

The first operation in the year's work, which is also the last of last year's work, comes in filling a large box with good, light soil—a combination of sandy loam and rotted manure. Your soil needn't be very rich—shouldn't, indeed, be too rich, because it is good to give the roots of your seedlings rather slim diet so they will have to spread wide to search out their food.

The next operation is filling the seed pans, which first involves sifting the soil through the two screens—one an old ash-sifter with three-eighths inch mesh, which takes out the pebbles, and the other made of a fairly coarse mosquito netting fastened by cleats and nails to a square box fifteen inches in diameter. The coarse screenings are discarded; the screenings from the second operation are put in one box, the sifted soil in another. Fill the seed pans with a half-inch layer of gravel, broken-up clay pots or even hard-coal ashes, then with the coarser earth left from the last screening; and finish with a half-inch or so of the finest soil.

Next, make your paper pots. Here are the materials for that:

A wooden block two and a quarter inches square and two and a half inches high, with a three-eighths-inch hole bored through the centre from top to bottom;

A three-eighths inch bolt with a broad, flat head, long enough to go through the block and a board or work table top, to be clamped there by screwing on a nut;

A package of one-ounce tacks;

A quantity of what the printers call 120 pound tagboard, cut 11 1/4 inches long and four inches wide.

My outfit I bought for a dollar from an advertiser in THE GARDEN MAGAZINE—tagboard, tacks, block, bolt and all; but you can make it yourself easily enough. The block I use is fastened to a discarded ironing board, which makes a good working table laid across two upturned boxes or barrels.

Fold a tagboard strip closely around the block, starting at the side nearest you. An inch of it will extend above the block. Fold this down over the block, fix a tack in the centre, and pound it in with the hammer. The point, driven against the head of the bolt curls up and clinches the fold; and your box is made.

Flat wooden boxes to hold the paper pots when filled are convenient for handling them, and are easily made in sizes fitting your needs. Mine are made so as to hold forty-eight paper

pots comfortably; and this size fits into the cold-frame nicely. All of this work will provide plenty of occupation for leisure hours during the winter and your work in the really busy hours of spring will be lightened.

Along in March or early April, according to your climate, water the seed pans, let them dry a day or so until the soil is merely moist, and then plant your seeds. Barely cover the smaller ones by sifting soil over them and then pressing down with a flat board, and be careful to cover none of the seeds too deeply.

Quick germination can be secured by putting the seeds on heating pipes in the basement with a pane of glass over them—germination often so quick that you must watch them constantly and remove them as soon as the seeds sprout, otherwise they may shoot up to the glass in slender spindling stalks. After the seeds have germinated, put them in a sunny window, leaving the glass on with a half-inch piece of wood under for ventilation, and covering the glass with cheesecloth for a couple of days while the sun is upon them.

Then—if you have timed your work properly—as soon as the seedlings are well started move them into the coldframe. Look to it carefully that they are properly protected against frost at night by warm coverings, and that there is proper ventilation during the sunny hours. The loss of a coldframe full of young seedlings through oversight in leaving the top down during a sunny day taught that lesson—every one was burned to a crisp.

When your seedlings have grown large enough to transplant—when they have more than one pair of leaves is time enough for any of them, though some, such as Antirrhinums, will transplant readily at almost any size, while some, such as Poppies and Mignonette, won't stand transplanting at all and cannot be handled in this way—proceed with them thus:

Put a pan full of seedlings on your work table, with a supply of paper pots and a pan of fine soil near at hand. If the seedlings have been thinned out—or if you planted them thinly, as you should—cut them out with a kitchen knife, leaving as much earth as possible attached to the roots. If they are growing thickly, wet the soil well so you can separate the little plants without hurting the roots. Fill a paper pot loosely two thirds full of soil—you might have done this part during the winter, if you had time and inclination—set a plant in carefully, placing it so that the top of the soil when the operation is complete will be half an inch below the top of the pot; press the soil down around the roots, and water thoroughly; then fill in with soil and water again.

When your plants are all in the pots, leave them in your basement away from the sun for a day or two; then set them in the coldframe, shading them from the sun during the warmest part of the day for another day; keep them ventilated and secure against late night frosts.

When the time comes for setting them out, if the earth in the pots is moist you can tear the paper off and set out the ball of earth without disturbing the roots, and the plant will keep right on growing as though nothing had happened. Plan to keep a surplus of plants to fill in vacant spaces caused by cutworms or other casualties.

STILLMAN H. BINGHAM, Minn.

PAPER POTS



2x2 4x2 3x3 4x3

Let these pots help you to get an early start in your garden.

ORDER EARLY

2x2	\$.75	per 100	\$5.00	per 1000
4x2	\$1.00	"	\$6.00	"
3x3	\$1.25	"	\$6.50	"
4x3	\$1.50	"	\$7.00	"

Include postage when sent by parcel post



From 75c. per dozen and upwards according to size

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THE CLOCHE CO.

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Vaughan's Glorious Gladiolus

Bloom All Summer

Best of All the Easy Growing Free Bloomers

They give you giant spikes of perfect flowers with wonderful colors in fascinating profusion; often changing as each flower opens fully.

We grow over one hundred acres of these bulbs and harvest many hundreds of thousands, developing every year scores of new hybrid seedlings, which surprise even our own trained men with their new types of giant blooms in novel colors.

The long graceful spikes, carrying often twenty buds, may be cut as the first lower flower opens; placed in water each successive bud develops a perfect flower. Plantings each ten days from April to mid-June will provide flowers from August to October.

VAUGHAN'S "RAINBOW" MIXTURES

All large Bulbs, 1 1/4 to 1 1/2 Inches in Diameter

ALL PREPAID within fourth postal zone (600 miles) from Chicago or New York City

Order by figures at left hand

Collection B5
B5 Vaughan's "Home-wood Collection," long offered by us, 50 medium bulbs, but all bloomers, not less than 5 colors, for \$1.00.

B 1—13 Best Kinds, each different.....	\$0.60
B 2—3 Sets of B 1 (39 Bulbs) for.....	1.75
B 3—50 Bulbs, 20 kinds, for.....	2.25
B 4—100 Bulbs, 2 sets of B 3, for.....	4.25

If you live beyond the fourth postal zone from New York City or Chicago, add ten cents for each dollar's worth ordered.

Vaughan's Catalogue, "Gardening Illustrated," goes with either, or by mail FREE—136 big pages

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GALLOWAY POTTERY

GIVES ENDURING CHARM

Send for our illustrated—
Catalogue of Flower Pots,
Boxes, Vases, Benches, Sundials,
Gazing Globes, Bird Fountains and
other Artistic Pieces for Garden
and Interior Decoration.

GALLOWAY TERRA COTTA CO.
3214 WALNUT ST. PHILADELPHIA.

THERE IS BIG MONEY IN STRAWBERRIES



and other small fruits these days. Strawberries sold as high as 50c a qt., \$16. a bushel at wholesale. Are you receiving these high prices as a grower or paying them as a consumer? It makes a vast difference to your pocket book. You can grow nothing that gives handsomer returns. I know of farmers who received \$1300 from 1/2 acre last year.

If you live in a town a part of your lawn or back yard will make a fine strawberry bed. Our Everbearing plants set in April or May will bear in August and continue until November and give two crops the following season. Get our book "Farmer on the Strawberry" price 50c postpaid and you will have all the experts know. We sell Strawberries, Raspberries, Blackberries, Gooseberries, Currants, Fruit trees, Roses, Shrubs, etc. Beautifully illustrated Catalogue free.

L. J. FARMER, Box 29, Pulaski, N. Y.

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Cold weather plants and lilies must be perfectly fresh when planted. We pack herbaceous plants in sphagnum moss. Customers say they arrive fresh. All roots of shrubs and trees are dipped in a preparation

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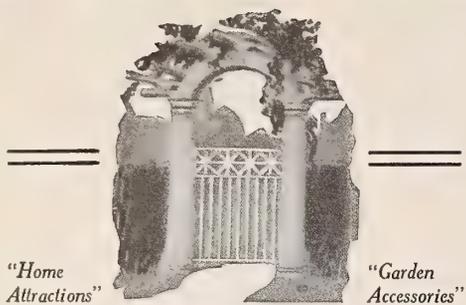
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ROUND ABOUT The HOME PLOT



Apiary Locations.—Should any amateur beekeeper desire to enter the professional field, he will do well to read a discussion in the 38th Annual Report of the Beekeepers' Association of Ontario, page 43, on Apiary Locations. This is led by H. G. Sibbald and includes many other American and Canadian beekeepers.

Avoid Spraying When Plants Bloom.—Nothing is to be gained by spraying while fruit trees are in blossom. Much may be lost. Probably the pistils and the stamens will be injured by the spray mixture. Certainly many insects will be killed by the poison. Chief among these are bees, which not only play important parts in fertilizing blossoms, thus giving the fruit, but they often give us a very high grade of honey from the fruit bloom. It is, therefore, worth while to avoid taking any chance of injuring either bees or blossoms. Spraying should be done either before the flowers open or after the petals have fallen.

European Foulbrood.—A disease of bees, which has caused great losses to American beekeepers, was first recognized as a distinct disease in the United States by New York beekeepers in 1894. It is important that the beekeeper know whether he has European or American foulbrood in his apiary, for the two do not respond to the same treatment. In European foulbrood control the most important step is to prevent the entrance of the disease by keeping all colonies strong and by having all stock resistant. This can be done successfully even though the disease is in the neighborhood. In case, through failure to take all precautions, the disease does enter, certain practices will readily eliminate it, but all of these must be used with care. The facts about the disease on which the preventive and remedial measures are based are discussed in Farmers' Bulletin, 975, which will be sent free by the Department of Agriculture at Washington, D. C.

Profits in Bee-Keeping.—In answer to your question as to whether keeping bees is profitable my twenty years' experience says that it is. When about eighteen years of age I caught a swarm from a tree near my home, bought an empty hive from a neighbor and put them into it. A week later I bought another swarm in a good hive and so had two swarms to work with. Since then I have always had from four to eight swarms, not having time to care for a greater number, and I have averaged every year, except two or three in twenty, a production of twenty to one hundred pounds of comb honey per hive. Bees are easily cared for if you like the work but at the start a boy should learn the habits of the bee from books such as the *American Bee Journal* of Chicago, a weekly publication. Bees have their likes and dislikes, and when these habits are learned, they are easily cared for; usually one member of the family should have the entire charge of them with perhaps a very little help in catching and hiving the swarms in May and June. Locality has a little to do with the successful keeping of bees but usually the bees will do well in any place where apple trees grow. Some of the best plants for honey are white clover, sweet clover, raspberry bushes, and the Linden tree.

FRANK MANCASTER, *Pennsylvania.*

To Garden Lovers

We should be pleased to send you a copy of our 1920 catalogue if you are interested in the rare, the beautiful and the unusual in hardy plants. It is a complete digest of the plants that are suitable for your border, or rock garden or out of the way places. It is not a pretentious booklet but it is full of facts that will interest you.

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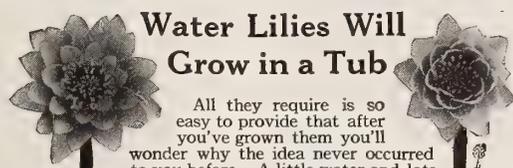
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The annual meeting of the American Peony Society will be held in Reading in June of this year.

I mixed it with equal parts of sand and well rotted manure; this I put in my shallow, three inch high box and gave it a generous sprinkling, covering the whole with a window sash. At the end of three days, the earth smelled so sweet and mellow, I thought it ready to plant; so on February 15th in under the glass went the following seeds: Pansy (March Beauty), Antirrhinum (Tall Venus), Phlox Drummondii (Carter's Dwarf), Scabiosa (Azure Fairy), Aster (Peony Flowered), Cosmos (Lady Lenox). With all of these I succeeded but failed with Salpiglossis, Gaillardia, and Gypsophila. I believe this failure was due to transplanting them too young. It seems to be safer to handle some things at a very tender age while others must not be touched until they are at least self-feeding—which time must be judged by the leaf growth.

When the seedlings had four leaves I transplanted them into paper or ordinary flower pots, putting less sand into their new homes and giving each plenty of room. At the same time I planted these seeds, I placed one Spencer Sweet Pea in each one of 36 earth filled paper flower pots, and after three weeks of suspense up shot strong green leaves which grew into wonderfully prolific plants.

When settled weather came, around the middle of May, all my seedlings were put in the spaces between the hardy plants down my garden path—excepting the Sweet Peas, which were given an oblong bed by themselves where each plant could be six inches from its neighbor and could climb to its heart's content over an old tennis net, and literally succeeded in converting it into a mound of fragrance and beauty. The Pansies nestled close to the bird bath and the Snapdragons guarded the stone bench, while the Cosmos and Asters nodded with the autumn breezes.

LEONICE PRICE, Conn.

Fuchsia Trailing Queen

THAT some good old-time floral Fuchsias are finding favor again is most satisfactory. Fuchsias are certainly coming again and while we cannot utilize them for bedding-out purposes when grown in standard form as in Europe, in partial shade if given an occasional watering they will bloom freely the entire summer. They make most satisfactory plants in pots, also for window and piazza boxes when taken from the noontime sun; and last but by no means least, certain varieties make superb basket plants. While almost any Fuchsia can be pegged down and made more or less adaptable to basket culture, the variety Trailing Queen, which is of prostrate habit, makes one of the finest basket subjects I have ever grown. Either galvanized wire or wooden baskets may be used, and it is, of course, an advantage to establish the plants in a greenhouse. Fuchsias like a light but rich compost, enjoy doses of liquid manure and need an abundant water supply during the growing and blooming season. Baskets of Trailing Queen hung along a piazza and properly watered will flower practically all summer, and if a few seedlings of the Creeping Toad Flower—Linaria Cymbalaria—are planted in with the Fuchsias and allowed to hang down the combination is a splendid one. Any one wanting a really fine basket plant for summer, especially for a shady or partly shady place, would do well to try Fuchsia Trailing Queen.

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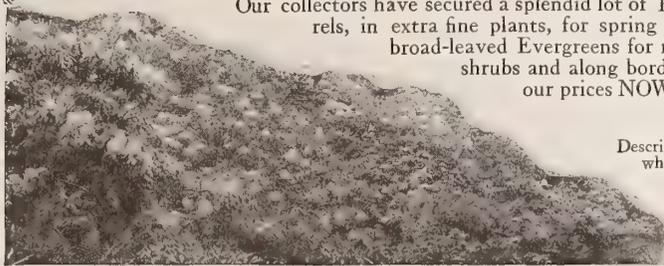
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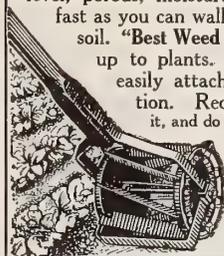
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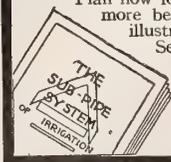
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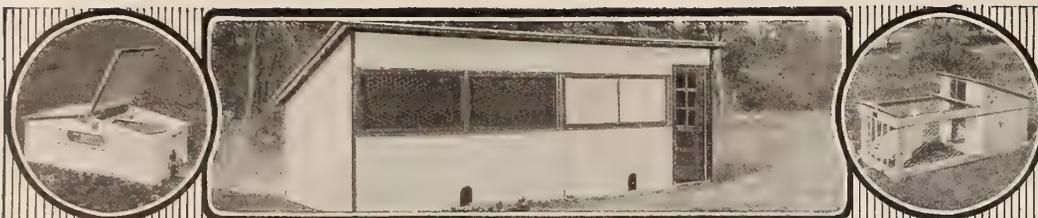
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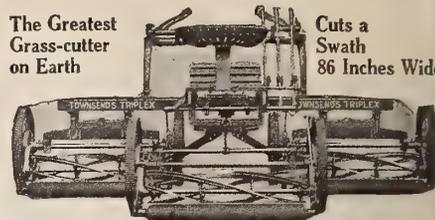
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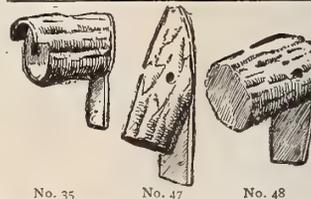
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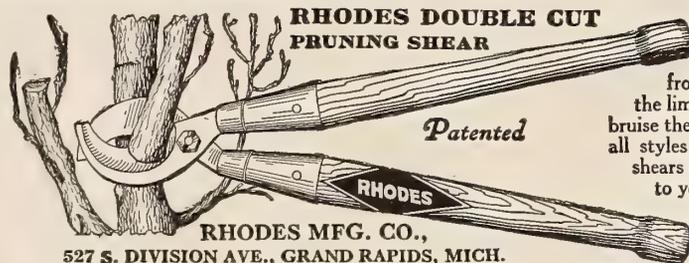
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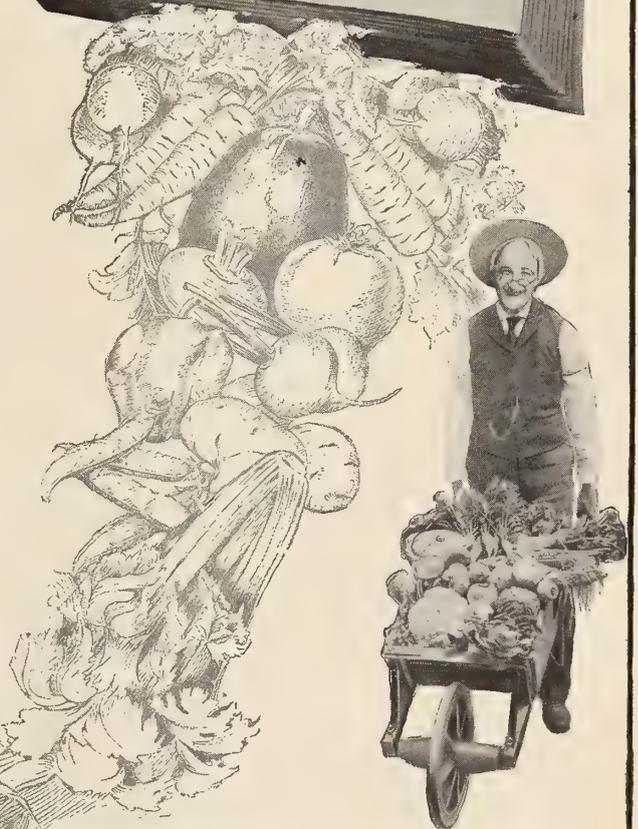
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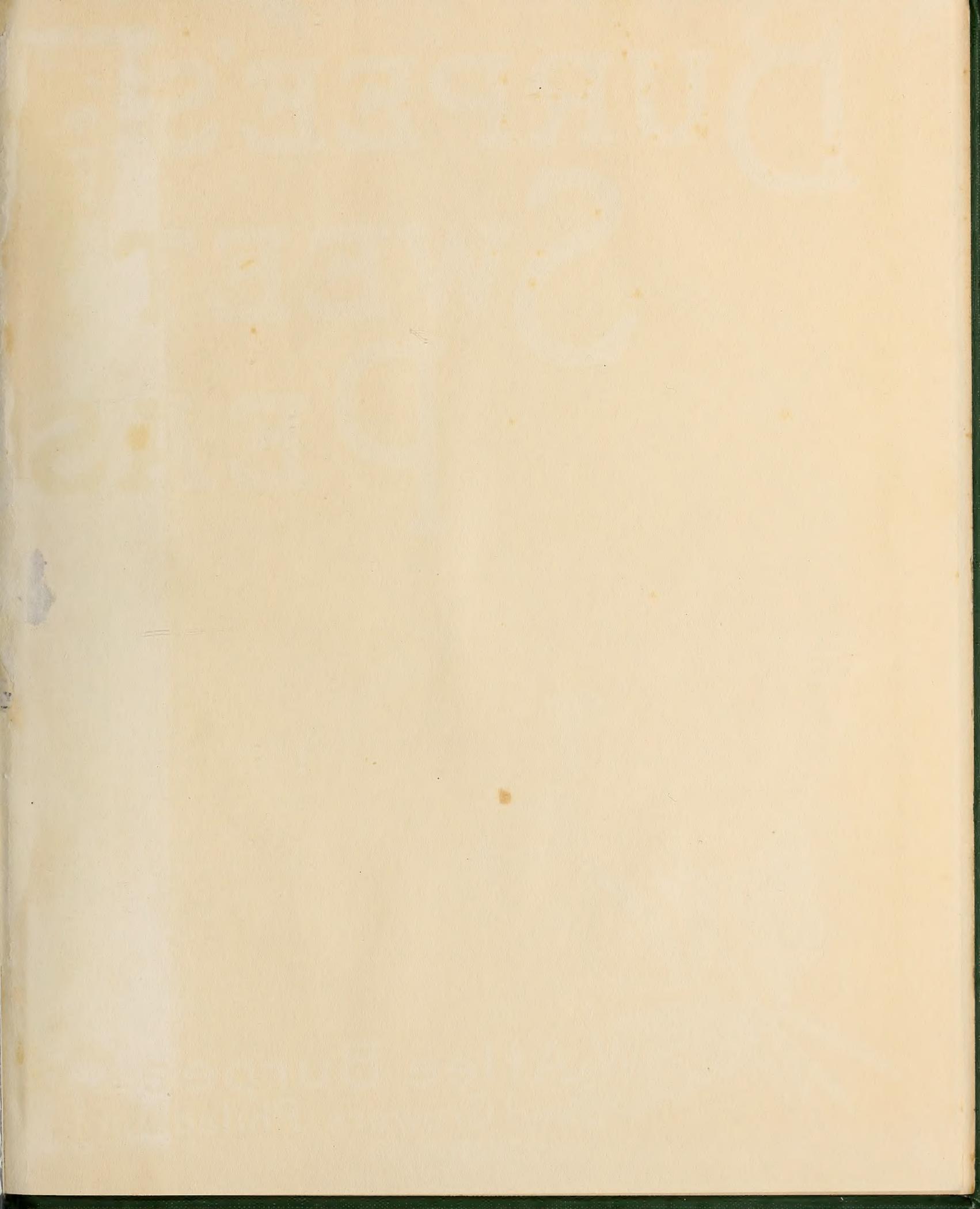
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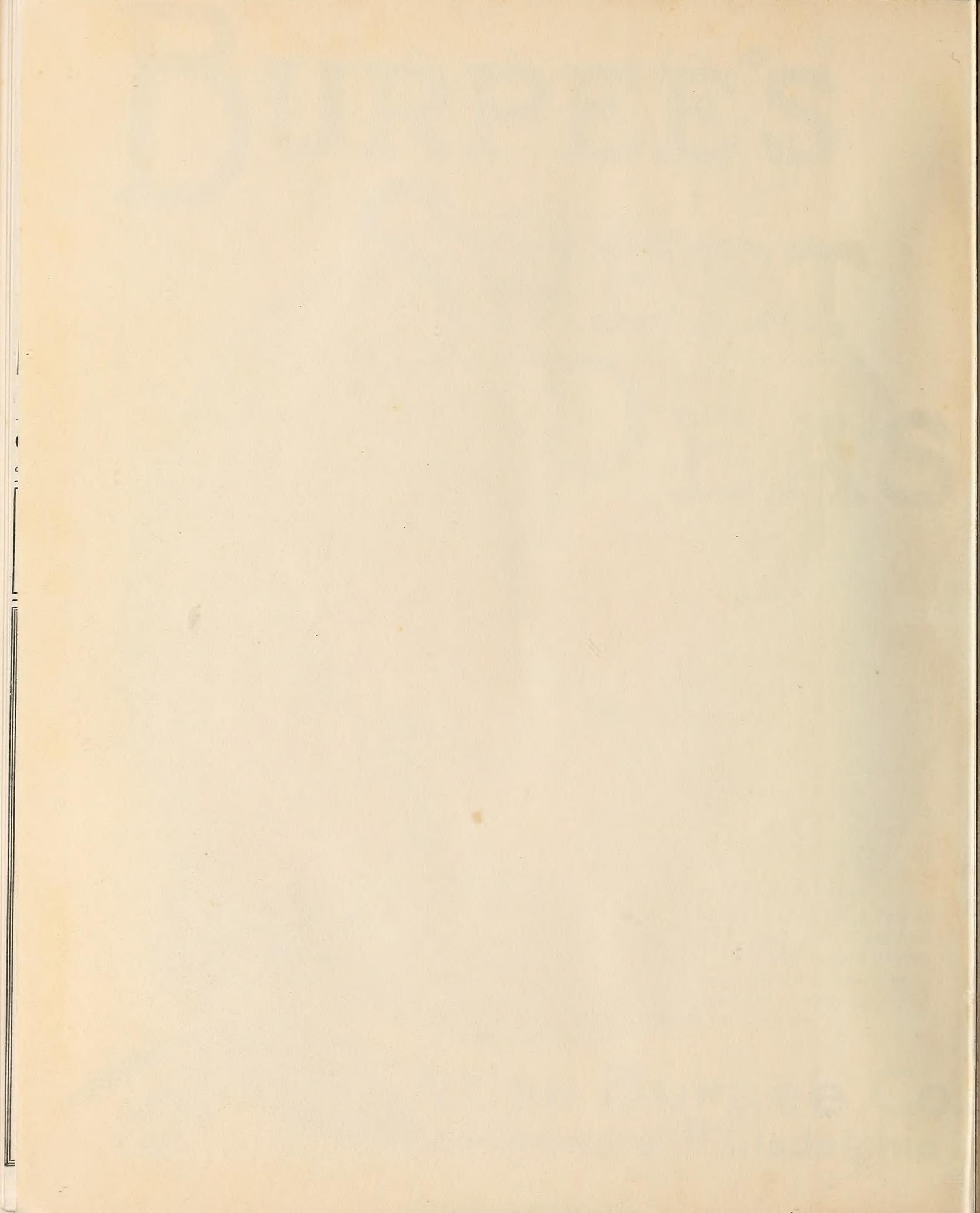
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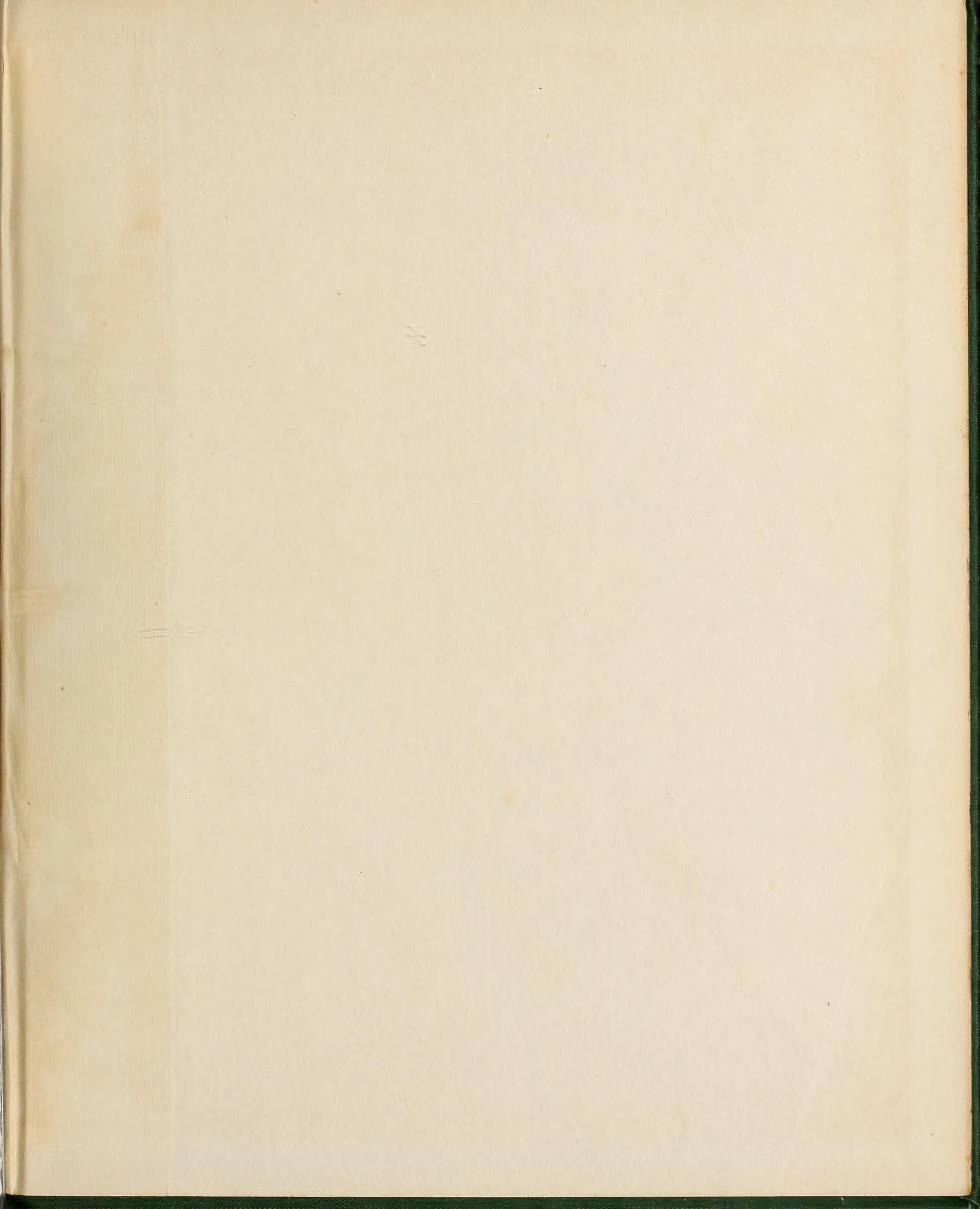
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