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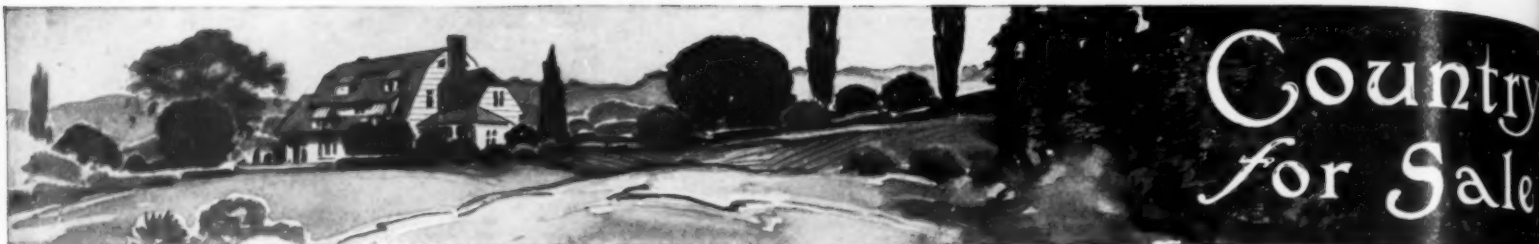
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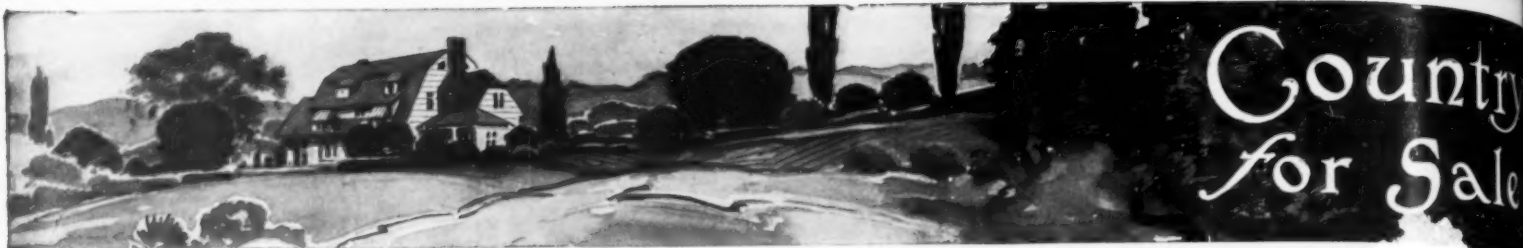
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In regard to the musical programme, it has been arranged for the Royal Venetian Band to make their first New York appearance at the show and to give daily concerts during the afternoon and evening. It is expected also that the Woodmere Realty Company, who have leased the concert hall, will give prospective home-seekers looking over their photographic display an opportunity to hear a number of well known soloists and musicians.

Among the spaces contracted for this week were two for the Rickert-Finlay Realty Company, who will have an attractive exhibit showing their various Long Island properties. The decorators have already started work on the display for the Neponsit Realty Company, who intend to show the various types of houses they are building, together with paintings showing the outlook on the ocean and bay sides of their development at Neponsit.

Numerous inquiries have been received from brokers and boards of trade throughout the country, and it now looks as though many out of town realty men will visit New York during show week.

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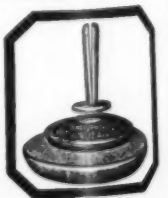
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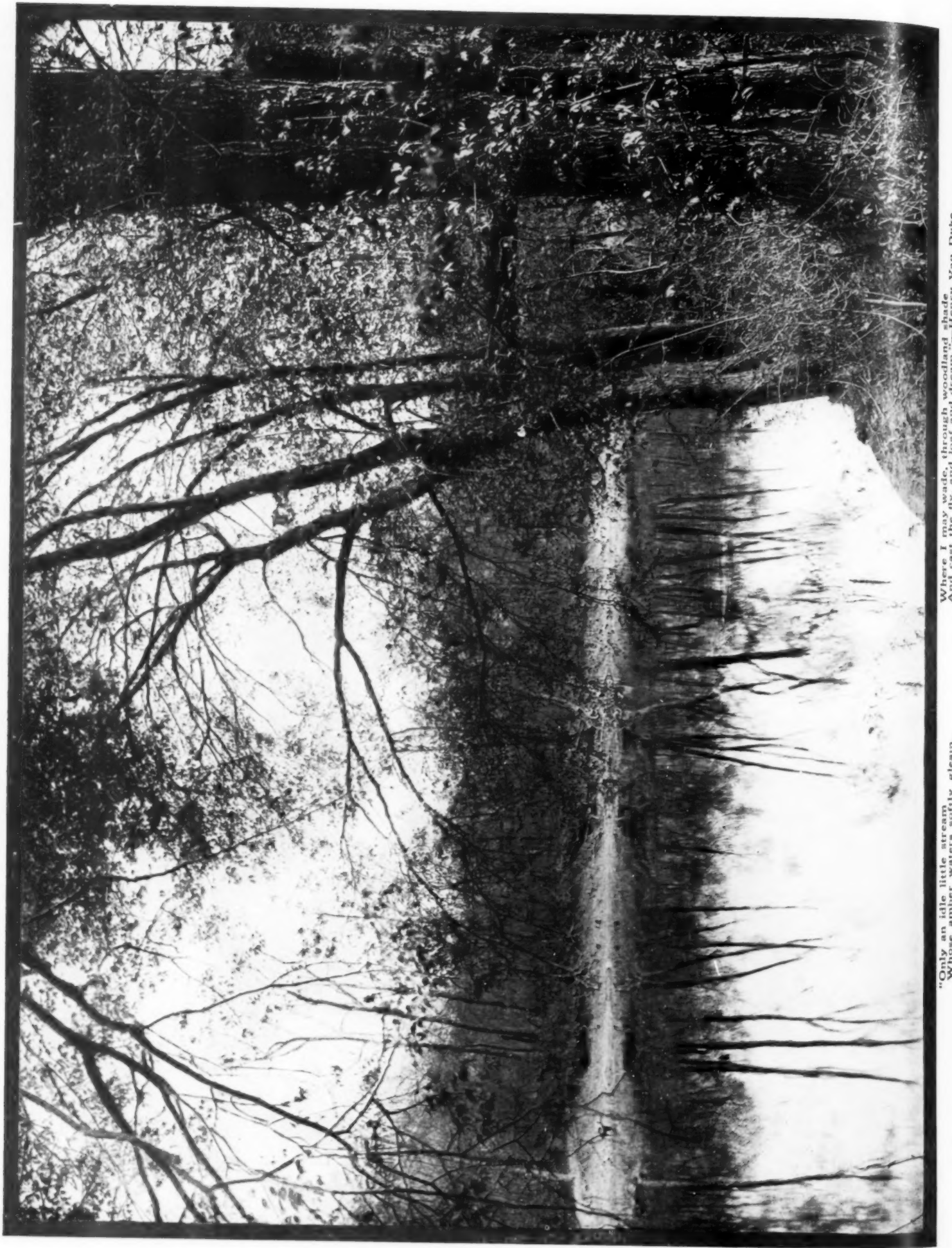
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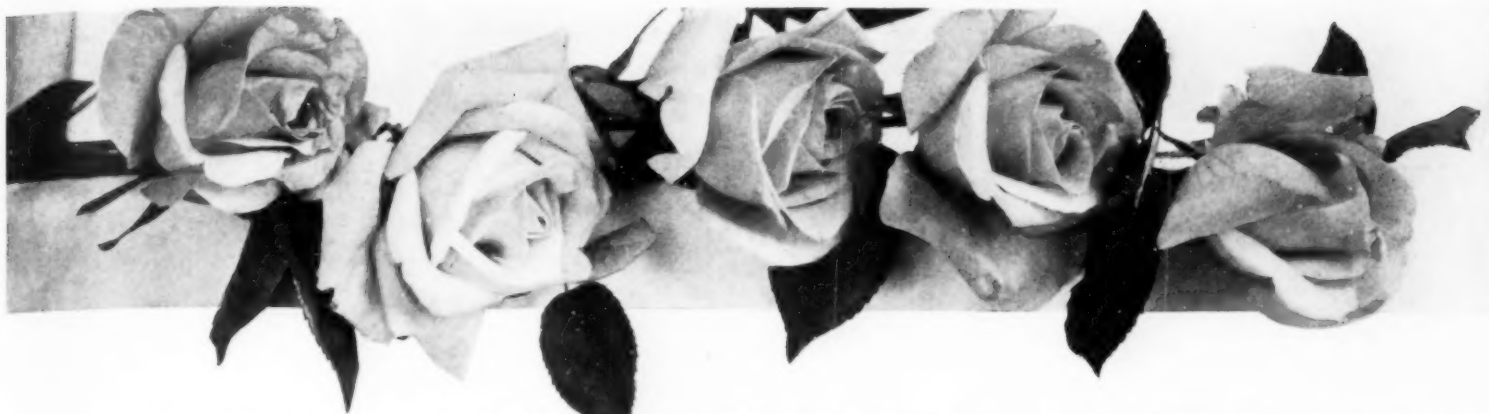
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"Only an idle little stream
Whose amber waters softly gleam."

Where I may wade, through woodland shade
And cast the fly, and loaf and dream.—Henry Van Dyke



Maman Cochet is one of the finest tea roses. The color is pink, but there is also a White Maman Cochet

Making a Rose Garden

SUGGESTIONS FOR THE SELECTION OF A SITE, PREPARATION OF THE SOIL, CHOICE OF TYPES AND VARIETIES—THE ESSENTIALS OF ROSE CULTURE

BY RUSSELL FISHER

Photographs by Nathan R. Graves and Charles Jones

WITH all the difficulties that the amateur is sure to encounter in growing roses—and we must be frank in admitting that they are numerous—the results will well repay the effort. One frequently hears of amateur gardeners who have given up growing roses in their discouragement, but almost invariably they decide in a few years to try it again. The man who once has grown a beautiful rose finds it almost impossible to give up trying again.

And, after all, the difficulties are not overpowering. If the amateur rose grower will start in the proper way and observe a few of the main rules in the culture of roses, most of the great host of enemies that the rose possesses will not find a vulnerable point for attack.

The first essential is situation—an airy but sheltered spot, well away from the roots of any trees and open to the morning sun. Given a proper situation, the remaining essentials of good drainage;

rich, deeply cultivated soil; and shelter, can be provided. It may be difficult to secure shelter from north winds and at the same time keep the rose garden well away from trees, but in some way this must be done. Remember that the root system of a tree will extend as far out from the base as the tree rises above ground. In case of necessity a masonry wall may be sunk as a barrier against too enthusiastic roots which would devour all of the rich food that

the rose bed requires. Sinking a few planks on edge will accomplish the same result, at least for a time.

Avoid low ground for the rose garden. It is frequently not so well drained as it should be, and then, there is the added danger from the late frosts in the spring, which always make themselves felt in the low places.

Although we must have a rose bed before we can procure our rose bushes, it will undoubtedly be more interesting to take up the matter of selecting



Keep the roses by themselves; they will not only thrive better, but their beauty seems not to be increased by comparison with other flowers



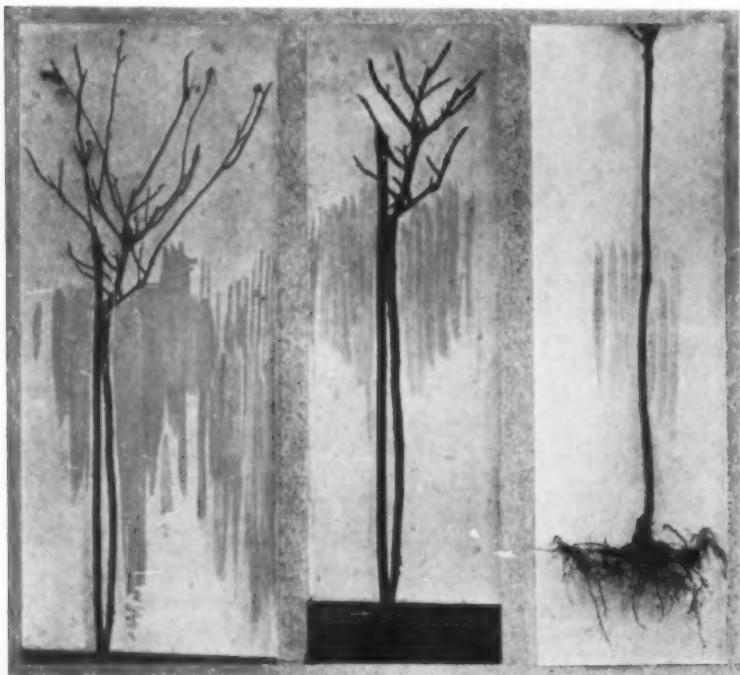
Gloire Lyonnaise, one of the best white Hybrid Perpetuals



Mrs. John Laing is a splendid pink Hybrid Perpetual

varieties first. The enthusiasm aroused by anticipation will help us to overcome the later difficulties in the preparation of the ground.

Some years ago there were but two classes of roses—Hybrid Perpetuals and Tea roses, the latter so called because of their peculiar fragrance. After the first great effort of bloom in June the Hybrid Perpetuals seldom produced many flowers, so that it was necessary for the rose grower to depend upon the Tea roses for bloom during the later months of the summer. Unfortunately, however, the Tea roses are not absolutely hardy in the north, even in the latitude of New York. There are degrees of hardiness, and the Tea roses vary greatly in the amount of protection they require through the winter months.



The first two pictures show a standard rose before and after pruning; the third picture, a good healthy root system of the same type of plant. The standard is not so popular here as in England

Later, a new class of roses was produced by crossing the Hybrid Perpetuals and the Teas, and naturally it was called the Hybrid Tea. In its best forms it combines the hardiness of the Hybrid Perpetual with the long flowering season of the Tea, and upon it the amateur rose grower will wisely put most of his effort. Do not, however, if you are a beginner in the fascinating occupation of rose growing, omit entirely either of the older classes. The Hybrid Perpetual will always be relied upon for the bulk of the showing in the month of roses, while among the Teas are roses so beautiful that no one has any right to be without them. In addition to these three classes of rose bushes, there are the climbing roses, among which are the hybrids of *Rose Wichuraiana*; the *Polyantha* roses, among which are the well-known ramblers; the Lord Penzance Hybrids; Sweet Briers; and,

for covering stone walls, *Rosa rugosa* and our own prairie rose—*Rosa setigera*. The subject of climbing roses, however, is one that might well be left to another article. By all means introduce some of these climbers, preferably the Lord Penzance Hybrids and the *Wichuraiana* Hybrids, into your rose garden—over an entrance arbor or over a row of arches spanning the central path.

It is a difficult matter, indeed, to select from the long lists of the nurserymen's catalogues a few that may be safely named as the best roses. In fact, it is a task that no one would care to undertake. It may be helpful, however, to add the following list; these are by no means the only good roses, but in choosing any or all of these the amateur cannot well go astray. For these lists, and for much of the information herein contained, I am indebted to Dr. Robert Huey, of Philadelphia — probably the most experienced amateur grower of roses in the United States. Dr. Huey has grown many hundreds of rose varieties, so his conclusions should save many a false step for the beginner.



Killarney is one of the finest roses that grow—a pink Hybrid Tea

HYBRID PERPETUALS

White:—Merveille de Lyon, White Baroness, Frau Karl Druschki, Margaret Dickson, Mabel Morrison, Gloire Lyonnaise (in reality a Hybrid Tea, but as it blooms only in June it may be included in the Hybrid Perpetual class).

Pink:—Baroness Rothschild, Caroline D'Arden, Heinrich Schultheis, Her Majesty, Lady Arthur Hill, Mrs. George Dickson, Mrs. Harkness, Susan Marie Rodocanachi, Mrs. John Laing, Paul Neyron.

Red:—Captain Hayward, Fisher Holmes, General Jacqueminot, Oscar Cordel, Ulrich Brunner, Duke of Edinburgh, Duke of Teck, Duke of Fife, Etienne Levet, Prince Arthur.

Prince Camile de Rohan is the best of the very dark roses, among which also are Sultan of Zanzibar, Louis Van Houtte and Xavier Olibo. These, however, are weak growers and frequently do not bring their blossoms to perfection.

TEAS

I have found myself displacing practically all of the Teas with Hybrid Teas, since the perfection of the latter class. The loss of these Tea roses every winter, unless they were protected carefully under glass, is most discouraging. Among the hardiest and best are Etoile de Lyon, Francisca Krueger, Hon. Edith Gifford, Isabella Sprunt, Maman Cochet, Marie Van Houtte, Safrano, Souvenir d'un Ami, White Maman Cochet, Dutchess Brabant, William R. Smith and Harry Kirk, a very fine yellow.

HYBRID TEAS

White or light-colored and mixed shades:—Viscountess Folkestone, Pharisaer, Molly Sharman Crawford, Ellen Wilmot, Grace Molyneux, Antoine Revoire, Joseph Hill, Mrs. A. R. Waddell, Betty, Prince de Bulgarie, La Tosca.

Pink:—Killarney, Lady Alice Stanley, Lady Ursula, Dean Hole, Lyon Rose, Dorothy Page Roberts, Madame Edmee Metz, Lady Ash-town, Mrs. Charles Custis Harrison.

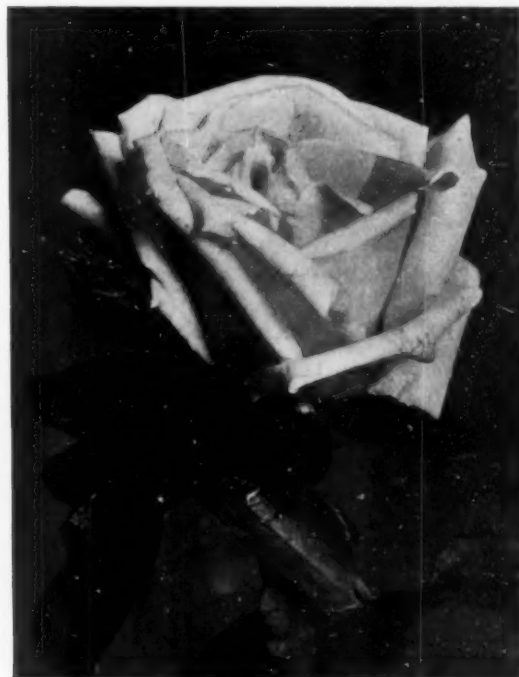
Yellow:—Duchess of Wellington, Mrs. Aaron Ward, Madame Ravary, Madame Melanie Soupert, Madame Hector Leuillot, Melody.

Red:—George C. Waud, Lawrent Carle, Gruss an Teplitz, Chateau de Closvoves.

Fall-planted roses do best in the vicinity of Philadelphia, for here they become established before cold weather sets in and are, therefore, ready to grow at the first touch of spring. Do not on this account infer that spring-planted roses will not succeed, for they will; but the bushes must be put in early—at the very first



Ulrich Brunner, a red Hybrid Perpetual that has achieved an excellent reputation



One of the tried-and-true white Hybrid Perpetuals is Merveille de Lyon

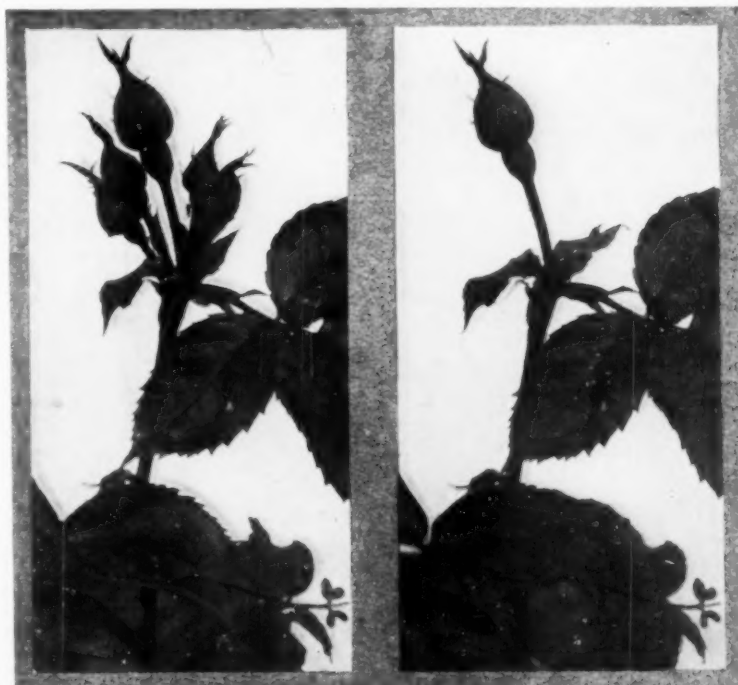


Golden Gate, a cream white Tea rose shaded with golden yellow

opportunity, so that they will have time to become firmly established before hot weather. Pot-grown plants from a greenhouse cannot, of course, be set out until all danger from frost is past. Roses that are planted so late cannot be expected to show really satisfying results in bloom the first year. Roses that are planted early in the spring, if field-grown stock, will with proper cultivation give at least a reasonable amount of bloom the first year, though not so much as in later years.

One hears a great deal of argument on the question of whether roses are best when grown on their own roots or when grown on a sturdier stock, such as Manetti for Hybrid Perpetuals and brier for Hybrid Teas, which are probably the best rose stocks for this

(Continued on page 392)



If you want quantity rather than quality of bloom, leave all the buds as at the left. If you prefer one fine rose instead, disbud

Planning the Bungalow

A FEW SUGGESTIONS REGARDING THE ESSENTIALS OF FLOOR PLAN FOR THE INFORMAL ONE-STORY HOME—THERE IS NO NECESSITY FOR SACRIFICING EITHER CONVENIENCE OR A CIVILIZED MODE OF LIFE

IT would seem at first glance an easy matter to design a house of the bungalow type, all upon one floor, without having to bother about stairs and head-room and such difficulties, but it is in reality a problem calling for genuine skill on the part of the designer. The main difficulty that the amateur will encounter in sketching out a tentative plan will be the separation of the sleeping quarters, the living quarters and the service portion of the house. Far too frequently we see a plan of a bungalow where the bedrooms open directly from the living-room, with perhaps a bathroom across on the other side of the building, next to the kitchen, for the sake of a condensed plumbing system. If a bungalow is worth building at all it is worth spending some time upon in the planning, so that the life of the household, while not of the severely formal type that the city house shelters, will yet be at least comfortable, and not robbed of all conveniences and privacy. The enemies of the bungalow—though they are few—have a foundation for their dislike of the type in the fact that far too many bungalows are so carelessly planned that life in them tends backward towards the less civilized past; in attempting to provide a field for a simpler form of life the unstudied and bungling plan fails to satisfy the fundamental needs of a self-respecting mode of living. We are far too ready to endure in a bungalow inconveniences that would not be tolerated in any more stable type of home. And the strangest part of it all is that these inconveniences are by no means necessary; the whole matter resolves itself into a need for more carefully studied plans.

The plan by Mr. King is convincing proof that the living quarters, service department and the bedrooms may be kept distinctly separate, without necessitating a rambling plan that is much more expensive to build. It is a well known fact that the nearer a plan approaches the square the more economically it can be built. Wings, ells and many angles mean greatly increased expense.

This particular plan may well serve as a type, permitting enlargement without destroying its essential fitness in the mat-



BY HENRY H. SAYLOR

undoubtedly be used frequently in the serving of meals. It may be objected that the other porch is too small, and it is undoubtedly a fact that we should have too much porch space rather than too little in a home where the great majority of the daylight hours are spent outdoors. It will be readily seen, however, that the porch in the plan mentioned could be prolonged, either to the front or the side, without affecting the plan, and, in the hands of a skilled designer, without spoiling the appearance of the exterior.

Another excellent type is the central living-room flanked by two wings, one containing the dining and service quarters and the other the bedrooms and baths, such as is shown in Mr. F. W. Wilson's design for his own bungalow. Here, however, two doors open from the living-room, each into one of the main bedrooms, which have the bath between them; where possible, it is better to have a single opening between a hall leading to the sleeping quarters and the living-room. Mr. Wilson has added another feature to this plan in the patio, reached through the French window in the living-room and having but one additional exit—a gate in the five-foot brick wall across the back.

Mrs. Girouard's bungalow shows another adaption of the center living-room scheme. Here, instead of allowing the side wings to project to the front or rear, they are carried straight out at the same depth. The result is an extremely long bungalow that is easily roofed and particularly pleasing in its exterior.

Another type of plan will be required if the bungalow is to be restricted in its site. A great many of the newer suburban communities are being built up with adaptations of the bungalow, usually with some second-story space, and too



Here is an excellent plan for a comparatively narrow lot. Hollingsworth & Bragdon, architects

frequently these have to be placed on a comparatively narrow lot.

A good plan that could very easily be adapted to the long, narrow lot is shown at the right of this page. This one, which, by the way, provides for one large bedroom in the attic, is open to objection in the fact that the only way from the bedroom hall into the living-room lies through the dining-room, a point that might or might not be a disadvantage, according to the circumstances.

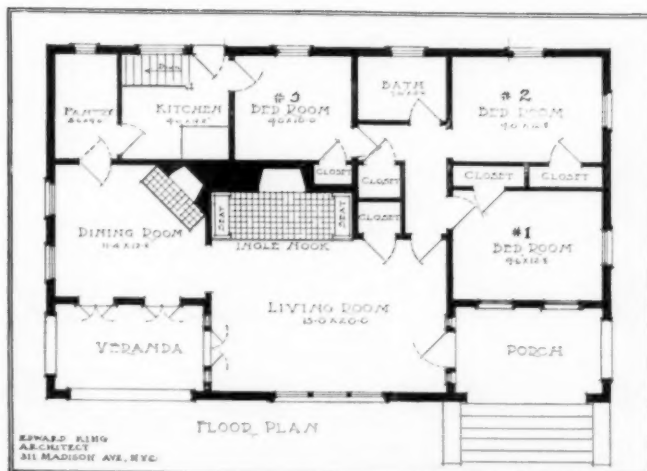
The plan at the bottom of page 336 is adaptable to such a site, and is in many respects exceptionally well thought out. In addition it has the advantage of being almost square, so that it could be built most economically. The plan of Tallmadge & Watson shown is also of this deep-and-narrow-lot type.

One of the problems in planning is to provide abundant porch space without darkening any of the rooms. This is not always possible when the most economical building is necessary, but the plans that are shown herewith will suggest a number of ways in which the porch may join the living-room without darkening it to any extent. It is surprising that many bungalow builders do not break away from the regular porch roof and work out an arrangement of open rafters, to be covered by vines or by a roll awning. Some such arrangement as this, together with at least a portion of the porch space entirely uncovered, would be a good thing to strive for in planning.

Then too, do not forget the sleeping-porch. It would be a very easy matter indeed to arrange for a sleeping-porch in conjunction with almost any of the bedroom wings shown among these illustrations of plans. Unfortunately none of the examples illustrated show this, but some of them do show another feature that is a product of the West and which we of the East might well borrow in planning our bungalow. I refer to the screened porch, without which no Southern California home is considered livable. On it most of the kitchen work is carried out in the comfort that a well ventilated, vine-shaded, outdoor room alone can bring.

There is one other consideration that must be kept

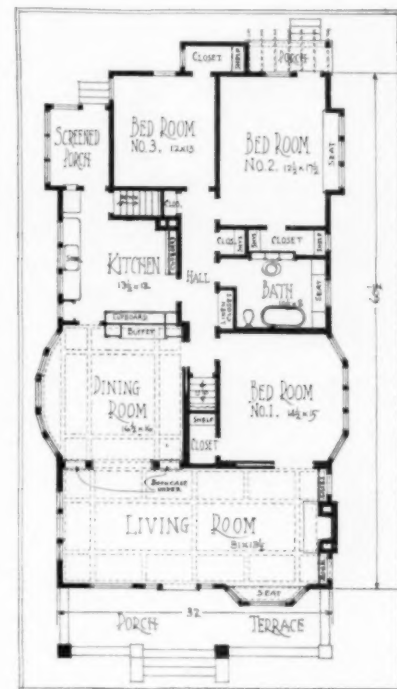
constantly in the designer's mind when working out a floor plan, and that is the necessity for keeping the floor area as a whole one that permits of a simple and inexpensive roof. Keep the plan within the boundaries of either one long rectangle—for a roof of two planes, or of several well connected minor rectangles where



A remarkable plan in that the sleeping quarters and the dining-room and service quarters are both isolated from the living-room. The plan is an inexpensive one because it so closely approximates the square



For a narrow lot it is more difficult to work out a satisfactory plan. If one is willing to dispense with an entrance hall this is an excellent arrangement

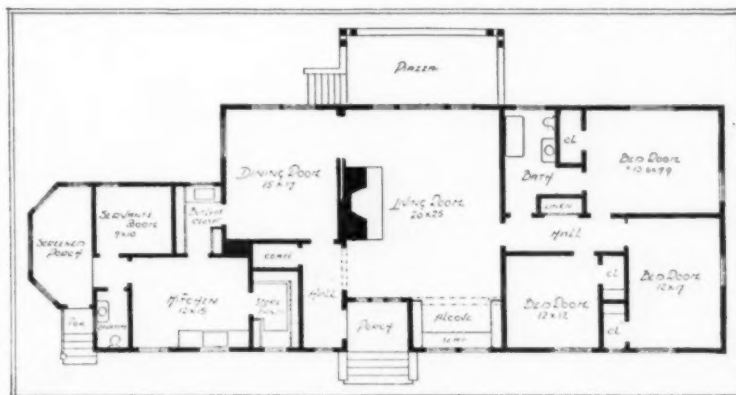


A plan for the narrow lot, but the way from bedrooms to living-room lies through the dining-room. Reeves & Bailey, architects

gabled roofs may be employed. Excepting in the case of a plan that approaches the square, where the roof may be of four planes terminating in a central point, it will be well to strive for one main rectangle, that is considerably longer than wide, with smaller adjoining rectangles that will be covered by gables in the main roof. And in order to secure that blanket-like roof that is associated with the true bungalow type, the main roof or its gables will usually cover the porch space as well as the interior with a minimum of breaks. In other words, instead of providing a separate roof for the porch, the main roof or a gable serves the purpose.



The central living-room type will frequently be found the best plan. This one has a patio in the rear



Plan of the bungalow of Mrs. D. H. Girouard, Altadena, Cal.—an elaboration of the central living-room type. The long, narrow rectangle is likely to make a building of better appearance

The Month's Activities

A PRACTICAL GUIDE FOR THE AMATEUR IN FLOWER AND VEGETABLE GARDEN IN THIS BUSY SEASON—SPECIAL CULTURAL INSTRUCTIONS FOR THE THINGS YOU WILL PROBABLY GROW

Photographs By E. J. Hall and N. R. Graves

[This is the second of two articles covering garden problems for the busy man or woman who has not had time to make plans, manage a coldframe and in other ways get ready for planting-time. What may be done now, to make up as far as possible for lost time, and to insure satisfaction in both the vegetable and flower garden, is conclusively told.—EDITOR.]

HAVE you ever gone past a place on a May morning, where the florist and his man were digging around in the bare, brown beds, and musing the place up still more by spilling dirt and manure all over the beautiful, clean lawn—and then, coming back that way at night, been startled by the change in the look of things? Summer has sprung full-fledged, or rather full-flowered, on the grave they were filling over departed winter. The bare brick foundations of the house have disappeared; in their stead are the bright blossoms of geraniums. The paths are bordered with gray or silver, or more prominent colors and graced with lines of green. Here and there, in nook and corner, other things have come suddenly into existence. All is transformed.

Now, of course, such a metamorphosis may be a matter of great expense—and, again, it may be largely only a matter of brains or taste in using the inexpensive things in effective ways. So before you go to the florists to select your plants this year, why not first make up your mind as to what you are going to try to do? Decide first what effect you want, and choose your plants accordingly. Ninety per cent. of those who buy simply pick out a flower here and there at random, with absolutely no regard for variety or color and without



This month sow seed of the Shirley poppy —one of the most beautiful of annuals

knowing, until they get home, where they are going to put them. Take the trouble to be one of the sensible ten per cent. and you can make your flower money go three times as far by selecting plants to meet a predetermined purpose.

Another often needed word of warning is in regard to choosing plants. The great majority of people will pass the thriftiest, stockiest, plants, even when well budded, to select far inferior

ones with flowers—sometimes just ready to drop. When buying plants remember that you want them for long continued results; don't be tempted by present bloom into getting poor stock.

Flowers for setting out in spring or sowing in May may be grouped into three general classes. (1) Those for beds and solid masses; (2) for borders or edgings, and (3) for individualistic effects, such as groups in the corners of the lawn, or in front of shrubbery or raised verandas, etc. Among the best for massing and beds are: asters, California poppies, cannas, columbine, chrysanthemums, cosmos, cornflower, dahlia, fox-glove, geranium, Iceland poppy, lupine, marigold, nasturtium, pansy, peonies, petunia, phlox, pink, Oriental poppy, salpiglossis, salvia, snapdragon, stock, sweet alyssum, verbena, zinnias and gladiolus.

For borders and edgings, those most commonly used are: ageratum, candytuft, cockscomb, daisy, forget-me-not, variegated geranium (such as Mme. Salleri and Mrs. Pollock), lobelia, love-in-a-mist, dwarf marigold, mignonette, dwarf nasturtium, pansy, portulaca, pyrethrum (golden feather), salvia (dwarf), sweet

alyssum, verbena, dwarf zinnia (such as Little Red Ridinghood).

For single plants, ornamental groups and screening: columbine,

anemone, bleeding-heart, campanula, castor bean, cosmos, dahlia, fox-glove, gourds, gladiolus, helianthus, hollyhock, iris, larkspur, mallow, moon-flower, morning-glory, climbing nasturtium, rudbeckia, salvia, sunflower and sweet pea.

This classification, of course, is meant to be suggestive; there is no hard-and-fast rule as to the use of plants, and very frequently most pleasing effects are gained by using



The prejudice against cannas is overcome if they are properly used as in mass effects



Buy young plants of salvia now to secure the deep red of its blooms late in the summer



Cauliflower needs lots of moisture to produce large heads. Blanch by tying leaves together or covering with paper

them in unusual ways. But there are hard-and-fast rules about treating your plants—if you want certain results. In the first place, you must abandon the idea, if you have it, that you can set out a plant, even a good, healthy one, in any old spot and watch it grow and bloom without further in-

cultivation, the fighting of insect pests and the special requirements of various plants.

The small garden can be managed with very few and very simple tools. The most essential are a spade, two hoes—one large and one small-bladed (see article on tools in April number), a



The finest onions are from seeds, but buy onion sets now as it is too late to start seeds, and plant in richest soil

terruption. The farmer would no more think of feeding and caring for—or rather starving and neglecting—his onions and potatoes, the way many persons do their flowers, than you would think of sending your boy to school without his breakfast. Prepare the ground for your flowers and plants just as thoroughly as you do your garden path, and if you are not in the habit of preparing that carefully, read the April HOUSE AND GARDEN. Enrich each bed and spot, no matter how small, with fine, rotten manure, or, if you cannot obtain that, with chemical fertilizers. Spade the soil up deep; pulverize it thoroughly, and then you will have laid at least the foundation of success with your flowers. That is not all, however; you must plant carefully. I suppose literally thousands of dollars' worth of plants are lost annually through the very common mistake of setting plants loosely. Put your plants in firmly.

There seems to be an idea prevalent that the making of a new flower bed is a very difficult art—otherwise we would see them more frequently. As a matter of fact, it is a very simple task; and there are dozens of lawns and front yards in every community which would be greatly improved by a bed or border which could be made in two or three hours' work with a spade and garden line. Select a spot—not in the shade or near trees, whose roots take food and moisture quickly from the soil—and line out the bed, using a dozen or so pieces of shingle or short stakes. If it is to follow a curve, use the line to describe an arc, marked as you progress by stakes; or set them in approximate position and then move one here and there until you get a true curve. With an edger, or the spade, cut neatly along the lines and then lift up the sod in squares, taking only the surface and leaving all the soil you can. Spade the bed up, down to poor earth, and enrich with fine manure. If the soil is very poor, or gravelly, haul in a barrowful or two of good garden loam. It will be well, in any case, to add enough soil to raise the center of the bed, which should be slightly rounded up a few inches above the level of the lawn. All the work necessary to keep such a bed in the best of shape is an annual application of manure and a mid season top-dressing of fertilizer, with an occasional trimming of the edges. Until you make one you can have little idea how much it will add to the appearance of your grounds.

IN THE VEGETABLE GARDEN

In the first installment of this article (see April HOUSE AND GARDEN) we considered the preparation, manuring and planting of the garden. We saw how to get a good start; but to have a successful finish heed must be given to proper



The enemy of squash is the squash-bug, which must be killed in the egg state while attached to the leaves

A good steel garden rake, a hand-weeder and a plant-duster. I should by all means advise, however, the addition of a wheel hoe, which may be bought at from three dollars to thirteen dollars, and a compressed-air spray pump, which will cost from four dollars to eight dollars. This latter may take the place of the duster used for applying dry powders, but it will be well to have both when possible. Always keep your tools clean, shapely and in repair.

A good many people—and some who have had gardens for several years—think that cultivation means only the removal of weeds that get large enough to threaten the existence of everything else in the garden. They were never further from the truth. As a matter of fact the destruction should be merely incidental in the practice of thorough cultivation. The real purposes of cultivation are two: first, to keep the soil so broken up and accessible to air and water that there will be a constantly sustained supply of available plant food, and secondly, to maintain a mulch of dust, or dry soil on the surface, and thus retain and conserve the moisture below; for a mulch of dust will keep the soil below it shaded and damp just as effectively as though it were a mulch of straw or leaves.

So do not wait until a rank growth of weeds compels you to cultivate, do it when it should be done. In dry weather try to get over all the surface between rows as often as once in every ten days. Remember that if you cultivate often so that no weeds get started, you can go over your garden with a wheel hoe or an iron rake nearly as fast as you can walk. Further weeding instructions are given on page 366.

At the second, or sometimes the third weeding, the plants are thinned to the proper distance in the row. It is a good plan to do this work on a cloudy day, or late in the afternoon. If the plants that remain seem at all wobbly, going over the rows and drawing up the earth slightly will prove beneficial.

Some plants, like potatoes, beans, and sometimes cabbage or corn, are benefited by a slight hilling, but this practice is not nearly so much used as formerly. The objection to it is that it exposes an unnecessary amount of soil surface to wind and sun, thus increasing the rate of evaporation.

The culture of vegetables has in many respects been simplified during recent years. But in at least one important thing the change has been in the opposite direction—and that is in the fighting of plant enemies, both insects and diseases. There seems to be a bug or worm for every plant that grows, and as the plants have, with the as-

(Continued on page 374)



We in America are just beginning to realize that there are wonderful possibilities in the ornamental treatment of brick walls. In this country home at Oyster Bay a rough-textured brick of peculiar shape has been used with great variety in bonding. Carrère & Hastings, architects

Building Brick Houses of Character

THE THREE METHODS BY WHICH BRICK WALLS MAY BE GIVEN A MORE INTERESTING AND VARIED TEXTURE—LESSONS FROM THE OLD WORLD

BY HAROLD DONALDSON EBERLEIN

[Two houses that are alike in every respect but the brick walls, may be almost as dissimilar in appearance as if one were of stone and the other of brick. The best use of wall materials is a subject of as great importance as the architectural style that is to be followed, yet the layman, as a rule, seems not to appreciate this fact; to him a brick house is merely a brick house—until he realizes that his finished home falls far short of his ideal. This article is the third of a short series, in which the aim is to make clear the possibilities in securing distinctive character through an intelligent use of the various building materials. The author wishes to give credit to Mr. H. L. Duhring, architect, for many helpful suggestions.—EDITOR.]

THE African negress with a big gold nose-ring hanging down over her blubber lips and her back hair skewered through with an imposing array of eagle feathers, is but obeying the dictates of a primal instinct of humanity in thus arranging her toilet. That instinct is the love of ornamentation. We find it no less in evidence in every aspect of civilized life—however, thank Heaven, in a somewhat different form. One phase of it, the use of certain forms of ornamentation in brickwork, is the subject of this paper.

As the different kinds of brick and the several bonds were treated in the February number, so in this issue are briefly considered some of the methods of employing these means to produce varied and decorative effects in the warp and woof of the wall. The practice of these methods is comparable to the textile weaver's art of applying patterns and design, the end being an imperishable adornment in brick and mortar. The comparison holds good even to this extent, that the mortar and the juxtaposition of the joints alone will often produce a regular diapered effect.

In America we are still in the infancy of brickwork. We have scarcely begun to open our eyes to the possibilities within our reach. An almost boundless field is spread before us. As it is our duty, on general principles, to avail ourselves of the opportuni-

ties offered us, so also is it our duty, our obligation, to provide for the beautiful.

The architect of a brick building has before him the pleasant problem of determining what he will do with the "field of the wall." It is, so to speak, a clean sheet for him to write upon, whereon he can unmistakably impress his individuality, if he will, just as did the medieval master workman upon their work, so that they could be recognized by it and one could say with confidence "So-and-so did that."

Since the desire for ornament is perfectly legitimate and as old as the human race, the only condition to be imposed is that it shall be in good taste. In brick ornamentation as in other things, we should exercise discrimination, choosing those things that are suitable and realizing "practical advantages and esthetic potentialities." As brick is readily moulded and manageable in form, and does not have to be quarried and hewn like stone, so it is cheaper and also susceptible of greater variety of treatment. Its uses in a decorative capacity may be roughly grouped under three heads; that in which diversification is gained by differences in the level of the wall surface, that is to say, when shadow and relief of line are produced by countersunk or projecting surfaces; second, that in which the manner of laying the brick on a perfectly

smooth wall face will weave a pattern of decorative worth and beauty, and third, that in which the element of color enters, and bricks of different hues are employed. Of course any of these varieties may be combined or all may be used at once.

The first variety is the commonest. We find examples everywhere in cornices, pilasters, molded or projecting horizontal bands, quoins—block-like corner projections as in the illustration—and half a dozen other forms.

There is scarcely a brick building so severely plain as not to furnish some detail or ornament. In our cities, whichever way we turn, we find both dwelling houses and public buildings in abundance, adorned with brick cornices, some of them elaborate, some so simple that they scarcely afford a precarious nesting place for the sparrows that infest them. In this connection we can study with profit the work to be found on many of the old French châteaux, farmhouses, dove-cotes and barns dating from the Renaissance period. Another simple but effective form of ornament is found in countersunk or projecting string or belt courses. Often a single belt course between floors will transform a distinctly plain and unprepossessing building into a comely one. Sometimes by way of a frieze, or to relieve the monotony of a wall surface, a course of pilasters and arches may be brought out in high relief, the intervening panels being flush with the rest of the wall. Then again, brick foundations may be brought a foot or so above the ground and then graduated to the wall face by a molded cap course. In old houses we not infrequently see round



The Colony Club, New York—an example of the patterned surface and also of the value of countersunk areas in a brick wall surface. McKim, Mead & White, architects

arches above square windows, the tympanum (the part enclosed by the curved top) of the arch being countersunk several inches. Another simple form or ornamentation is to be found in the quoins so often met with on structures of Colonial date. Their interlocking appearance imparts an air of solidity and strength to a building. They were apparently once intended to stiffen the corners like buttresses, and were very likely borrowed from stone masonry. Even now, when their structural bonding function is not very seriously regarded, they do undoubtedly stiffen the corners, and as ornaments their presence is desirable although they are in a measure but survivals, like the sword buttons on our coat tails, or the vermiform appendix. All these forms of brick ornamentation,

and more in the same category, are so common that for the most part we pass them by unconscious of their existence, but all possess genuine worth and possibilities, and all may add much character if judiciously employed. They are worthy of close study.

That sort of bricklaying which is ornamental in the pattern woven on the flat wall surface, opens up broad opportunities for originality and ingenuity. It may be either simple and direct, or highly elaborated in response to a wealth of imagination on the part of the designer. A careful investigation of this subject should be enough to convince anyone that ornamental brickwork may be perfectly dignified and legitimate, and plentifully possessed of scope for diversification without having to descend to



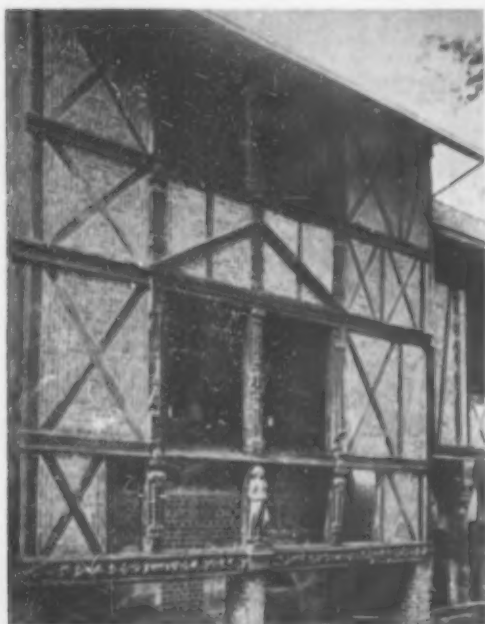
The hunting lodge of Moulemont, France. An example of the diaper pattern obtainable by different hued brick



San Stefano shows ornamentation obtained in bonding, as well as the use of colored marble pieces set flush with the surface



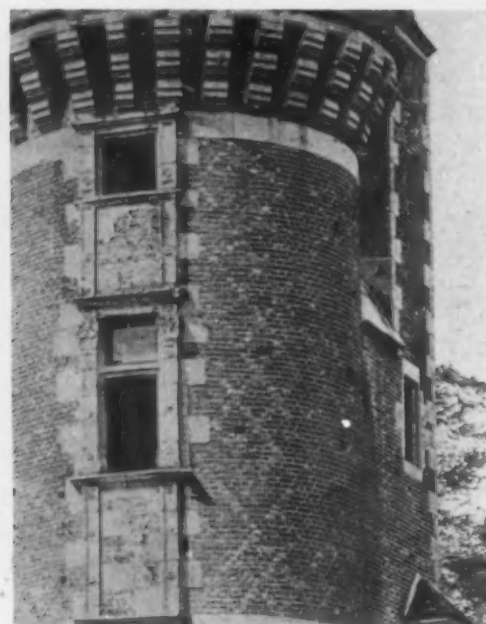
A chimney from the Château of Blois, France—alternating panels of herringbone and running bond, with stone quoins



An old house in Rouen illustrating the original construction of half-timber work with brick filling between the timbers



Corner block-like projections of this kind are called quoins. The motive is derived from stone work. St. Peter's, Philadelphia



The Château of Saint-Agil, where a diaper pattern is secured by the insertion of bricks of a contrasting color

meretricious terra-cotta gewgaws and gimcracks to satisfy demands for elaboration—not that terra-cotta ornament is not good in its proper place. One of the simplest forms of this kind of brickwork is a belt course made of a row of headers set vertically. Sometimes in old houses above the lintels of the windows a flattened arch is outlined in vertically laid headers with good effect. Then, too, keystone-shaped lintels, flush with the wall, are often made of bricks set vertically in the centre and spreading to convergent diagonals at the sides.

While on this particular division of the subject, it may be well to suggest that there are considerable possibilities in the use of bricks differently shaped from the ordinary type. We all know what a sense of satisfaction the introduction of the long, narrow Roman brick produced, even in absolutely plain wall surfaces, because of the difference in shape and size. We know, too, how pleasant it is sometimes to discover a bit of old English or Dutch brick, so-called, not because of importation from England or Holland, but because of their respective sizes and shapes that followed the patterns used in those countries. Undoubtedly some of the early Colonial brick did come from over seas, but most of it was made right here in America. If all the "English" and "Dutch" brick had really been imported it would have kept a tremendous fleet busy all the time exclusively in this traffic.

Twisted and overburnt "seconds" from the brick-yards can be used to advantage and give a wall a unique appearance. One of the accompanying illustrations shows a pleasing use of a belt course between the first and second floors of a suburban house. It is the width of two stretchers

laid vertically. The arches over the first floor windows are also of vertical bricks. The herring-bone design has always been a great favorite and the picture of San Stefano at Bologna shows an excellent use of it in connection with the insertion of colored marbles. In the chimney of the Château Blois we see a convincing arrangement of panels alternately of herring-bone and running bond. The scheme is peculiarly forceful and quite worthy of the great château in which it stands. The design followed in the front of the old house in Rouen, shown herewith, is decidedly unusual and presents a style of paneling that might fittingly be copied, with certain modifications. The crossed timbers and the arrangement of the bricks are strongly suggestive of rush-bottomed chairs. Dozens of good designs can be devised for panels and friezes, at the same time keeping a perfectly flat surface, and when combined with the former system of ornamentation, the possibilities are mightily increased. An interesting example of herring-bone setting combined with countersinking is seen in the tympana of the window arches in the Colony Club, New York,

top of page 341.

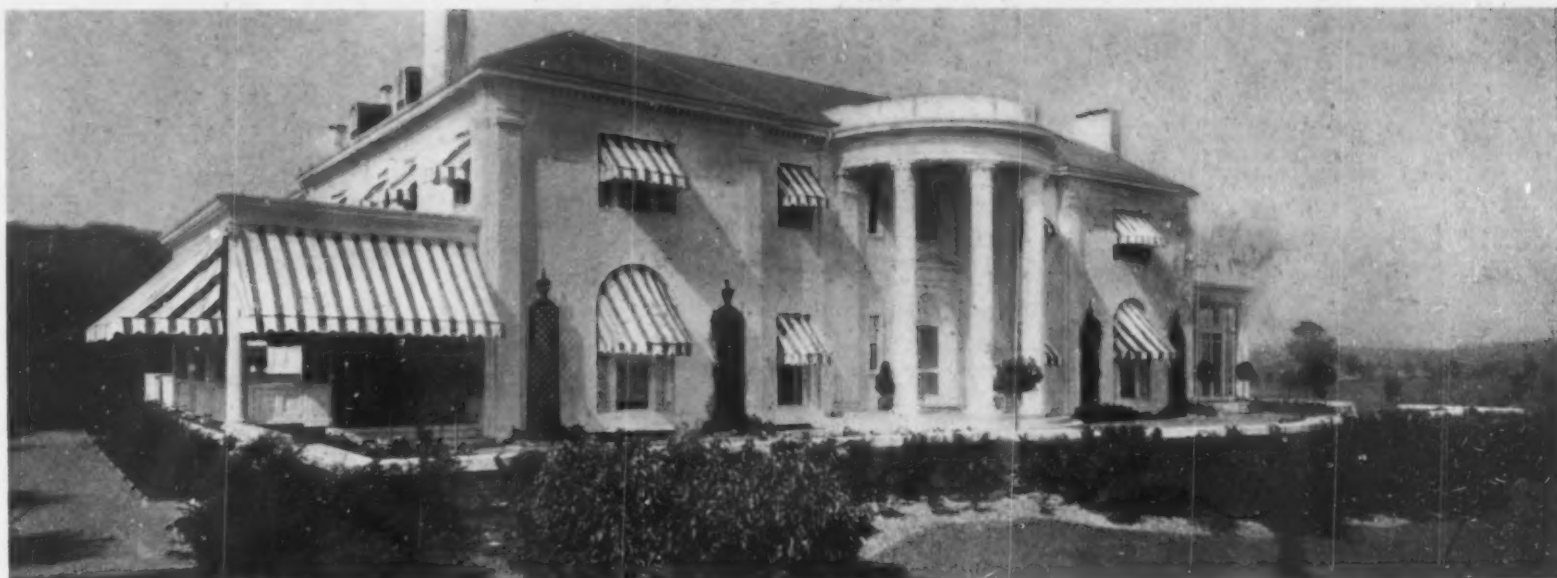
The last variety of brick ornamentation that can be mentioned here is the sort that makes use of different hued units to secure the desired end. We learn our most impressive lessons in this type from the buildings of the Renaissance period, mainly in Italy, France and Flanders. A riotous exuberance of genius dominated the architecture and luxuriated in a wealth of graceful form and gorgeous color that was not confined to interiors. Stone, brick and tiles were freely intermingled in exterior walls, and vari-colored materials were combined in a way to startle some modern no-

(Continued on page 370)



A flat belt course of bricks on end gives an interesting line just below the second-story windows, as well as for window sills and arched openings. Guy Lowell, architect

SOME AWNING SUGGESTIONS



The common striped awning in its various forms—for square-head windows above, round-head below. Where a house is of a solid color throughout, particularly in white, the strong contrast of the stripes is welcome



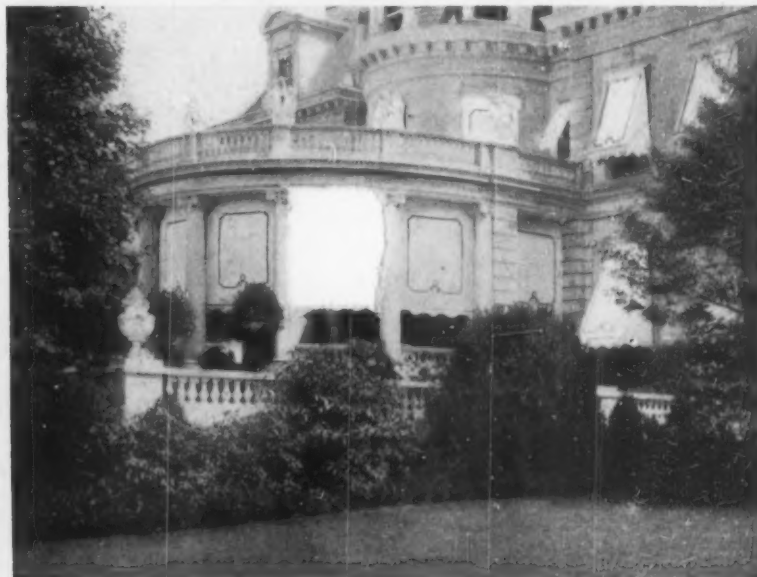
A terrace that may be shaded or left open to the stars by its roll awning on the framework of iron piping



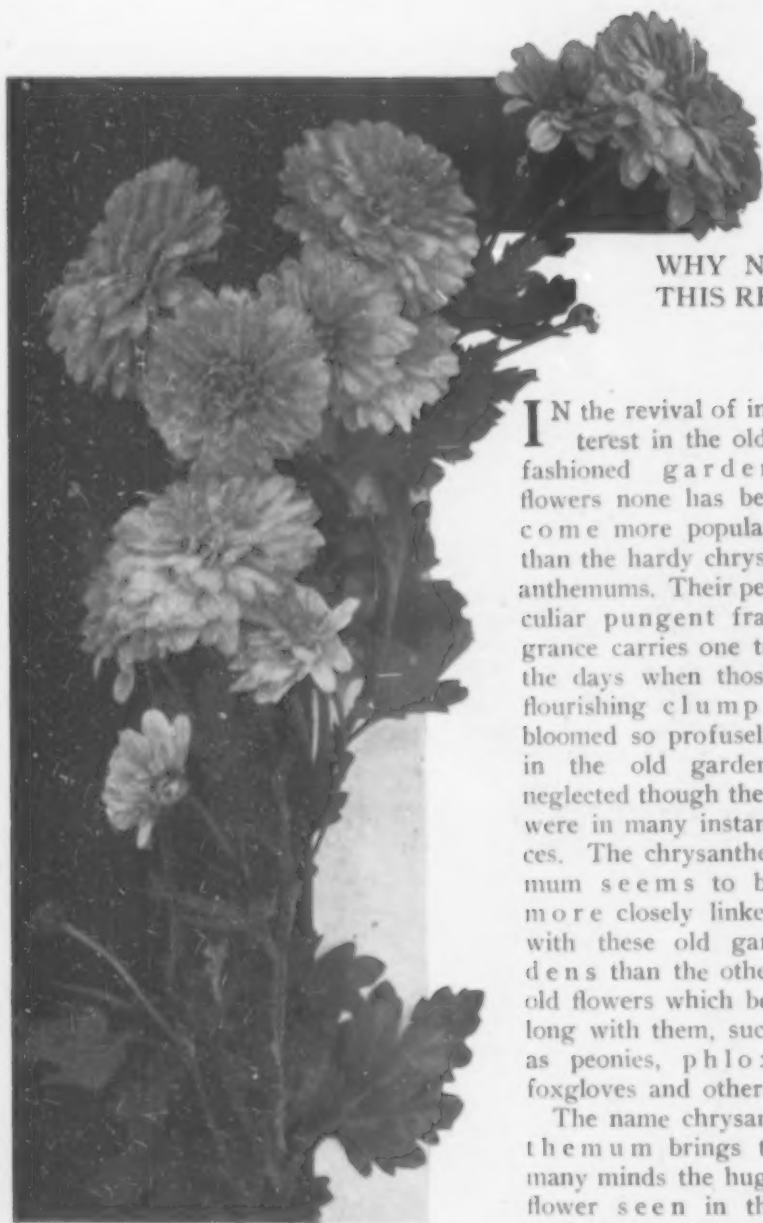
Projecting awnings would be awkward on the exterior of this curved porch; curtains of awning material solve the difficulty



The Flagler home at Palm Beach. Drop curtains on rolls are used; frame awnings would have marred the architecture



The new French awnings of white or light gray, with a narrow border, are more effective on a house of varied colors than here



The Chrysanthemum Outdoors

WHY NO GARDEN IS WORTHY OF THE NAME WITHOUT
THIS REIGNING STAR OF AUTUMN—SET PLANTS OUT NOW

Photographs by N. R. Graves, C. M. Weed and Chas. Jones.

IN the revival of interest in the old-fashioned garden flowers none has become more popular than the hardy chrysanthemums. Their peculiar pungent fragrance carries one to the days when those flourishing clumps bloomed so profusely in the old garden, neglected though they were in many instances. The chrysanthemum seems to be more closely linked with these old gardens than the other old flowers which belong with them, such as peonies, phlox, foxgloves and others.

The name chrysanthemum brings to many minds the huge flower seen in the florist's shop in early November and con-

spicuous during the football season. Though attractive in size and color, the real flower lover who has seen the hardy kinds in flourishing condition, considers them inferior to their smaller cousins. These large-flowered kinds are not hardy except when given protection, and then do not produce the same quality blooms as the greenhouse-grown ones.

Aside from the real pleasure to be had from the old-fashioned hardy kinds on account of the association, they fill a real need in brightening the garden late in the autumn when flowers are at a premium.

Success in growing these beautiful flowers comes from a careful selection of position and some attention to soil and conditions.

Flowering as they do, late in the autumn when frosts are common, it is well to give them a sheltered position where their flowers will come to perfection without injury from frost. The south side of a wall or fence is ideal, or they may be put in the foreground of a shrub border where the taller plants afford the same kind of protection.

Gardeners in growing these plants for their flowers alone will often have them in a frame, where they can, in the late autumn, cover them every evening with canvas, keeping the flowers in this way from being in the least marred by the frosts.

Give chrysanthemums a light soil which is well drained. They will not flourish in clay or heavy soil, as it not only prevents a vigorous growth but subjects them to winter-killing.

In getting plants for setting out, secure young stock grown

from cuttings, in preference to divided plants, as the former are more thrifty and give better results, as good gardeners will tell you. In growing them from cuttings struck in April or May the returns that season will be very satisfactory if the plants are well cared for during the growing season.

To prevent the customary trouble with aphids, a dusting of the foliage early in the summer with tobacco is effective. If later the aphids does trouble your plants, spray with tobacco water.

As the plants gain height staking is advisable to keep the stems from snapping in storms.

Wintering the plants proves to be a trying task with many and usually results from a desire to make the covering heavy. Heavy manure should never be used. It holds moisture and this results in rotting the crown of the plant. Use straw or leaves.

When it comes to a selection of the best varieties, it is rather difficult to be definite, as the named kinds that are sure to be known to all the growers, are few in number. The past few years, however, many of the growers have been growing certain well known types and these are the cream of the known kinds.

Among all the chrysanthemums the one held by the majority to be the real old-fashioned type is Autumn Queen, thought by some to be obtainable only from old gardens but now to be had from a number of sources. It is about the size of a silver dollar and a very pretty shade of rosy pink.

There are some extra fine varieties of the same size as this old kind, the best of which I will name. A pure white one, Soeur Melaine, is quite hardy and the flower full double. Everyone is attracted to Julia Lagravere, a rich dark maroon, and also Fremy, a German variety with crepe petals of a pleasing shade of terra cotta. Mrs. Snyder, a rich golden yellow is quite large and showy. There are other very fine large ones, among which may just be mentioned, Globe d'Or, a fine lemon yellow; Victor, claret; Strathmeath, a large, clear pink; Prince Victor, brownish red and Stratagem, crimson, shaded gold.

The button type appeals to many people and from it the first to be selected is Brown Bessie, as it is almost as well known as Autumn Queen. A rich, golden yellow is Golden Mlle. Martha, and in Nellie Rainsford we have a mingling of orange, salmon and red. Model is a



The larger hardy chrysanthemums resemble asters in the size and form of their flowers

good white of this form, and through the florist many have become acquainted with the very small flower known as Baby. It is not larger than the head of a good-sized hat-pin and quite full and round.

There is a type with quilled petals that is decidedly pretty, the principal one being St. Illoria, of a deep shade of pink fading to a lighter pink after being open for a few days. Mrs. Vincent is a rich magenta of the same form, and both are good-sized flowers.

One single form deserves special mention on account of its distinctive color. It is called Sunset, the petals being of a burnt-orange shade which forms a striking contrast with the yellow stamens in the centre.

With such an array of color to brighten the Indian summer we should be sure always to include plenty of hardy chrysanthemums in planning perennial or shrub borders.

WARREN J. CHANDLER.



The colors obtainable in the hardy chrysanthemum in all types range from white through yellows and reds

WE appreciate the crocus and the snowdrop because they appear before the snow has gone and show that spring has come again. In much the same way we appreciate the hardy chrysanthemums because they are the last of the season's flowers and remain beautiful even when touched by the first snow of the new winter. They are more hardy even than the wild asters, and are the chief dependence of northern gardens for outdoor blossoms in November. They are often called pompon chrysanthemums because of the small size of the flowers, which show all the colors of the large chrysanthemums, the yellows and the reds being especially attractive.

These chrysanthemums were grown in profusion in many of the old-fashioned gardens of two or three generations ago. When they waned in popularity many of them held on, surviving neglect with sturdy vigor, so that when flower lovers were ready to take them up again they were to be found here and there in sequestered corners of the old gardens. To a considerable extent such varieties were gathered in by neighboring nurserymen and given new names because the old ones were not known.

One of the largest plant dealers in America now lists thirty varieties of hardy pompon chrysanthemums. Another important firm that specializes in plants for border gardens lists twenty-four of the best sorts. These are both Pennsylvania firms, and it is significant that the catalogues of firms farther north that grow their own plants have fewer kinds for sale. This very likely is due to the lack of hardiness of the missing varieties, and it is a reminder

of that excellent rule for buying hardy perennials—buy from north of your own latitude rather than from south of it.

While it is often stated that these chrysanthemums are hardy in the most northern States, this is by no means true of all varieties. North of the latitude of New York City a careful selection either of hardy sorts or of acclimated strains is desirable. A few years ago I set a number of varieties in a favorable position in Massachusetts. The bed was given good winter protection, but very soon all the plants had disappeared but two sorts which thrived and spread. On inquiry I found that at least one and perhaps both of these survivors had been obtained from an old-fashioned garden nearby, where they had been grown for a long time. Of another lot of plants shipped from farther south and carefully protected in winter, only a few survived to the second season. Consequently it seems well worth while for northern gardeners to order their plants from nurseries at least as far north as they live and to insist that the plants delivered shall have been grown locally by the dealer. This will make the likelihood of survival much greater.

A protected border within easy view of the house is an especially desirable place for planting these hardy chrysanthemums, where the flowers will add to the cheer of the waning season. If the flowers are to be cut, however, they should be in a more remote situation, but still near a protecting wall or hedge to keep them from full exposure to the cold autumn winds. They are especially effective in masses, so it is much better to plant them so that there are many together rather than singly at some dis-



There are fewer singles than doubles among the hardy varieties, but these few daisy-like forms are particularly attractive



As a cut flower the hardy chrysanthemum lasts for weeks indoors



The button type comprises flowers as small as a half inch in diameter, borne many on a stem



Set plants out now, so that you will have cut flowers when these are very scarce

tance apart and very widely scattered.

These chrysanthemums are particularly useful for cut flowers, as they last for weeks and mass together in flower jars in very attractive ways. They are especially good for use in wall vases, on the background of a plain wall covering.

The varieties vary greatly in size; the smallest are the tiny flowers of the button type and the largest the well-developed flowers of the aster type. Between these extremes are various intermediate sizes. There is also much variation in the height of the plants; some are dwarf forms, excellent for bedding; others are very tall, excellent for the back part of the border, while the majority are intermediate, reaching a height of from two to three feet.

At the Chrysanthemum Show in New York last autumn the splendid exhibits of pompons attracted much attention. Judging by appearances alone the following varieties were among the best shown:

Baby: Button; golden yellow.

Bedouin: Small; mixture of garnet and white.

Julia Lagravere:

Large; rich maroon.

Mrs. Snyder:

Large; rich yellow.

Nellie Rainsford:

Small; orange salmon, tipped red.

Prince Victor:

Large; brownish red.

Soeur Melaine:

Large; pure white.

Sunset: Medium;

single, reddish brown.

Yellow Gem: Me-

diun.

Mary Keyes:

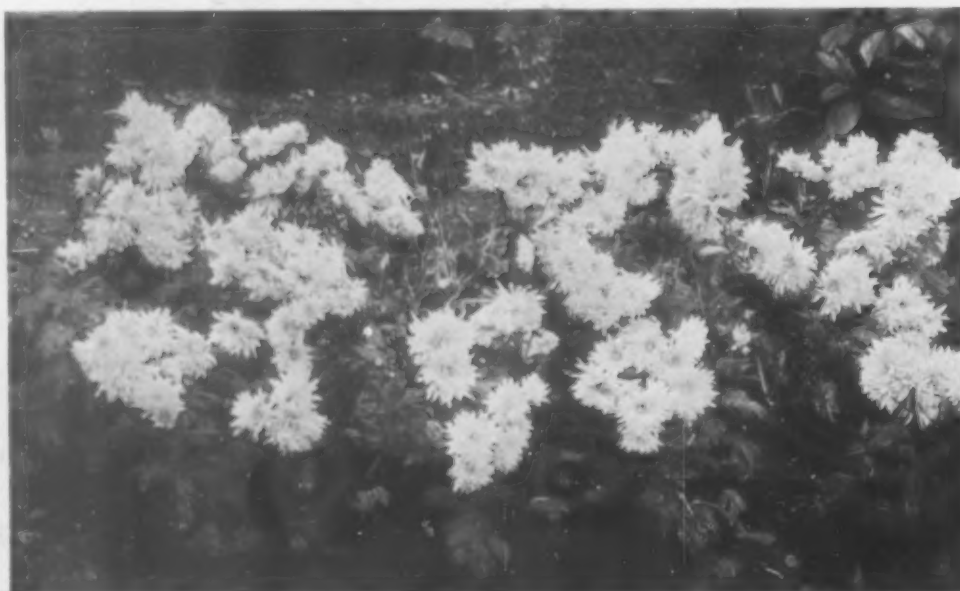
White, daisy-like.

Baby Marguerite:

Button; white on a stem.

Savannah: Button; brilliant yellow.

Golden Mademoi-



In the garden plant your chrysanthemums in a mass rather than as individual plants

selle Martha: Small; clear, orange yellow.

There is much variation in the variety lists of the different catalogues. A few standard sorts are listed in all or nearly all, but to a large extent each list is different from the others. There are probably many synonyms.

The hardy chrysanthemums can be bought in the form of well-rooted young plants from all the more important nurserymen. They are usually quoted at from ten to twenty-five cents apiece. In a rich soil and with other conditions favorable the plants spread rapidly from the crown, so that in two or three years a single specimen will form a cluster that can be readily separated into many plants. They are also readily started from stem cuttings.

The bed for these chrysanthemums should be well prepared by deep spading and the digging in of a good amount of barnyard fertilizer. When this has been done and the surface smoothed with a rake so that the soil is in fine tilth, the young plants should be set about eighteen inches apart if there is plenty of room, but closer if necessary. They should be planted early in May and set

a little deeper than they were growing before. Then the surface of the soil should be kept well tilled to conserve moisture and keep down weeds, and every thing done to bring about a good growth the first season. If the plants do not get a good start it will be worth while to pinch off the blossom buds this season, but this is usually not necessary. Vigorous young pot-grown plants raised from cuttings are the most desirable.

(Continued on page 384)

The Real Meaning and Use of Architectural Detail

IV. THE ENGLISH TRANSITION PERIOD OF THE SIXTEENTH CENTURY, KNOWN POPULARLY UNDER THE NAMES "TUDOR" AND "ELIZABETHAN"—A MINE OF SUGGESTION FOR LIBRARY, DINING-ROOM OR HALL

BY LOUIS BOYNTON

Illustrations from "In English Homes," by Charles Latham

[A series of articles by prominent architects appeared in this magazine last year, outlining the characteristics of the more common architectural styles used for country houses. Another matter of great importance to those who would build consistently is the detail. Mr. Boynton's series of articles aims to explain the origin and use of motives, ornament and molding characteristics in connection with the better known styles of architecture. The articles that have appeared are: Colonial Detail, Jan., 1911; English Renaissance, Feb.; Italian Renaissance, Mar.—EDITOR.]

IN order to arrive at an intelligent understanding of the earlier English work—the work which preceded the period of the English Renaissance—it is necessary to know something of the conditions which governed the planning and building of the country house where most of the best examples of ornament are to be found.

Until at least as late as the middle of the sixteenth century such houses were built for defense. While their purpose was not primarily military, it was nevertheless necessary to arrange them so that they might be easily protected from surprise or injury. In such an atmosphere of unrest it is easy to see how the furnishings would naturally partake of the character of camp equipment, and in fact the bulk of the property, apart from the buildings and the absolutely indispensable furniture, consisted of things which were easily portable. It was only by slow degrees that the open court and the H plan was adopted and came at length to be the typical arrangement; and so the development of the English country house from the fortified feudal stronghold was a gradual process. The English people were very tenacious of their customs and habits and did not give way to new fashions readily, nor did they change their mode of living until new conditions arose which made the adoption of such change logical and in fact inevitable.

The period of this development or transition from the late perpendicular Gothic work to the first examples of the true Renaissance was almost exactly comprised in the sixteenth century: in other words, from the accession of Henry VIII to the beginning of the reign of Charles I. It is commonly known under the names

"Tudor" and "Elizabethan," the Tudor being the early work, when the Gothic influence predominated, and the Elizabethan covering the later half of the century when Renaissance detail was more in evidence.

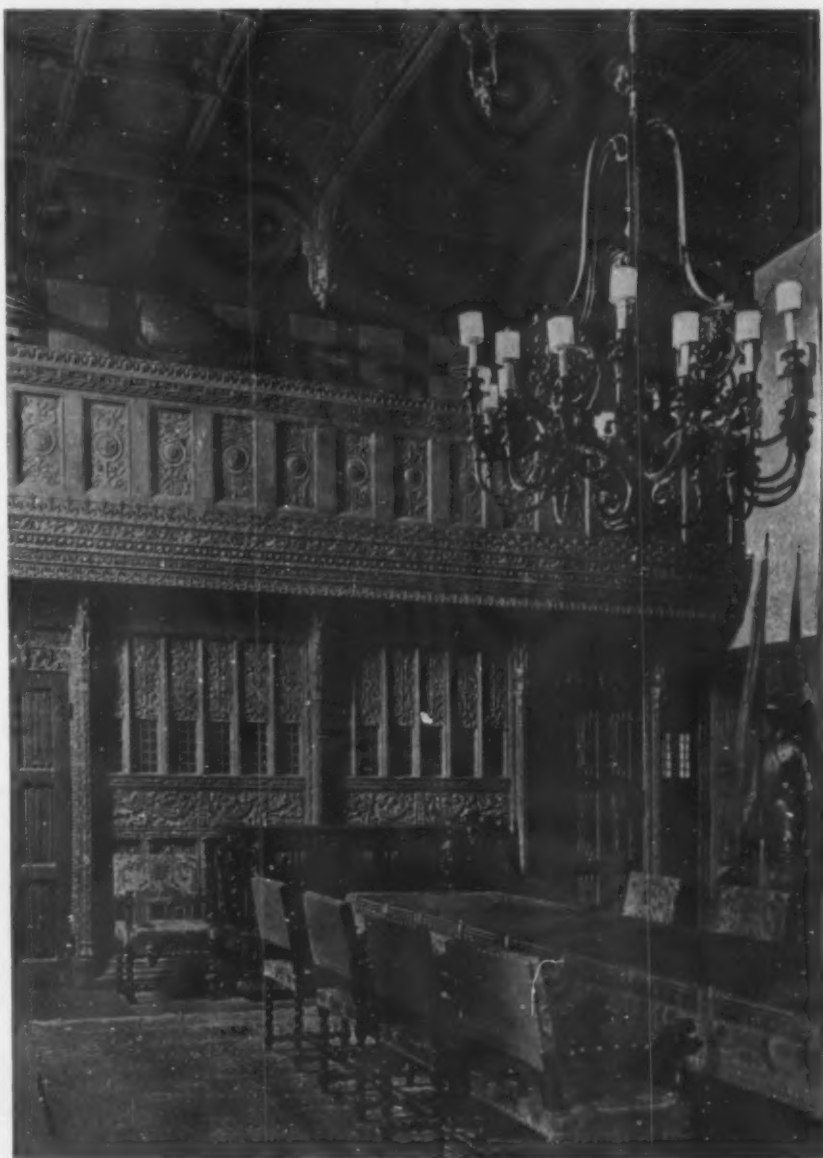
As has been said, the English manor house of the late Gothic period was a fortified, or at least easily defended, group of buildings. The great hall was the center of the life, both of the family and the retainers. This hall had a conventional arrangement which was seldom varied. It was lighted from both sides—with the entrance at one end through a screened off passage and with the dais at the opposite end. The house spread out from both ends of this hall, which divided it into two parts. As the hall extended to the roof there were necessarily stairways at each end to reach the upper stories.

Even in the more elaborate houses up to the time of Elizabeth, there was little furniture and practically no fixed or built-in decoration except in the screens at the entrance end of the hall and, rarely, in the fireplaces.

There are complete inventories of the furnishings of some of these houses where there was an abundance of rich plate, with hangings and "fedderbeddes," and wall hangings—but practically no mention of carvings or furniture. In fact, most of their possessions, apart from what was built

into the houses, seems to have been of the easily portable kind, and they relied on arras, or tapestry hangings, for covering the bare masonry walls.

The earliest use of wainscot was in the ecclesiastical buildings and as it was designed to take the place of hangings, it was treated very simply and was commonly made up of a great many small



The Banqueting Hall, Hever Castle. At the entrance end of these great halls were the screens, usually richly decorated; the musicians' gallery is over the vestibule and passage space thus enclosed



Paneling in the Hall of Magdalena College, Oxford, showing the richness obtained by the use of the linen-fold and heraldic motives

panels. The primary intention was to cover the surface rather than to decorate it, and what decoration there was, was achieved by elaborating the surface of these panels. Occasionally the shape of the panels was varied by the use of arched forms, and the arches were decorated, but even then the general effect was of a monotonous succession of rather small panels. The effect of this treatment was charming and the writer knows no more interesting rooms than some where simple paneling is carried up to the ceiling, and framed pictures and sconces, embroidery, etc., are hung over the wainscot without regard to the arrangement of the panels, which are thus partly covered up.

One of the most common forms used in this panel decoration was the "linen-fold," which suggests cloth or parchment arranged in vertical folds with the edges showing the convolutions of the material. There are several variations of this treatment, as in the charming, almost modern, interior at Rothamsted. Here the vertical lines in the panels are preserved, but in other respects the detail is quite differently handled. This room is curiously similar to some of the modern "Craftsman" work, but with a saving sense of the value of well designed, well placed ornaments.

The quality of what is called "all-over" decoration—the covering of a surface with a pattern that repeats mo-

notonously, which is so evident in the wainscoting, was characteristic of a great deal of the decoration of this period:

The screens at the end of the banqueting halls were usually richly decorated, as was the front of the musicians' gallery which was placed above. These screens formed a sort of vestibule, with the entrance door at one end of the space which they cut off from the large hall. This vestibule was also used as a sort of serving-room and generally communicated directly with the kitchen.

There is at least one house where the chapel intervened between this space and the kitchen, and where the passage connecting them was through the end of the chapel opposite the altar—a curious commentary on their feeling for the sacredness of the place.

Much of the ornament of this period was derived directly from the Flemish. During the persecutions of the Duke of Alva a great many capable craftsmen fled to Protestant England, and their work fitted well with the late Gothic work of that country. Such a screen as the one at Hever Castle shows the Flemish in-

fluence, and the Italian Renaissance forms used here had evidently been translated first into Dutch.

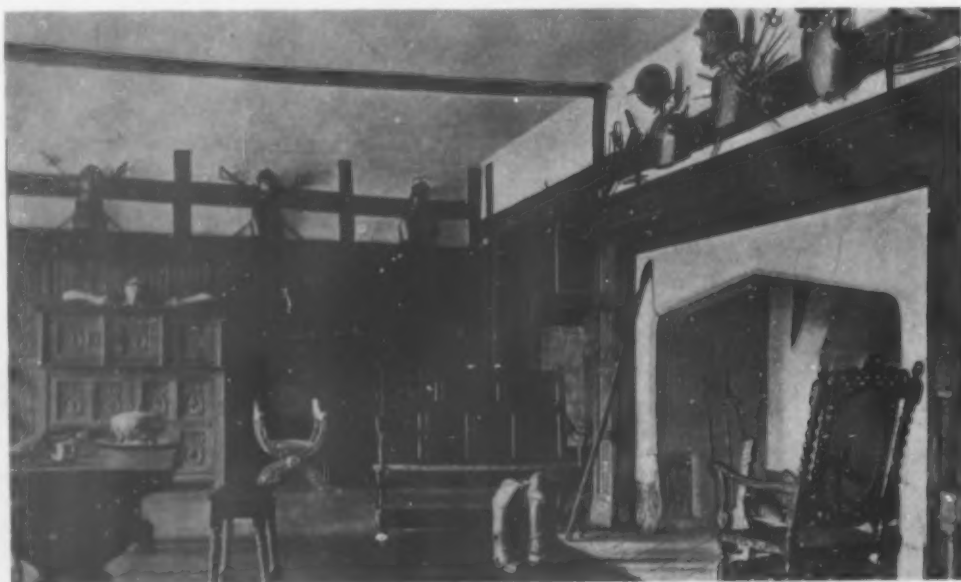
The use of medallions in the panels with Renaissance forms was common at this time, and they frequently enclosed a head in profile. This motive was of course imported direct from Italy, but it suffered many changes into forms that were both weird and strange as Italian ornament; but which, nevertheless were often very full of charm.

In the lower part of this screen at Hever

the character of the carving is distinctly Flemish. The sense of the shape of the individual pieces of wood is strongly preserved and one feels the craftsman making the very best use that his capacity allowed of the material at his command.

The Jacobean mantel is a very characteristically individual development of this period. At Baddesley Clinton the dining-room fireplace is a very fine example of the decoration in use at this time. The stone facing is usually even simpler than in this case, but the general arrangement is typical. The opening was surrounded by a simple stone facing and at both sides, and above was placed an elaborately carved wood mantel, without a shelf and with heraldic devices in the panels above.

The supports at the sides with the curiously bulging form and covered with strap work, the flat arches in the panels at the side of the center panel which contains the coat of arms, the



Rothamsted, the Old Hall—a room that in its woodwork is somewhat similar to modern "craftsman" work, but with a saving sense of the value of good ornament



The dining-room fireplace at Baddesley Clinton—typical in its elaborate carving and the absence of a mantel shelf

carving in the frieze and the use of consoles—in fact the whole mantel is a remarkably good example of this work at its best. This has the characteristic English domestic quality in a very marked degree. In fact this element of domesticity or as the English say "homeliness" is especially characteristic of the work of this period.

The mantel in the China Room at Holland House is another good specimen of Jacobean; except that the use of the colonnettes in the over-mantel suggests a later period, and certainly seems out of character. The stone facing is better than in the preceding example and has the simple, direct treatment that is so charming in this work.

The designers of this period were very sparing in the use of detail on the exteriors of buildings. Usually the entrance door was made a special feature and had some well placed ornament above it. This was often heraldic and the composition included a window or windows over the door. The door at Blicking Hall, seen at the end of the bridge over the ancient moat, is a particularly fine example of this treatment. The use of columns on either side of the door was quite usual. They were commonly employed in a purely decorative way and did not even pretend to support any weight.

There is much that is interesting in the decorative plaster work of this period. In Gothic work the rooms were either vaulted or the ceiling beams were allowed to show. These were covered with heavy planking to form the floor of the room above, and this showed in the ceiling in the simpler work or was paneled in more elaborate rooms—as in the Banqueting Room at Hever Castle. When, however, plaster came to be used, they soon realized its possibilities as a medium for decoration. The earlier work recalls the detail of the elaborate fan vaulting of the late Gothic, even to the form of the ribs, although these were of a much smaller scale than was used in stone vaulting. An excellent example of this kind of plaster work is the ceiling of the dining-room at St. Donats Castle, which is also a fine type of an English interior. In later work there is more of the character of wood carving in the plaster work and more elaboration, without, I think, a corresponding increase in charm.

The Long Gallery at Blicking Hall shows the flat strap-work influence in the ceiling, and the ornament is composed of allegorical subjects with conventional ornament on the ribs and in some of the panels. This is a fine in-



St. Donats, the dining-room. When plaster came to be used for ceiling decoration it followed stone vaulting of Gothic work



On the exterior of the houses the entrance was usually made a focal point by the use of ornament, and made more imposing by tying it in with a window group above



Blicking Hall. Here the plaster ceiling shows the strap-work influence in the panels; the latter are filled with allegorical subjects



China Room, Holland House. Another typical example of the Jacobean fireplace, excepting the incongruous colonnettes

terior save for the Victorian "Gothic" bookcases between the windows.

This whole period from the late Gothic until the completed Renaissance is one of transition. In the Gothic work, especially in the detail, craftsmanship and individual initiative were supreme. That is to say, the training and traditions of the craftsman determined the general character, but the exact form and expression of the ornament were the result of the skill and invention of the workman. This was gradually modified as the Renaissance influence became stronger, until at last the designer dominated the detail. The greater coördination of classic design and the fact that the ornament was an integral part in the expression of an idea, made it necessary for one mind to determine the exact relation between the parts and the whole. In the perfect classic form every bit of ornament and detail has an exact relation to the whole design, while in the earlier transition work the relations were more or less fortuitous.

There is a great charm in the results of the earlier work. It has freshness and variety and initiative. Above all it tends to produce the ideal domestic interior, as contrasted with the more formal work of the Renaissance, and it is this quality which makes it so peculiarly appropriate as a treatment for modern rooms of domestic character.

Grow Your Own Fruit

IV. STRAWBERRIES AND GRAPES—THE WHOLE MATTER OF SELECTING VARIETIES, SETTING OUT PLANTS, CULTIVATION, AND WAR AGAINST THEIR ENEMIES

ARE you one of the thousands who, while possessing at home a garden plot with a nice sunny exposure, still annually consent to pay fifteen to twenty-five cents a quart for half ripe or over ripe berries. Do you realize that strawberries may be grown readily in any good sunny garden and that the twenty-five cents you pay for a box of extra early, extra bitter berries will actually buy twenty-five strawberry plants; and that these plants with their runners set out and well cared for will produce easily half a quart each next season? But that is not the whole story. You can grow better berries than you can buy, because the quality is never perfect unless the berries are ripened on the vines and fresh gathered.

The two great deterrents to home strawberry growing are not any difficulties met in growing the plants; they are, first, lack of definite information on the subject, and, secondly, the necessity of waiting until the following season for a crop. It is so hard to make any of our own plans reach beyond the usual annual circle.

With the price of layer plants of the best varieties so low, it will hardly pay to get plants of some unknown sort from a neighbor's bed, but getting the plants near at hand has one advantage; they should be kept out of the soil but a few hours. However, if you have your bed ready, the plants from the seedsman or nurseryman will not suffer, because they will be (or should be) carefully packed to keep the roots moist. In either case be prepared to get the plants into the ground as soon as they come into your possession.

It has been said that strawberries can be grown in any soil. It is true, that at least some varieties will do well in almost every soil, but good rich sandy loam, with a southern exposure, protected on the north is the best if early berries are desired. A northern exposure is more suitable for the late varieties. In either case, the situation should be open and airy. These are two requirements, deep soil and thorough draining, if the largest, finest berries are wanted; both may be had at little expense for such a small area as will be required in the home garden.

In addition, the soil must be thoroughly prepared. This is even more important with strawberries than with most gar-



BY F. F. ROCKWELL

Photographs by Nathan R. Graves

den crops. Unless the ground is in excellent condition, cross plow and subsoil plow should be used and then thoroughly fined and harrowed.

Manure, too, is important. Old, fine mixed, yard manure will be the best thing to get, or a manure compost, well rotted up. If not enough manure can be got, supplement with chemical fertilizers—the best combination being ground bone, acid phosphate and muriate of potash in equal proportions and at the rate of five pounds per square rod. Whether manure or fertilizer is used, supplement with light dressings of nitrate of soda, (1) just after setting, (2) in August or September of each season's growth and (3) soon after the blossoms open in spring.

The young plants, or runners, for new beds are usually set out in the spring—April or first part of May—and on the whole this is more satisfactory than autumn setting. For the pot-layered system described later, early autumn setting is necessary. The spring weather is more likely to be favorable to rapid new growth and the "layers" that have wintered over are all well hardened and ripened and in better shape to stand the disturbance incidental to transplanting. When setting out runners from one's own bed, so that the plants need be out of the soil only a short time, fall planting need not be disadvantageous if a favorable day and time can be chosen.

Before setting, the plants should be put in shape by removing all dead or broken and large leaves and trimming back the roots about one-half. This gives a nice stocky, stubby little plant that can be "set" nicely. If your plants have been shipped from a distance the roots may have been "puddled" or dipped in clay mud, to keep them moist. If so, rinse them off in water and trim before planting. The actual operation of setting the plant in the soil is one of the most important in the whole culture of the strawberry. It is best to do this work on a cloudy day or late in the afternoon. If only a few rows are being set, they may of course easily be watered and shaded. The soil should be so well prepared that it will not be necessary to use a dibble, as the roots should be spread out. Do not cover the crown. Set the roots in as deep as is necessary to cover all the roots, but not



Proper mulching of the strawberry bed is probably the most important element in success. Use salt or meadow hay, preferably

deeper. Set them in firm—if the soil is dry press into place with the balls of the feet, placed either side of the newly set plants.

There are two types of layers: those rooted automatically in the soil of the bed, and pot-layers. These latter are got by sinking two or three inch pots into the soil and filling level and holding a rooting runner in place over each with a small stone, so that the roots will be confined within the pot. These, of course stand transplanting more readily than the ordinary layers, especially in summer or autumn.

There are two ways of setting the plants suited to the home garden, where the best in quality as well as in yield should always be aimed at. The first is the hill system. The plants are set in rows about a foot apart. The rows may be single, or four or five together in a bed, the rows a foot apart, with a two foot alley between the beds. In this case all runners are pinched off as soon as they start and the ground hoed between the hills. Where only a few plants are grown and the soil is rich and may be watered, this method will probably give the best satisfaction. The second is the "matted row" system. The plants are set, twelve inches apart in rows about three feet apart. As the runners start, they are rooted to a distance of six or eight inches on each side of the row and then turned along it. This gives a neat, narrow row, twelve to sixteen inches wide. These new plants are separated from the parent ones as soon as well established, and all other runners, from both sets of plants, kept pinched off.

There are also two system of growing the berries as well as two of setting the plants; the annual, by which only one crop of berries is taken before the plants are discarded, and the biennial. The latter may be used with either the hill or the matted row system, but in either case the first crop will be the best if not the biggest, and the beds must be kept clean. For the annual system, pot-layered plants and the hill system of growing are used and maximum quality and quantity of crop attained. This system is as follows: as soon as the plants are through fruiting or by setting aside for propagation purposes a few plants, not permitted to fruit, get new plants by the pot-layering method. As soon as possible after the middle of July, set these in the new bed, which must be rich and thoroughly prepared and give them clean frequent cultivation until the fall. Pinch off all runners as fast as they appear. The idea is to make a strong quick growth and concentrate it all in the newly set crowns, thus assuring a full crop of the very best fruit for the following spring. The advantages of this system are, that there is a full crop every year, instead of only two in three years. After the old bed is plowed down for a late vegetable crop, there is time for an early one, lettuce, peas, beets, etc., before the new bed is set. It also means the very best quality and size of fruit.

Whatever methods of planting and growing are used, the beds must be kept clean and frequently cultivated. A wheel hoe and a small "onion" hoe for use between the plants are the handiest tools to use. For a month or two after setting the plants—work the ground rather deeply, but as the new roots begin to form and spread, restrict it to an inch or two in depth. It is particularly important to maintain the soil mulch in dry weather, by frequent stirring of the soil.

The purpose of mulching the strawberry bed is five fold. It



Marshall, a standard main-crop variety



Gandy, one of the best late varieties

gives winter protection; holds the plants from starting prematurely in the spring; keeps the berries clean; retains the soil moisture; and keeps the weeds down. So it pays to do it well. Salt or meadow hay is the ideal material to use, but if it cannot be had, other cheap hay, straw or even leaves will answer. Cover both beds and walls to a depth of two or three inches, before severe frosts. Hold in place, if necessary, with boards or plank. Leave on until growth starts in the spring and then pull aside from each plant to let the leaves and flower stalks up through. Keep as evenly and compactly about the plants as possible, to mulch the soil and to protect the fruit.

The strawberry is comparatively free from serious injury by disease, "rust" or blighting of the leaves being the most troublesome. Where clean culture is given, and the beds kept down only one or two years at a time, it is most unlikely to prove troublesome. Sometimes also they are attacked by mildew. Both troubles are controlled by spraying with Bordeaux. Make first application soon after plants are set and three or four times before fall, and just before blossoming, following ten days later in the spring.

Among the insect enemies, the White Grub (larva of the June bug) is the most troublesome. Dig out and destroy. Do not follow grass or sod directly with strawberries. The strawberry worm, a small green caterpillar, sometimes proves annoying, when in large quantities. Dust the foliage, while moist, with finely sifted ashes or with lime. If cut-worms cause any trouble, dig up and destroy and catch with sweetened bran mash sprayed with Paris green.

In selecting varieties of strawberries, care must be taken, if the "imperfect" flavored sorts are planted, to have a row of some "perfect" flowering sort every six to nine feet. The following are all good, high quality berries, that are successfully grown over a wide range of soil and climate: (Early) Haverland, Michel's Early, Warfield, Bubach No. 5, Glen Mary, Brandywine, Marshall, Nick, Ohmer and Sample. (Late) Commonwealth, Gandy.

The Grape

There may be some excuse for your not growing your own-fruit, if your space is limited, but you cannot use this excuse about grapes. The classical fig-tree may not be adapted to your particular climate but by all means have your own vine:—if there is not room for a trellis in the garden, train it against a wall of the house, wagon shed or garage.

The grape is not particular as to soil, as long as it is well drained. I have seen them thriving on soil so gravelly that it would seem nothing could grow there. If it can be had, a soil rather of clay composition will be best. The exposure should be to the sun, and if possible an open, airy one. If the soil is not already in good condition, and well enriched, prepare it thoroughly in both these respects before you plant. Stable manure will



Haverland, a tried-and-true early variety

be good to use, provided it is well rotted up, but a liberal dressing of wood ashes should be added to supply potash, as it is necessary to have the wood thoroughly ripen and harden by fall, for upon this depends the crop of the following year. If using chemicals, take equal parts of bone, acid phosphate and muriate of potash, with a light top dressing of nitrate of soda, early in the spring

This will give the plants a quick start but will not continue to act long enough to prevent the ripening of the wood.

In planting, which may be done in either fall or spring, preferably in spring, either one or two years old plants may be used. They should not cost more than fifty cents each. Before planting cut back the top to three or four "buds" or eyes, and shorten back the roots a third or more, cutting out any that may be bruised. Make the hole large enough so that the roots need not be at all cramped together. Let them spread out and firm the soil in about them with the fingers, and after the hole is filled in, making the planting firm by pressing about it with your full weight on the ball of the foot. If the soil and season are dry, water thoroughly about the roots, before filling in the hole.

A mulch of meadow hay, sawdust, coarse manure or other litter, for two or three feet about the stem of the vine, will help save the moisture.

Pruning is the all important factor in growing good grapes. Upon the correctness and regularity with which it is attended to, the certainty, size and quality of the crop will depend almost entirely. Give special attention then in trying to master the theory of grape pruning. In order to do this, it is necessary to keep in mind two facts, as follows:—

First Principle.—The fruit is borne on the wood of the same season, which grows from last season's wood.

Second Principle.—Each vine can properly nourish and ripen only a limited number of bunches. This number may vary between twenty-five and one hundred, but it will be much better to keep it between forty and eighty. The number to be left should be determined by the condition of the vine and by the previous year's work.

The system of pruning, then, should be as follows:—

- (1) At time of planting, cut back three or four eyes.
- (2) When the buds sprout, rub off all but the one or two strongest. Tie or stake up the "canes" growing from these.
- (3) In January or February of the following spring, cut the strongest cane on each vine back to three or four buds, and remove entirely all others.
- (4) In May or June, after growth has begun, rub off all buds but two on each cane. The two new canes should be tied securely, not tightly to stake or trellis. They form the basis from which in the following seasons will spring the canes that bear fruit.
- (5) During the season, keep all canes that start, other than the two desired, rubbed off.
- (6) In January or February of the second spring, cut back the two main arms, left to grow the preceding year, to eight or ten buds each. All the new canes springing from

these are left, and will bear on an average of two bunches each, of fine large fruit.

(7) The following January or February, cut off all of previous year's growth except the three or four canes nearest the head of the trunk and cut these back to eight to ten buds each. These buds will, of course, furnish the fruiting canes for the third season.

(8) Every spring in January and February, cut back all wood except three or four canes to eight to ten buds, which will furnish fruiting canes for that season.

The training of the vines does not make so much difference. Poles, trellises, arbors, walls,—almost any sort of support may be utilized that permits of easy pruning. For just plain results in

fruit, the amateur cannot do better than to train his grapes to the following modified form of the Kniffin system. A single stout wire is stretched about six feet above the row, in which the young vines are set about six feet apart. The main cane, or trunk of the vine is supported to this and the two, three or four "arms" left, are tied

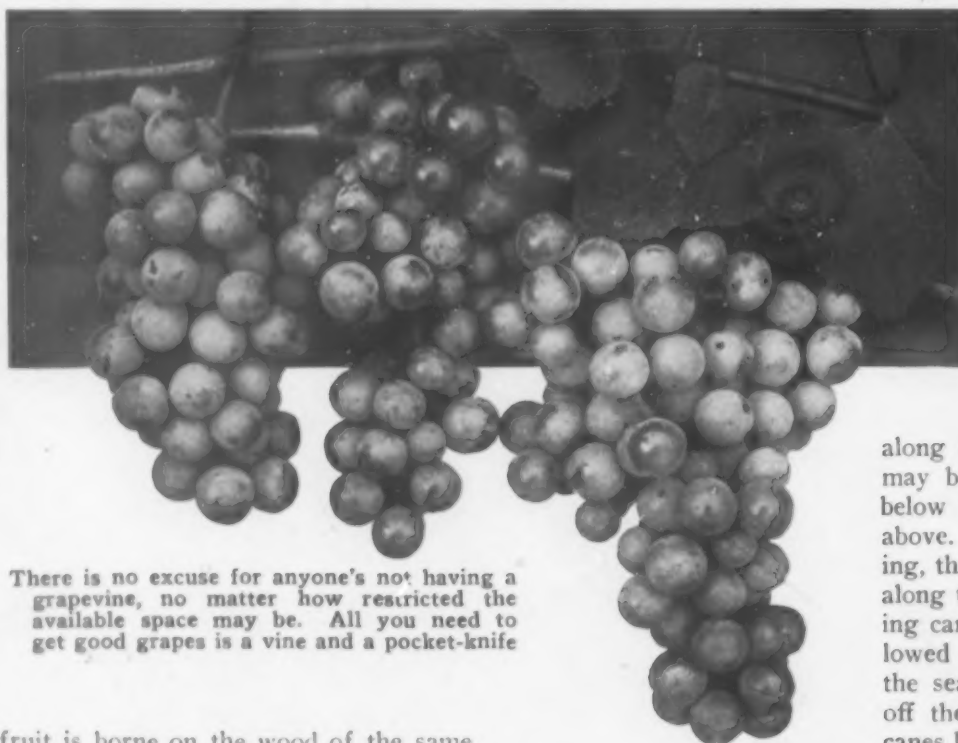
along this, or to a wire which may be stretched a foot or so below the top wire mentioned above. After the spring pruning, the remaining arms are tied along the support and the fruiting canes, as they grow, are allowed to hang down. During the season the buds are rubbed off the trunk and the hanging canes kept untangled.

In growing on walls or arbors, it may not be possible to adhere strictly to the system of pruning above outlined, but the principle can be kept in mind, and all wood two or three years old cut out, except the main trunk and laterals.

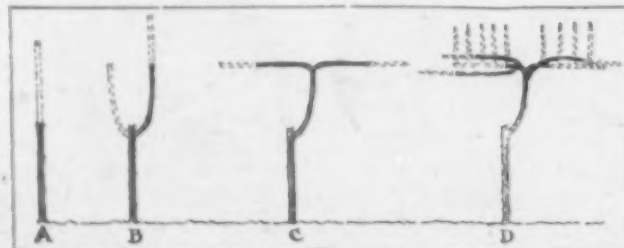
If too many bunches set, thin out, especially where any touch. If the grapes do not seem to be ripening up evenly in the fall, it means that the vine is attempting to carry too heavy a load. Thin out one-third or half the bunches and give a dressing of ashes or muriate of potash. Next year cut out to the proper number of bunches, both by pruning in spring and by cutting out bunches as soon as the fruit is well set. An over loaded vine means not only poor fruit this season but unripened wood and weakened vitality, with consequent poor results for next season.

Of the several grape troubles the only one likely to prove serious, where the vines are well pruned and cultivated, is the "black rot" of the fruit which frequently, if neglected, will cause almost a total failure. It may be successfully fought, however, by the following simple means. First, cleanliness. When pruning, remove all the old dried grapes or "mummies" that may cling to the vine and carefully rake up all old leaves, twigs, mummies and other refuse under the vines and burn. Keep the ground clean from weeds and grass during the growing season and keep the vines themselves

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There is no excuse for anyone's not having a grapevine, no matter how restricted the available space may be. All you need to get good grapes is a vine and a pocket-knife



Dotted portions should be cut back:—A, when setting; B, the next winter; C, a year later; D, third winter and after. Horizontal branches may be trained on wire

Some Edging Plants Worth Trying

PLANTS OTHER THAN THE COMMON CANDYTUFT OR SWEET ALYSSUM—A FEW PRINCIPLES THAT SHOULD GOVERN THE FORM AND COLOR OF EDGINGS

BY IDA D. BENNETT



Candytuft, which with sweet alyssum is one of the commonest white edging plants

IT is always a matter of economy in gardening to make use of low-growing plants as edgings to beds of taller, more important growths. This not only makes for economy in the use of space, but also fills out an otherwise uninteresting hiatus between the point where the taller growths cease and the edge of the grass begins, besides covering the more or less ungraceful lower part of the plants.

Often very effective color combinations are produced by the use of a brilliant-flowered edging plant in harmony with, or in striking contrast to, the central motif of the beds.

Beds of bright scarlet flowers, for instance, are greatly heightened in brilliancy by a border of white, and beds of soft pinks and rose can be made lovely with edgings of lavender of a rosy shade, while yellow best sets off a bed of blue flowers. A bed either of strong-colored larkspurs, or blue lupins is beautiful when contrasted with a border of yellow eschscholtzias.

No attempt should be made to edge beds filled with recumbent or trailing plants, as such an effort would simply result in a general mixup. But any plant which grows erect and is not specially symmetrical from the ground up will be improved by the presence of a small plant about its feet.

One of the prettiest plants for a planting in partial shade is the lobelia—either the Crystal Palace, Compacta, Heterophylla, Major, Prima Donna or White Gem, which offer a choice of a blue, crimson or white flower. Usually the blue forms will be preferred and the Crystal Palace will be found very satisfactory. Lobelias are very easily raised from seed and as the seedsmen are usually very generous with it, a single packet will furnish sufficient plants for edging several beds.

The ageratum is another easily raised plant, and seed sown in boxes in the house or in the hotbed in April will come into bloom in June. One must be sure, however, to secure the seed of the dwarf varieties as the taller-growing varieties are very straggling and un-

satisfactory. Little Blue Star is the most dwarf of all, rarely exceeding four or five inches in height and producing very freely great quantities of bright blue flowers. Cope's Pet is a fine, light blue, very desirable, but the white ageratum is seldom satisfactory, as the color is not clear and discolors in the sun. Ageratums will do well in almost any soil or situation.

Sweet alyssum is always popular and makes a lovely edging where a trailing or creeping plant can be used. It is a rapid grower and is inclined to get beyond bounds, which is the worst that can be said of it. It is lovely for a border around a lily-pool and for the rockwork. Seed should be sown where the plants are to remain as they do not bear transplanting well and are apt to be lost if moved from one place to another.

One of the prettiest edging plants is the Bellis or English Daisy. It will grow anywhere, in sun or in shade, and any soil seems to suit it. It may be readily grown from seed and may be increased by root division, but as it self-sows freely one is apt to have an embarrassment of riches in a season or two. All single-flowering plants should be discarded as soon as they identify themselves, and all double forms showing a yellow eye and flowers double to the center retained; in this way one preserves the quality of the flowers and secures an edging that is uniform in effect.



Tiarella—the native foam flower—gives an eight-inch height of its bloom in May and June

Drummond's phlox is always a substantial asset in the garden. The manner of growth and height of the plants is desirable, and the richness and variety of the colors make it especially sought after; it is possible to find a color in this flower that will harmonize or contrast favorably with almost any color scheme. For beds of blue flowers there is a most attractive buff or white. For scarlet flowers the phlox offers the most brilliant of scarlets, and for dark red flowers there is a deep rich red phlox. Seed may be sown in the open ground in May or, for earlier bloom, in the hotbed or flats in the house. Transplant when danger of frost is past to the permanent location. They are

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Sweet alyssum is the most popular of all, blooming steadily until after frost. Use flower edgings for flower beds, foliage edgings for non-flowering groups

Bacteria as the Gardener's Allies

THE THEORY AND PRACTICE OF INOCULATING SEED OF THE POD-BEARING PLANT WITH BACTERIA THAT HELP THEM TO DRAW NITROGEN FROM THE AIR

BY KATHARINE NEWCOLD BIRDSALL

THE home gardener, as well as the farmer, has cause to thank the scientists who have been experimenting with the question of fertilizing seeds before planting, as against the old method of fertilizing the soil in which the seeds are sown. Is it not a simple matter to buy one's fertilizer in a small bottle in the form of jelly, add a little sugar and water, shake the bottle thoroughly to dissolve the jelly, and pour the liquid into a bowl in which the seeds have previously been placed? The seeds need only to be moistened with this solution, which contains a certain bacteria, to inoculate them with the power to form nodules on their roots which absorb nitrogen from the air and feed it to the plants. Surely this is a much more simple process than the purchase of fertilizers which must be worked into the ground. The one drawback to this great scheme is that it directly benefits only the legumes—the pod-bearing plants such as peas, beans, sweet peas, alfalfa, peanuts, etc. Indirectly, however, it benefits other crops as well, for while these do not form nodules on their roots they seem to thrive better in soil that has grown inoculated legumes.

A bacterium, the scientists tell us, is "the smallest of the microscopic organisms"—the smallest of the vegetable organisms, composed of but a single cell, which can move and propagate itself.

The work of the beneficial bacteria, which interest us for our gardens, is that of supplying to certain plants the most necessary element of plant life, nitrogen. Nitrogen, as many of us have learned, is one of the essential constituent parts of the elementary material which composes plant and animal life. It is a necessary ingredient in foods for animal and for plant life. Most plants absorb it through the soil and furnish it in food for animals. When living things die or secretions decompose, some of their nitrogen, largely in the form of ammonia, is reduced to nitrates by bacteria and is then food for plants. Hence we fertilize our soil with decomposed matter in order to enrich it with nitrogen which shall be absorbed by the seeds and roots.

One function of certain bacteria is to decompose substances which, if allowed to collect, would fill the whole earth with dead animals and plants. If it were not for these bacteria, dead animal and plant bodies would remain as fixed as rocks; dead trees, plants, animal and human bodies would cover everything. Nature has provided bacteria to decompose these bodies as soon as life ceases, resolving them into their original simple

chemical elements. This decomposition is prevented by man when he quiets the bacteria by preserving meats and vegetables. Ice also quiets the bacteria for they must have comparative warmth to become active and to grow.

There is plenty of nitrogen in the atmosphere for all animals and plants. The question is, how shall we get it? Man absorbs it in certain foods. Foods absorb it through fertilizers. The population of the earth is fast increasing; the supply of fertilizers is not increasing and is insufficient for the foodstuffs.

As the atmosphere is four-fifths nitrogen, it stands to reason for economy that we should get our nitrogen fertilizer direct from the air. It is an elusive element, but the scientists have caught or "fixed" it by a simple process, with the aid of nature. They encourage the plants themselves to do the work of gathering the bacteria, which in turn help the plant to gather nitrogen from the atmosphere, and store it for plant use.

Bacteria are much too small to be seen by the naked eye. A pin head will hold thousands of them. There is no way exactly to count them, and they multiply with marvelous rapidity. Each bacterium will divide itself and then divide again and again into myriads of new bacteria; this process is called "fission."

The certain plants upon which nitrogen-gathering bacteria thrive are legumes, comprising most of the pod-bearing plants. The method of securing the bacteria for farm and garden use has recently been perfected and is now within the reach of everyone—a wonderful piece of work when we consider that there are thousands of different kinds of bacteria in the soil, and unless we have the right kind for the crop we wish to plant, they will do no good. Each kind of legume has its own particular kind of bacteria.

The bacteria settle in groups on the rootlets of most pod-bearing plants, peas, beans, lentils, clover, etc. They can easily be seen by the naked eye when grouped in colonies in little knots or lumps called "nodules" which grow on the rootlets of the healthy plants. These bacteria are nitrogen-gathering and have a store of nutriment to feed to the plants. This being established as a fact, scientists had but to gather the bacteria and inoculate other plants with them, so that new nodules form on the plants, and the bacteria which increase so rapidly gather nitrogen for the new plant.

The next important question was to supply them to the farmers and gardeners. (Continued on page 373)



Root of a pea vine showing the nodules instrumental in extracting nitrogen from the air



At the left a vine grown from inoculated seed showing the comparison with the ordinary kind



The homestead of the Mead family near Greenwich, Connecticut, built in 1796. It is rare indeed in America to find a house of this age still occupied by the family of its original builders, and still rarer to find its rooms furnished as consistently as the following pictures indicate

A Home of the Eighteenth Century, Today

BY ALFRED MORTON GITHENS

Photographs by Chester M. Whitney and the author

IF one has an old house or a house built in the "Colonial" or "farmhouse" style, he is naturally interested in the contemporary way of furnishing. He eagerly visits a place whose fittings have retained their old character, for from them may come a criticism or suggestion he might apply to some room of his own, and by studying many examples he gradually builds up a sense of congruity between the style and its proper furnishings. Therefore, knowing a house a hundred-odd years old, built by former members of the family that now occupies it, we felt that its interest should be shared by those who care for such things.

It is a dignified house of the Georgian period with little or no ornamentation but with stately

character in the orderly arrangement of doors and windows, porch and roof-lines. It stands much as it did when first constructed, though the spruce trees planted to break the northwest wind are

grown, and the great box-bushes crowd the Greek columns of the porch; a house that suggests Christmas or Thanksgiving day reunions; the "old homestead" of the imagination.

Much of the furniture is associated with former family life. In the early days, they say, the Franklin stove in the dining-room was considered such a scientific heating apparatus that, neglecting the other fireplaces, the household drew its Windsor chairs to face the hotter blaze; then, turning, let the heat play between the slender spindles, on



"The spruce trees planted to break the northwest wind are grown, and the great box-bushes crowd the Greek columns of the porch"



The rosewood sofa and chairs of long ago are still grouped around the fireplace. It is interesting to notice the simplicity of the mantel and the modeled iron fire-back

chilly backs and shoulders. (Under one of the chairs is pasted a label dated 1796, describing how "all kinds of Windsor Chairs and Settles" were made in New York on "Catherine Street above the Tea-Water Pump.") Doors were tight shut against the cold

in the old manner beware of one thing: that they will exact extreme care in arranging his furniture, for each piece stands clearly forth and what was not noticeable with

of the hallway; a vista wide open from room to room would have been dearly paid for by logs and close attention. The open fire was naturally the center of interest—notice in the parlour how the rosewood chairs and sofa are grouped about it; the modeled iron fire-backs were in some cases the only architectural ornaments in a room.

However, in the back-parlour it is different, for this room is used in part as a library, and the windows and table become the more important features. The pedestal of this table is particularly interesting; unfortunately it is obscured in the photograph by the dark paper behind, a visible criticism of dark wall paper in an old house; for the wall papers here are not in character. One might safely guess that the walls were formerly tinted or in sanded plaster only, and the delicate mahogany carving showed in strong silhouette. Notice the modeled legs of the china-cupboard against the white paneled wood; the silhouette of all old furniture has evidently received great attention, and perhaps the light background explains the reason, for with our dark wall paper, silhouette is not of much importance. But let him who contemplates light walls



Originally the walls of the hall were probably finished in tinted or sanded plaster only. Papering was rarely found excepting in important formal rooms



A very curious piece is the tall china cupboard, holding the china and cut-glass of past generations

dark walls is a fault with light. Farmhouse walls were washed with something resembling kalsomine, and delicate shades of pink, blue and buff are common. The stair hall of a neighboring house is painted gray-white with an irregular gray stippling sug-

gesting marble; another has a coat of sanded plaster mixed with a yellow ochre, so the wall is a clear pale buff. Paper printed in colors was imported from England, but rarely used and then only in the most important rooms of the more formal houses. In general it copied the frescoes of the time—Watteau shepherds and shepherdesses, landscapes, or Japanese tea-gardens. Records tell of sending to England the exact dimensions of the rooms with doors and windows and the paper being printed to order.

Of course everything from England was highly prized and though after the War of the Revolution they strenuously denied it, still English buildings and English furniture retained complete influence over everything constructed by the new nation. Perhaps we are prone to give too much credit to the esthetic taste of the day; probably the excellence of the average work was purely due to tradition. They were accustomed to the regular arrangement of windows, to roofs sloping at just a certain angle, to the delicate plaster cornices and mantels of Adam and his contemporaries; it never occurred to them to design differently. Then too, each village carpenter had one of the various handbooks on building that gave the "five orders" complete in every detail, as well as chimney-pieces and stairways with working drawings of the newels and just how to sweep the handrail around in a curve mathematically correct.

I have before me now the "Palladio Londonensis, or London Art of Building," dated 1748 and written by a certain William Salmon for "the young Practitioners." The title-page describes how it contains "plain and easy Directions for the construction of the Five Orders of Architecture with their several Pedistals, Columns, and Entablatures; and a Parallel drawn between this and Mr. Gibbs's Method and that of the Builder's Repository... A large variety of Doors... the proportion of Windows... the proportion of rooms, ceiling-pieces, &c... the several kinds of Staircases, with the various forms of their twisted Rails..." and so forth.

If it ever occurred to a builder to range four or five windows close together, or build a corner fireplace, or to commit any of the modern house's frivolities, it was doubtless frowned upon as not according to the books and therefore ignorantly "Gothick," as they expressed it.

Among the gentry a knowledge of formal, classic architecture was an essential part of a man's education. Washington and Jefferson were skilled architects and each has half-a-dozen or more extremely admirable mansions to his credit. Rigid conventional-



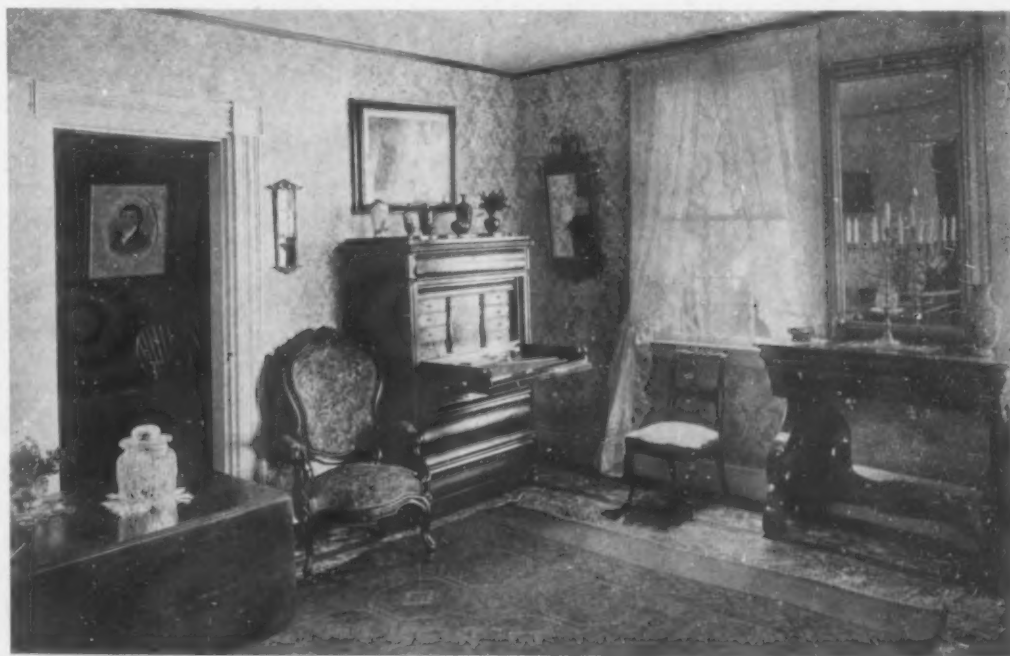
Spindle-back Windsor chairs, the Franklin stove and the clock that ticket the seconds of the past century



An inlaid Hepplewhite sideboard with its silver and glass of long ago

ism founded on English work of the eighteenth century produced the style called "Colonial"; probably the country builders then had as little architectural sense as they have to-day, only the buildings they saw were better and they were not further degraded by such books as are issued by unqualified "authorities." But "*revenons a nos moutons.*"

Most of the furniture here is well worth remark—the inlaid Hepplewhite sideboard with its old cut-glass and silver, the mirrored console of the parlour with seven-branched candle-
(Continued on page 386)



A front corner of the parlour, with the fine old secretary, the console table and the mirrors that were so freely and effectively used in the olden times



The dahlia reigns in the fall garden of the author, reinforced by cosmos, chrysanthemums, asters, salvia, marigolds, zinnias and calendulas

The Autumn Garden of Dahlias

A SUGGESTION IN GARDENING ECONOMICS FOR THE MAN WHO TAKES
HIS FAMILY TO SHORE OR MOUNTAINS FOR THE MIDSUMMER MONTHS

BY HOBART A. WALKER

Photographs by E. S. Butterfield, N. R. Graves, E. J. Hall and Chas. Jones

THE fall garden must, by reason of its gorgeous and voluptuous splendor, appeal to all who love and appreciate nature. Then are the richest color effects seen in flowers and foliage; then is the most wonderful passage in nature's glorious symphony approaching its grand finale. Like marvelous chords of close harmony the riotous coloring dazzles and thrills its observers, leaving with them beautiful memories of the past season as well as anticipations of another harvest of glorious bloom.

My reason for a special study of fall gardening must necessarily appeal to many others, busy men whose city or suburban homes are vacated by their families for a period of two or three months during the summer exodus to the mountains or seashore. Under these circumstances it is obviously futile to spend time and energy on flowers which are at their best in midsummer.

I have the very early spring flowers, narcissus,

crocuses, scilla, chionodoxa, etc., and later, peonies, roses, iris and lilies, but my greatest efforts are reserved for the fall garden, and the glory of the fall garden is the dahlia. This wonderful old-fashioned flower is so well known and loved that it needs no introduction from me. New varieties are being constantly introduced, and able professional gardeners are giving their entire time to its study and cultivation.

Two of the reasons for the popularity of the dahlia are its hardiness, and the fact that it does not need the constant attention required by roses and many other flowers. It is troubled very little by insects or parasites of any kind. My greatest trouble has been with grasshoppers which eat the blossoms, and they must be picked off and killed. The foliage is luxurious and of attractive shape so that the plants are an attraction in a garden before the arrival of the flowers. Of course the crowning splendor is in the blossoms.



Beauty of Kent. A modern show dahlia—two or more colors, striped with edges lighter than the ground color



The Cactus dahlia has long rays, not cupped, but sometimes with recurved margins. Vesuvius

soms, which for beauty and variety are unrivalled. Those amateurs, who have not yet become enchanted by the culture of this beautiful flower have much pleasure in store, and I hope that I may be able to give them, from an amateur's experience, a few practical ideas which may be of benefit.

Above all, in starting the dahlia garden, start right. Do not select your roots from catalogues, but if possible see the flowers first. This can easily be accomplished by visiting some such exhibition as the Dahlia Show, which is held every September at the American Institute in New York City. At this show, both amateurs and professionals exhibit a wonderful variety of blossoms, and orders may be placed for such as suit the fancy of the grower. I was fortunate in making my first selection in this way, and secured exactly the color effects I desired. These bulbs are delivered to the buyer in the early spring. At the risk of repeating information which is already known I will give briefly the program which I have carried out, and a description of some of the varieties of dahlias which I have grown satisfactorily.

There is nothing gained by starting dahlias too early. I do not plant mine until the middle of May, but about the first of May I dig trenches about a foot deep, and spread all my roots out in those trenches, sprinkling them lightly with soil. A week or ten days of this treatment causes them to swell and the sprouts to appear. In most cases one can then determine which are lifeless and to be discarded. When the eyes or shoots are easily distinguishable, the clumps can be divided into individual roots.

In planting allow at least a space of three feet between the plants—more if possible. The reasons for this are that dahlias

are insatiable feeders and need all the nourishment which they can derive from the soil, and their foliage is so dense and spreading that they require a great deal of space. If they are too closely planted the sunshine would be unable to filter through to the ground.

The only fertilizer which I have used is bonemeal, and it is most effective. One attractive quality which it possesses is that it does not breed weeds as

is the case very often with most barnyard or stable manure.

The holes for the roots are dug about twelve inches deep and a good trowelful of bonemeal put in. Then a couple of trowelfuls of earth, and the root laid carefully in with the sprout turned upward. After filling in the hole make a slight depression in the earth and put on top another trowelful of bonemeal. This will sufficiently enrich the earth when soaked in by rain.

The next step is to keep weeds away, which is not difficult, as the dahlias leave very little nourishment for other plants to feed on. After the plants have attained a fair growth several of the stalks may be cut out if desired. The advantage of this treatment is to secure a more dwarf growth with larger blossoms. My system is to do this with the foreground, and in the background let the plants attain a natural growth, which is often a height of seven or eight feet. They form thus a beautiful background to the garden. I use Wildfire, a most beautiful single red dahlia, and Clifford W. Bruton, a fine lemon yellow, for background effect, and have been able to cut great quantities of blossoms from them.

Unless the beginner is warned he will lose some of his best specimens by not supporting the plants properly with stakes. These stakes should be driven well into the ground and should be put in when the plants have attained a height of about three feet. Tie the plants to the stakes with heavy cord or wide

bands of cloth. You will have better flowers and a greater abundance if you clip off all the first buds, and remember that you can afford to be generous with your blossoms, for the plants may be shorn of every flower twice a week, and new ones appear as if by magic.

After the leaves are turned brown by frost let the plants stay in the ground for a week or so. Then remove the roots, shaking off the earth as much as possible, store them in boxes between layers of newspapers and put away in the cellar in a dry cool place. The stalks and leaves may be left on the ground as they provide a good mulch.

There is such an endless variety of fine dahlias that it is impossible to have one specimen



Mr. Walker's "golden walk" is bordered with dwarf marigolds, tall marigolds and calendulas



Another Cactus dahlia. Anyone prejudiced against the old-fashioned dahlia has but to see these forms to be won over



The Cactus Hybrid type is also called the Decorative dahlia. The growth has here been confined to one sturdy shoot



Merry Widow, a brilliant scarlet single, with the very desirable velvety texture of petals



Another of the Cactus Hybrid or Decorative type. Few cultivated plants have such a wide range of colors



Twentieth Century, a single white, having unusually broad petals

of each in a small garden. My policy has been to plant two good roots of each of the chosen varieties, so as to be fairly sure of success.

The white flowers which I have found satisfactory are the following: Yvonne Cayeux, a pure ivory white Cactus dahlia with narrow evenly curled petals; Gloria de Lyon, a white Show dahlia; Madam Heine Furtado, a beautifully formed flower, one of the best Show dahlias in existence; and Schwan, probably the most perfect white Cactus. This flower has long rigid stalks.

Some of the good red varieties are: Wildfire, one of the best Single dahlias known—the color is vivid, and it is a most prolific bloomer, forming a cloud of brilliant red blossoms in a few days after cutting; Alfred Vacey, a reddish amber tinged with pink; Ami Bethier, a light carmine Cactus; Columbia, a curious Cactus which is vermillion with petals tipped and striped with white; F. H. Chapman, orange red; William Agnew, a very beautiful and prolific red; G. W. Childs, a deep garnet with rich velvety appearance, with long twisted petals; Standard Bearer, a rich light carmine; Danish cross, a pretty and effective Single dahlia of light scarlet color striped with white.

The flowers of yellow tone which I found satisfactory are: Dainty, a lemon yellow Cactus shaded with rose pink; Clifford W. Bruton, a very beautiful lemon yellow; Goliath, a very satisfactory Cactus shaded yellow and pink; H. J. Jones, light yellow; Mrs. Hobart, pale orange and yellow beautifully blended; William Marshall,



A dahlia cut back ready for storing—showing the typical root formation



A new seedling dahlia, the Queen Queen. Can you get such a variety in form and color in any other fall flower?

orange and yellow; Gold Medal, a very handsome Fancy dahlia of lemon yellow striped with crimson.

A very fine Decorative dahlia is Eloise, of bluish pink shaded to deep red and magenta. A hybrid of this is Uncertainty, which well deserves its name. I have had one plant produce a pure white blossom, another rose pink and another a deep magenta.

Some of the most beautiful flowers for cutting are: Mrs. Roosevelt, a large blossom of pink and white; W. W. Rawson, of similar color; Madame Van den Dael, a delicate silvery pink fading to creamy white in the center; and Madame Jeanne Charmet, one of the best decorative dahlias produced. It is a soft light pink with large flowers borne on long graceful stems.

Probably the most showy flower is the Souvenir de Gustave Duzon, which often has blossoms from six to eight inches across, the color being similar to that of the Oriental poppy, a very deep red. The stems are long and very strong. A curiosity worth growing is Viridi Flora, a perfect green flower, and another is Belle of Springfield, the blossoms of which are little pompons of rose and red—one of the smallest known dahlias.

I have found that a good method of arranging cut dahlias where the blossoms are large is to put them in hyacinth glasses, one blossom in each glass, and arrange them in a circle in the center of the table. A more gorgeous centerpiece could not be imagined, provided that harmonious colors are selected.

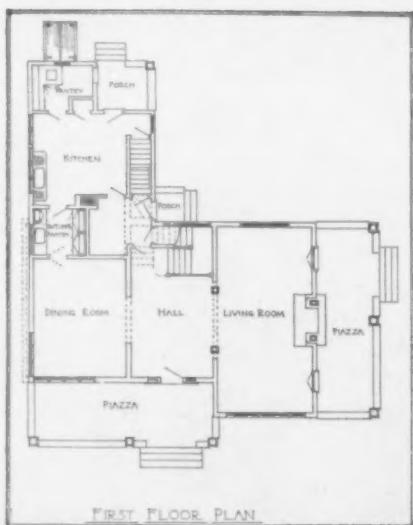
Finally, I can only say to those who
(Continued on page 386)



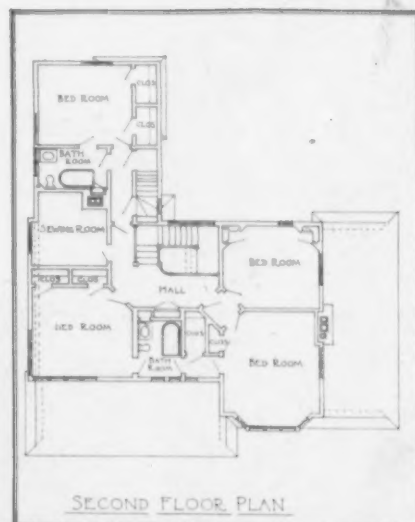
A feature that will strike the observer at once, in summer at least, is the exclusive use of casement windows. They seem to belong unmistakably with the half-timber type of house

THE HOME OF
MR. RICHARD I. NEITHERCUT
BRIDGEPORT
CONNECTICUT

Joseph W. Northrop, architect



As the first floor plan shows, there are two porches, almost of equal size. One is the usual entrance front porch, the other which is upon the side secures the greater privacy of the lawn and the garden



The second-story hall has been kept down to the minimum of area by skillful planning. The room at the rear of the ell, with its adjoining bath, is for servants, a stairway to the kitchen is close by



The tendency in the design of half-timber houses is to overdo the timbering, securing intricate patterns at the expense of repose—a fault that was carefully avoided

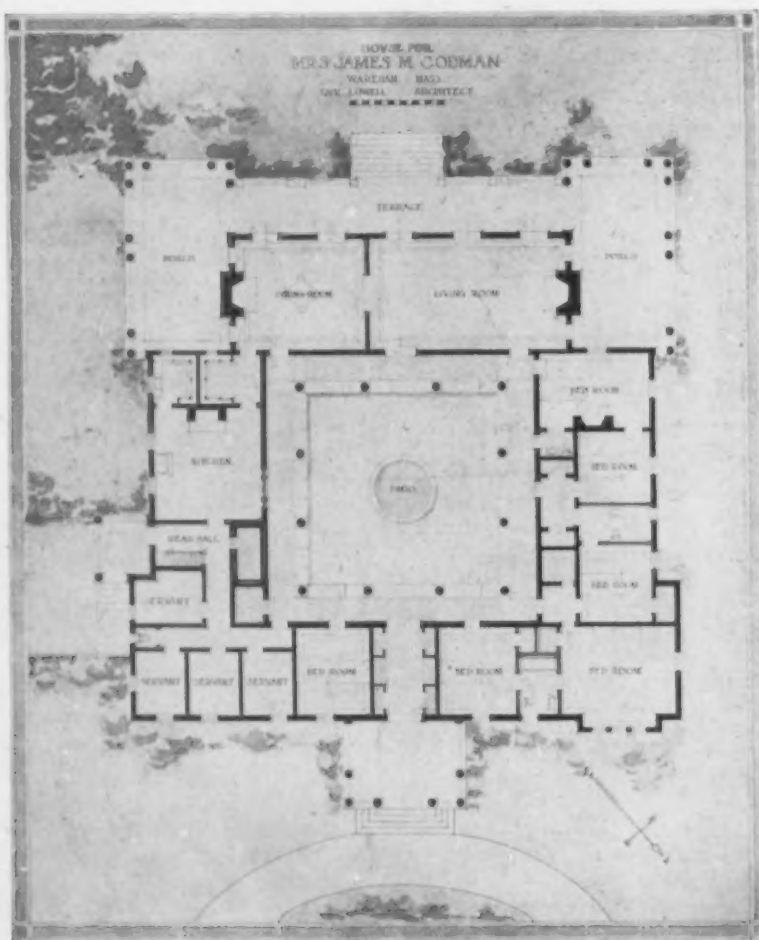




The large house that is built with but a single story is extremely rare. And the reason is not far to seek—cost. There is a great deal of satisfaction, however, in being able to do away with stairways, upper halls, etc., in favor of rooms that open directly upon the cool patio



Looking out from the main entrance hall towards the entrance porch. The white woodwork is particularly cool and inviting in contrast with the red brick paving



In addition to the entrance porch illustrated herewith, the plan shows two larger porches and a terrace at the far end, on one of which the dining-table is frequently set

THE PATIO HOME OF MRS. JAMES M. CODMAN, WAREHAM, MASS.—*Guy Lowell, architect*

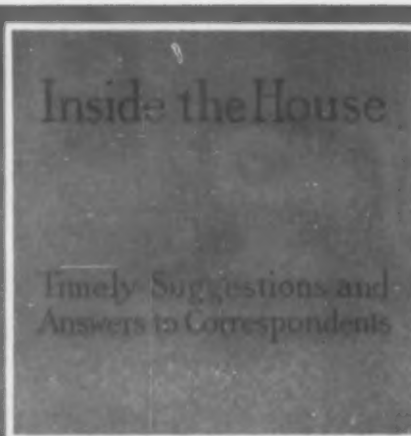


The broad overhang of the roof gives a deep shadow that is essential in a summer home not protected by large shade trees



But the real heart of the Codman home is the patio—at any hour of the day offering cool shade and the refreshing music of the fountain in the lily-pool

THE PATIO HOME OF MRS. JAMES M. CODMAN, WAREHAM, MASS.—*Guy Lowell, architect*



Inside the House

Timely Suggestions and
Answers to Correspondents

The Editor will gladly answer queries pertaining to individual problems of interior decoration and furnishing. When an immediate reply is desired, please enclose a self-addressed stamped envelope.

After-dinner Coffee and Smoking Cabinet

A COMPACTLY arranged piece of furniture that is particularly suitable for bachelor quarters or for the summer piazza is an after-dinner coffee and smoking cabinet made of English wicker in a rich shade of brown, with red leather trimmings.

A glass tray with light mahogany rim fits over the top and holds the smoking articles, all of which are of glass mounted in silver. In the upper compartment is the coffee set, of white porcelain with silver mountings, on a silver tray with a handle at either end. The cups, which are like small mugs in shape, have bands and handles of silver and are used without saucers, so that they are easier to handle and take up less room.

The lower compartment holds a mahogany humidor of generous size. The cabinet is fitted with doors, and when not in use looks like an ordinary wicker table with a tray and a smoking set on it. The door of the compartment that holds the coffee set is hinged at the bottom and is let down by means of brass chains, while the doors of the lower compartment which open outward, are fitted with a brass lock mounted on a broad red leather band.

A less elaborate cabinet is made in the same style, with only the smoking set and the upper compartment, that may be used for either the coffee set or for the humidor, if an entire smoking outfit is desired. This cabinet is the same size and height as the one shown in the illustration, the only difference being that the lower part is not enclosed, and there is no second compartment.

A New-Old Rug

THERE is a new rug shown this year, for use in summer cottages, bungalows, and on piazzas, which is really a very old-fashioned plan revived. It is the "rush rug." It is made on the plan of the old-fashioned round, braided, rag rug, and comes either oval or round, convenient in size for almost any space. The greenish-yellow rushes are braided into flat bands about three-and-a-half inches wide, and

these are strongly sewed together. The edge is finished with a pattern worked in the rushes by interweaving a narrow strip of dark colored woolen cloth—a strip such as is used in making a woven rag rug. This strengthens the border while serving as a decoration. The center of the rug is also interwoven with the wool strip, making a simple conventional pattern. For spaces in which a runner or oblong rug is not available, the circular or oval rush rug may be used with splendid effect. The wearing qualities—if one may judge from the rush-bottomed chairs of our great grandmothers—should be all that one might desire.

About Laying Linoleum

WHEN linoleum is first laid it should have a little careful attention, which will well repay the purchaser. Linoleum is not intended to "wear forever," as a brick or stone floor might, but it does wear wonderfully, and provides a sanitary, artistic and durable covering at a moderate cost. When one takes into

consideration the fact that it gets as hard wear as one's shoes, one is easily convinced that the best quality only will pay.

Linoleum should never be tacked to the floor; the cement which comes for the purpose of holding it in place keeps water from getting underneath, and increases its durability. A 12-inch layer of the cement around each edge of the linoleum, firmly pressed to the floor and weighted down, will make water-tight seams and edges. Rubber tips on the chair legs and the supports of other heavy furniture should be used until it is thoroughly set or seasoned.

Cork Mats

CORK mats, which come in small and in large sizes, from one-half to three-quarters of an inch in thickness, have more than one use which appeals to the householder. Besides the great convenience of the mat placed before the sink and the washtubs, cork has superseded the Turkish bath-rug in the bathroom; and in the tub, to keep one from slipping, the rug is most desirable. Underneath the baby bath in the nursery, where splashing is in order, the usefulness of the cork mat is apparent. A small cork mat is well provided for every woman who must kneel in scrubbing.

A Convenient Bungalow Porch

WITH the same careful planning that was evident in the kitchen and bathroom, the bungalow builders provided for their porch. It was one, by five, by nine ft., closed in, and was built on the north side of the bungalow, in order to avoid some of the discomforts and inconveniences that fall to the lot of a kitchen in the country, especially a kitchen that opens directly on the back stoop.

Half of the space is given to a closet for ice box and provisions; the door and partition separating this from the rest of the porch keep it so cool that for two seasons ice has not been needed until July. This food closet is used also for storing water from a neighboring well, and the twenty feet of shelving make possible the convenient disposal of quantities of provisions, and numerous articles, that must be kept handy and for which the kitchen is



A very attractive combination of smoking and after-dinner coffee cabinet that is a valuable addition to the porch furniture

too warm. This closet saves many journeys on the cellar stairs, accommodating practically everything in the way of food, except what is kept in the preserve closet in the cellar. A small window insures ventilation.

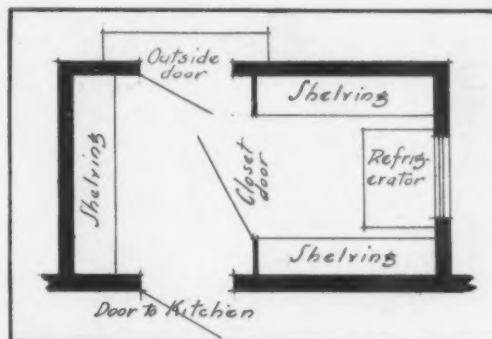
The special value of the other section of the porch is that it contains a shelf reserved especially for all incoming and outgoing packages. This arrangement does away with the "slavery" so often complained of by suburban housekeepers. There is no need to give up an outing because the "grocer hasn't come," for the outer porch door is left unlocked, the refrigerator closet and kitchen securely fastened, and the shelf does the rest. Nothing has ever been stolen, and the shelf is out of the reach of animals. Ice man, grocer, laundryman, baker—too often with muddy boots—never need cross the threshold of the kitchen door, which is no small help in keeping the kitchen clean. This section of the porch contains, also, over twenty feet of shelving, used for numberless odds and ends that are not wanted in the kitchen, where space is valuable. Many needful but unsightly articles, such as oil cans, kindling, garbage pails, etc., are practically as handy as they would be in the kitchen, but having a separate place for them makes it possible to have an attractive kitchen.

In freezing weather, when the porch is too cold for some sorts of provisions, both sections are useful as storage places for various articles, saving numerous trips to the cellar. The upper part of the outer door is of glass, a better plan than to have a regulation window in this part of the porch, which would have resulted in more expense, wasted space and exposure to cold. This outer door, in addition to the kitchen door, provides sufficient protec-

tion from the weather, so that a storm door is not needed.

Even the space under the back porch is not wasted. The grade leaves a vacancy two feet in depth. This, closed in, is used to keep firewood out of sight and protected from storms until it is sawed up.

A special step was built outside the door, eighteen inches in width by the full nine feet of the porch. The part not required as a step is put to excellent use as a shelf for outdoor utensils. To prevent neighbors' cats from sampling the milk, sometimes found on the tops of the bottles, a deep tin receptacle is used for both full and empty bottles; this has the further advantage of preventing breakage of bottles, sometimes caused by a high wind. A disused wash boiler is kept for soapy water from the laundry, which is put there to await the evening watering of tomatoes and cucumbers. In winter this receptacle is useful for sand to sprinkle on the icy



Careful planning has made this small porch a useful part of the bungalow

walks. The cover keeps the sand dry, when that in the neighborhood sand bank is frozen solid. A covered garbage can is



A useful garden basket which is fitted with a spool of wire and garden shears, and provided with a permanent support

kept purposely for empty tin cans and other unburnable rubbish, till a convenient time arrives to bury them, so that even the smallest detail is well provided for.

Garden Baskets

SOME of the new garden baskets for holding freshly cut flowers are not only fitted with scissors and a spool of wire thread, but have a tripod on which they are placed when not in use. They are substantially made of brown wicker and some are lined throughout with leather, while others have only a wide strip of the leather that extends from side to side directly under the handle.

In shape they are broad and shallow and the handles are straight across the top with rounded corners, making them particularly easy to carry. On one side is a pair of scissors in a little pocket made of the leather, and on the other is the spool holder with the spool of wire thread for tying up the flowers. The tripod which is also of wicker, matches the basket in color, and is an important item, as it raises the humble garden basket to the dignity of a piece of furniture instead of just an ordinary flat basket that is thrown on the floor when finished with, and that usually lives tucked away in the hall closet.

Care for the Range Connections

THE washers which are used in the connections between the range water-back, and also at the connections at the top and bottom of the hot water boiler, usually give out in a short time, this being caused by the heat they are subjected to from the hot water, and also from the evil effects of expansion and contraction. If they are soaked in linseed oil for an hour or two before they are placed in position the user will be astonished at their increased length of life.



The extension porch serves for several rooms. It keeps tradesmen from the kitchen and the refrigerator closet makes a good storage cellar



Conducted by
F. F. ROCKWELL

The Editor will be glad to answer subscriber's queries pertaining to individual problems connected with the garden and grounds. When a direct personal reply is desired please enclose a self-addressed stamped envelope

May

APPLE Blossoms and the Birds!

Why say more?—there's none so poor but shares the wealth of May when she comes scattering largesse over the re-vivified land. Then there is inspiration and new life for poet and peasant, beggar and king. Everyone knows it, but most feel it with a sigh and the painful thought, "It is not always May, and Spring is fleeting; tomorrow we—" To them the month is lost forever, for the message is misunderstood. The glad-hearted man greets May and keeps her with him throughout the circle of the year, husbands her charms and calls them to him from violet time until the fall cosmos blows or the white Christmas rose peeps through the snow. And for this magic he uses a spade!

In the Flower Garden

THIS, then, is the time to plant so that the summer and fall may be beautiful. Almost all the garden annuals and perennials may be sown, among them ageratum, alyssum, aster, balsam, calendula, corn-flower, cosmos, lobelia, marigold, mignonette, morning-glory, nasturtium, petunia, stock, verbena and zinnia. This year try a few lupines and salpiglossis; both are easily grown and very beautiful. The peculiar metallic tints and velvet texture of the salpiglossis in particular is matched by those of no other flower that I know. It should be much more widely known.

In planting flower seeds be sure to have the bed both very finely prepared and fresh. As most of the seed is very minute, it should be barely covered at all. A good way is to use a piece of flat board, several feet long, and make the drills—just a straight mark—along one edge: sow the seed, and press firmly in with the edge of the board. Then, very lightly, go over the beds crossways with the back of the rake, following with a good watering, applied with a fine nozzle, so as not to wash out any seed. As a rule, it will be more satisfactory to start all the flowers in some specially prepared place, and when large enough, transplant to their permanent places. This plan insures better plants

and obviates unsightly bare spots where seed came up poorly.

Among the flowers of which it will be better to buy plants, instead of seed, are early asters, begonias, tuberous begonias, cannas, coleus, geraniums, heliotrope, early lobelia, pansies (for spring bloom), salvias



Clarkia's pink or white blossoms should be better known. It is an old annual lately much improved.

and verbenas. Don't expect, because these plants look flourishing when you get them from the florists, that they will continue to grow luxuriantly no matter how poor or hard the soil in which you place them—enrich your flower beds! Give them some manure. Spade them up deep! If necessary, dig them out, and put in cinders, cobbles or some other rough material to furnish sufficient drainage. A dozen good

healthy plants will make a great deal more show than fifty struggling, scraggly ones.

Try mass effects! In one bed, or spot, put in plants all of one kind and color—just to compare its effectiveness with the old style of bed, made up in rows. Transplant now clumps of iris, phlox and other hardy perennials that are to be moved or divided, if this was not done last fall. Vines and shrubs should be moved or set out; in the former case especially, don't be afraid to prune back well.

Do not be content to read the suggestions over and think how delightful it would be if you had this or that effect on your own place. Select a few—two or three, or even one, if you cannot afford the time or the money for more—and adapt it to your own opportunities. You can afford a vine-wreathed shady porch, for bulbs of the madeira vine can be had at thirty-five to fifty cents a dozen, or a group of brilliant and beautiful gladioli—in mixed shades they cost from a dollar to three or five per hundred, or an edging of one of the new named, solid-colored nasturtiums, fronting a mass of asters, for both of which the seed would not cost over fifty or seventy-five cents; or a hedge of the symmetrical quick-growing Kochia (summer cypress or burning-bush) a packet of which costs ten cents.

It is not the cost, not the difficulty of finding out how to use inexpensive plants effectively that prevents the owner of the small place from having individual and attractive home surroundings. It is simply that he doesn't act. Why not, right now, make a little sketch of at least some spot of the grounds, plan out what to plant, order the necessary seeds or bulbs, and as a result of your quarter or half-hour's work, have something in which to find interest and pleasure all summer.

In the Vegetable Garden

IN the vegetable garden there is work aplenty. In the first place, there are a lot of second sowings, for succession crops—among them beans, beets, carrot, kohlrabi, lettuce, leek, peas, potatoes, radish, spinach and turnip. In this department for last month, detailed information

in regard to planting seeds of various sizes, in various ways was given, and unless this work has become perfectly familiar to the garden-maker, it will be well to refer again to those pages. The vegetables of which first plantings are now to be made, in many instances require different treatment. Cucumbers, muskmelons, watermelons, squashes and pumpkins are planted in hill usually specially prepared, when they are grown on a small scale. They like a light, warm "quick" soil, a rather sandy loam, with good natural drainage. They will do best on sod or rye turned under, the former in the fall, the latter a month previous, but this is, of course, not essential. After marking out the hills, six to ten feet apart, according to variety, dig out holes about eight inches deep and eighteen to twenty-four inches square, and in each put several forkfuls of well-rotted manure, unless a compost for the purpose has been prepared. Add to the manure for each hill half a pint of guano or phosphate, or, better, about a gill of cotton-seed meal, and work it thoroughly through the manure; then mix the whole with the best of the soil previously thrown out, leaving the hill level and not more than an inch or so above the soil's surface. The hills are now ready for the seeds, or plants on sod from the frames. If the former, cover about an inch deep, putting ten to twenty seeds of cucumber or muskmelon, or five to twelve of squash or pumpkin, in each hill. Press the soil down firmly. If setting out plants, water freely under the surface, if the soil is at all dry. Do not put out until all danger of late frosts is over. The easiest and surest way to keep off bugs is to cover the hills or plants with wooden boxes about eight inches high and covered with mosquito wire or protecting cloth.

Another class of plants to be set out the last part of May and first of June, is composed of tomatoes, peppers and egg-plants. Hills may be prepared for these in about the same way, except that they need not be so large, and for tomatoes should not be too rich, especially in nitrogen in lasting forms. A dressing of nitrate of soda, however, a few days after setting, will be beneficial to all. In well-enriched garden soil, no special preparation of the ground will be necessary.

For pole beans, which should not go in for ten to fifteen days after the dwarf sorts, hills may be prepared as for melons. A great improvement over the old-fashioned pole is had by nailing a few laths across a 2 x 4-in. piece of scantling about eight feet long. First plantings of early bush beans and early corn will also go in during the first part of this month.

Watch the Weeds

WHILE doing all this interesting planting, however, do not forget the weeds that are coming up by the hundred in the rows and beds planted last month. They are very small at first—so small that it does not seem possible they could ever seriously contemplate crowding

out the rightful occupants of the garden space. In the hot noon sun they seem to have disappeared altogether! But you go out early next morning, when the dew is still on, and there they are again, beginning to make the whole place look green. Then, no matter what there is that you want to do, go back to the tool-house and rig up the discs or hoes on the wheel hoe and go over each row as close as you can get without cutting out the little seedlings of onions, carrots or beets. That will make the patch look quite respectable again, but don't stop there. If you do, you're lost. Get your hand-weeder and go over every inch of soil between the plants in the rows. If there's no weed to be seen, no matter; break it up just the same, for there are dozens sprouting or waiting for warmer days—besides the benefit the plants get from this working around is incalculable.

The cabbage, lettuce and other early plants set out last month will also require cultivating, which can, however, be very expeditiously done with the hoe. Don't let the weeds get so large that you must waste time chopping and pulling them out. Hoe before it is too difficult. Work the ground rather deeply—three or four inches between these large plants, until the weather begins to get hot and their roots large, and then give frequent shallow cultivation. Keep a watch out also for the green cabbage-caterpillar, root-maggot and cut-worm. For the first of these pests, if the cabbages have not begun to head, use Paris green, or arsenate of lead, spray; if they are heading, hellebore. For the root-maggot, after he once starts, there is no sure cure, but strong caustic lime-water, or kerosene emulsion, poured about the roots, first removing an inch of soil, will help to check them, and all badly infested plants should be pulled and burned. The cut-worm is more easily reached. Almost invariably you can find him, if you look carefully, around the root of the plant he has chewed off. A quart or so of bran, wet to a mash, and sprinkled with a little Paris green, will prove a fatal bait.



The balsam apple, *mamordica balsamina*, a vine beautiful in its flowers, leaves and fruit, can be planted for immediate effect

Fruit and Berries

AMONG the fruit trees and berry bushes there will be spraying that should not be overlooked this month. It would be too easy to grow fruit if it were not for the spraying. The hardest work about spraying is just to get at it—it's new, unusual for many beginners, and so they seem afraid to try it.

Go over your grapes and rub off any undesired buds that may be starting. This is much quicker and better than waiting for them to grow, then cutting them off.



Try mass effects this year. In one spot put in many plants of one kind and color and by a process of selection make it a bed of finest specimens. Bellis or bachelor's-button is used in the foreground

Ingenious Devices

LABOR-**SAVING** SCHEMES AND SHORT CUTS IN THE HOUSE AND IN THE GARDEN

A Helpful Sideboard

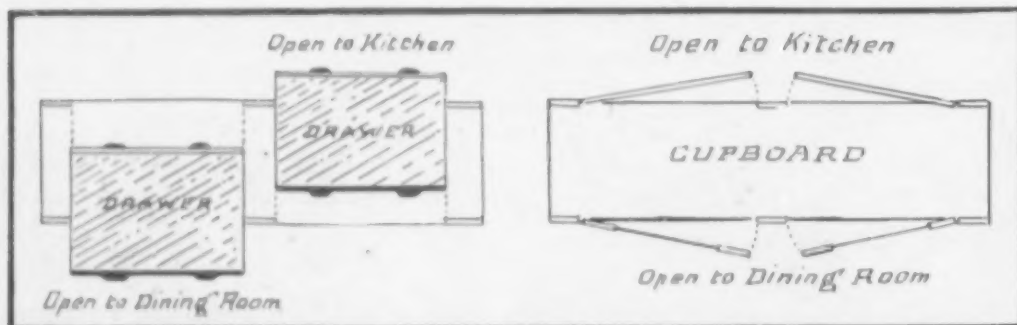
IN a house whose owner is a militant "practicalist," I saw several schemes for economizing the labor, time and patience of the housekeeper. The pantry sink, for instance, at which she expected to wash her choicest china and dearest heirlooms, was built to order at a definite height. She claimed a standard height sink was as ridiculous as a standard height in women, and had it constructed to save the cramped back and arms of one working in an unnatural position. Then, too, the sideboard was an assistance. It was built in and planned to back up upon the

been built between two adjacent houses. The unplanned timbers and sawed-out boards were given a creosote stain to harmonize with the exterior woodwork of the houses themselves. Upon the structure vines have already started to grow and, if not allowed to obliterate the architectural character of the screen, will add to its effectiveness. R. F.

To Prevent Sediment from Tanks

WHEN one has an attic tank and pipes from this to supply the house water, it frequently happens that if roof water is caught without careful filtering

extends straight up and takes in the water from within a few inches of the surface where it is free from sediment of any kind. As the water gets lower the float falls, the



This sideboard has an entrance on both the kitchen and dining-room. The plan shows how the drawers can be opened, or dishes put in the cupboard section, from either side

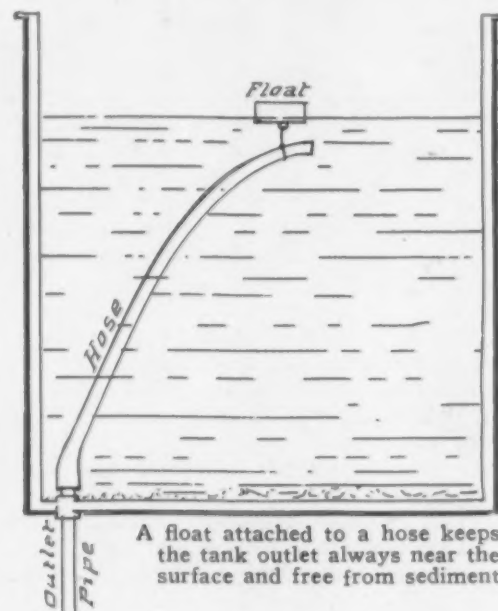
pantry, where it was finished as a cupboard. The drawers could be pulled out either from the dining room or pantry side—and the compartments above were fitted with doors working in a similar manner. On the dining room side they were finished to match the rest of the woodwork and the doors were glass; on the other side the finish was similar to that of the pantry. This idea saved carrying the silver and china first from one room to the other and then back again through the swinging door. After the washing the various articles were arranged in drawers or compartment as they were to remain. The drawers could then be opened on the dining room side at the next meal, and the dishes in the upper section could be reached by the glass doors. A. W. D.

A Backyard Screen

A COMMON difficulty, where the houses in a suburban community are grouped close together, is to secure at least a reasonable privacy for the backyard. Particularly true is this when there are no hedges or fences in the front—an arrangement that is supposed to bring spaciousness, but which actually fails in this and in securing privacy as well.

The accompanying photograph shows one solution of the problem in a suburb of Chicago. From simple seventeen-inch brick piers with cement tops, and rough hemlock plank and boards, a screen has

that sediment will come down the supply pipe at the bottom of the tank. The same trouble occurs with cisterns where the intake of the pump pipe is near the bottom. A contrivance to prevent this in the case of the attic tank consists of a piece of hose a few feet long attached to the outlet inside the tank, and with a float attached to the outer end. When the tank is full the hose



open end of the hose always remaining within a few inches of the surface. The tank may be cleaned out and flushed with no other outlet than the supply pipe which may be inserted in the bottom. When the piece of hose is removed drain the tank by having a two-way cock inserted on the lower floor. This arrangement will prevent the sediment in the hot water heater.

The same contrivance may be attached to the iron pump pipe in a cistern. With a larger float the results are the same.

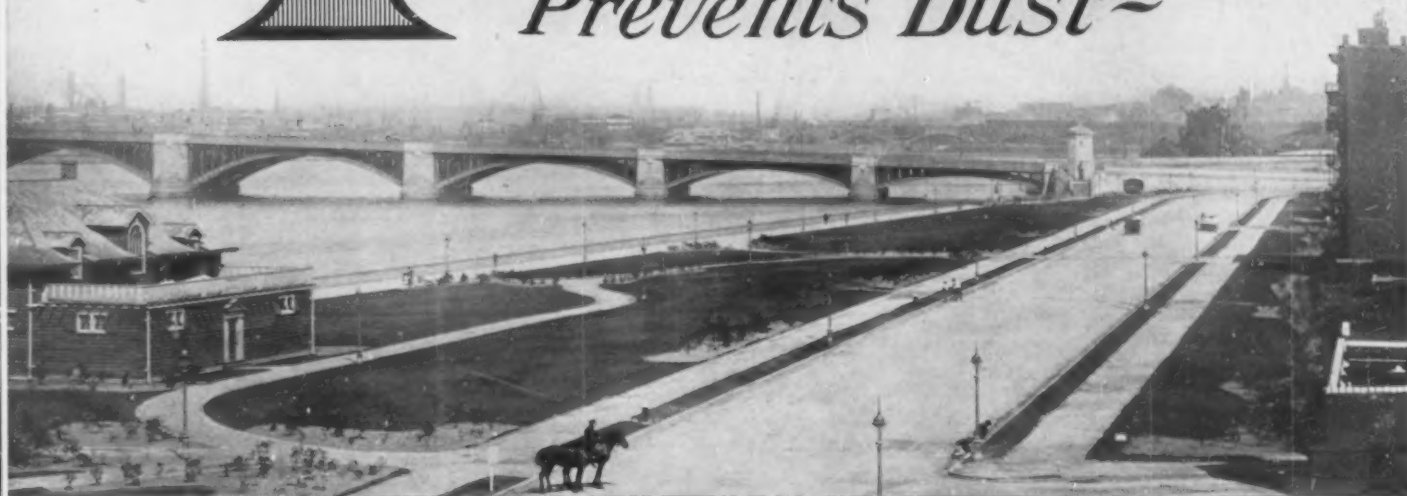
H. F. G.



A backyard screen that serves its intended purpose well and at the same time is an added attraction in the yard

Tarvia

*Preserves Roads
Prevents Dust~*



A road in the Metropolitan Park System, Boston, built with Tarvia X.

Send for New Booklet

We have recently issued a new and beautifully illustrated booklet, detailing the experience of many town authorities and road engineers with Tarvia.

It shows how in one case after another Tarvia was first tried on experimental strips, frequently in competition with other materials. Then after the experience of a year or so, all other dust layers and road binders were discarded and Tarvia was used more and more extensively.

Some engineers have adopted the broad policy of using Tarvia in all *new* macadam construction. Many road authorities go still further and aim to treat all the old macadam roadways with Tarvia to preserve them against the destructive effect of automobile traffic and prevent dust.

We want property owners to know that a dusty road is not merely a nuisance to them but is an endless burden upon them as taxpayers—because dust means that the macadam is pulverizing and the surface blowing away.

We want property owners to realize that the road authorities of their town can give them comparatively dustless macadam roads at little or no extra cost.

We want road engineers to realize that they can reduce their maintenance costs by bonding their roads with Tarvia, and that the saving in maintenance will generally pay for the Tarvia application.

We therefore urge everyone interested to send for our booklet to nearest office.

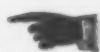
BARRETT MANUFACTURING COMPANY,

New York, Chicago, Philadelphia, Boston, Cleveland, Cincinnati, St. Louis,
Kansas City, Pittsburg, Minneapolis, New Orleans, Seattle, London, Eng.



Asbestos Shingles

Infringement Suit

 Injunction 

THE PRESIDENT OF THE UNITED STATES

TO

H. W. JOHNS-MANVILLE COMPANY, and its associates, directors, officers, servants, agents, workmen and employees, GREETING,

WHEREAS, it has been represented to us in our Circuit Court of the United States for the Southern District of New York, that Reissue Letters Patent of the United States No. 12,594, were issued to Ludwig Hatschek in due form of law on the 15th day of January, 1907, and that the Asbestos Shingle, Slate and Sheathing Company is the sole and exclusive owner of the rights to make, use and sell the inventions and improvements or discoveries of said Reissue Letters Patent No. 12,594, and that you, said H. W. Johns-Manville Company have infringed upon said Letters Patent, and upon claims 2, 3, 4, 5 and 7 thereof, which read as follows:

"2. The herein-described process of producing artificial stone plates, consisting of first mixing fibrous material and hydraulic cement in the presence of a great bulk of water, then forming therefrom a series of thin layers of the mixed cement and fibrous material superposed on each other until the required thickness is secured, then pressing the same and allowing the material to set or harden."

"3. The herein-described process of producing artificial stone plates, consisting of first mixing asbestos fibres and hydraulic cement in the presence of a great bulk of water, then forming therefrom a series of thin layers of the mixed cement and asbestos superposed on each other until the required thickness is secured, then pressing the same and allowing the material to set or harden, substantially as set forth."

"4. The herein-described process of producing artificial stone plates, consisting in mixing fibrous material and hydraulic cement in a bulk of water sufficient to render the cement colloidal, then forming therefrom a series of thin layers of the mixed cement and fibrous material superposed on each other until the required thickness is secured, then pressing the same and allowing the material to set or harden."

"5. The herein-described process of producing artificial plates, consisting of first mixing fibrous material and hydraulic cement in the presence of a great bulk of water, to render the cement colloidal, then forming therefrom a series of thin layers of the mixed cement and fibrous material superposed on each other until the required thickness is secured, then pressing the same and allowing the material to set or harden."

"7. A product of the invention herein-before set forth, being a composition containing hydraulic cement which has been rendered colloidal."

and upon the exclusive rights of the Asbestos Shingle, Slate and Sheathing Company thereunder.

NOW, THEREFORE, we do strictly command and enjoin you, the said H. W. JOHNS-MANVILLE COMPANY, your associates, directors, officers, servants, agents, workmen and employees, and each of them, from either directly or indirectly making or causing to be made, using or causing to be used, selling or causing to be sold, or disposing of in any way, or advertising for sale any Imitation Stone Plates, Slabs or Tiles containing or embodying the invention covered by said Reissue Letters Patent of the United States No. 12,594, issued to Ludwig Hatschek, and particularly specified in claims 2, 3, 4, 5 and 7 thereof.

WITNESS THE HONORABLE EDWARD D. WHITE, Chief Justice of the Supreme Court of the United States, at the City of New York, on the 18th day of February, 1911, and in the hundred and thirty-fifth year of the Independence of the United States.

JOHN A. SHIELDS,

Clerk of the Circuit Court.

Keasbey & Mattison Company, Factors
Ambler, Pennsylvania

Building Brick Houses of Character

(Continued from page 342)

tions of architectural propriety. Many of us are such creatures of habit, and so blindly convention-ridden in our circumscribed horizon, that we look askance at any departure from sober precedent as we know it, and are apt to feel that anything else than sad-colored exteriors would not be quite respectable. In other words, we are still laboring under the bondage of a kind of architectural Puritanism, at least so far as most of our houses are concerned. It is high time we had a rebellion against this dull, depressing sombreness, this false notion from a false period of Anglo-Saxon propriety in taste.

In the last few years there has been a notable change in the character of our public buildings, indicative of the change in our broadened moral, artistic and temperamental outlook, and it is eminently fitting that architecture should thus reflect and express the life of the people. This change should next make itself felt in our domestic architecture, and to this end we cannot do better than study Continental models. For country and suburban houses the Colonial style is too firmly entrenched ever to be supplanted, and it is not desirable that it should be, but there is room enough for all styles, and we might copy to advantage, in some of our city houses and country estates, some of the devices of wall ornamentation to be found abroad.

There is no reason why ornamentation should not be in perfect accord with robust and virile architectural expression. To be convinced of this, one need but look at some of the French renaissance farm buildings, which were quite as fully ornamented as the châteaux to which they belonged. The pictures showing a tower of the Château de St. Agil, and the hunting lodge at Moulemont give some idea of the richness of ornamentation to be gained by the colored diapering. Instances might be indefinitely multiplied, some of them of great interest.

Americans have always displayed a remarkable aptitude for appropriating what is good and adapting it to their needs. We may confidently expect a bright future for brick ornamentation in America, for, as the resources and possibilities of the older work are more fully realized, popular demand will ensure the perpetuation of forms of decoration of which we have been neglectful too long.

Some Edging Plants Worth Trying

(Continued from page 353)

of the easiest culture and if the flowers are picked as they fade so as to prevent the formation of seed the flowers will be finer and the succession of bloom more continuous and extended.

The violas or tufted pansies make admirable border or edging plants and when planted in a somewhat shaded position will give a continuous bloom for several months. The tufted pansies do not show

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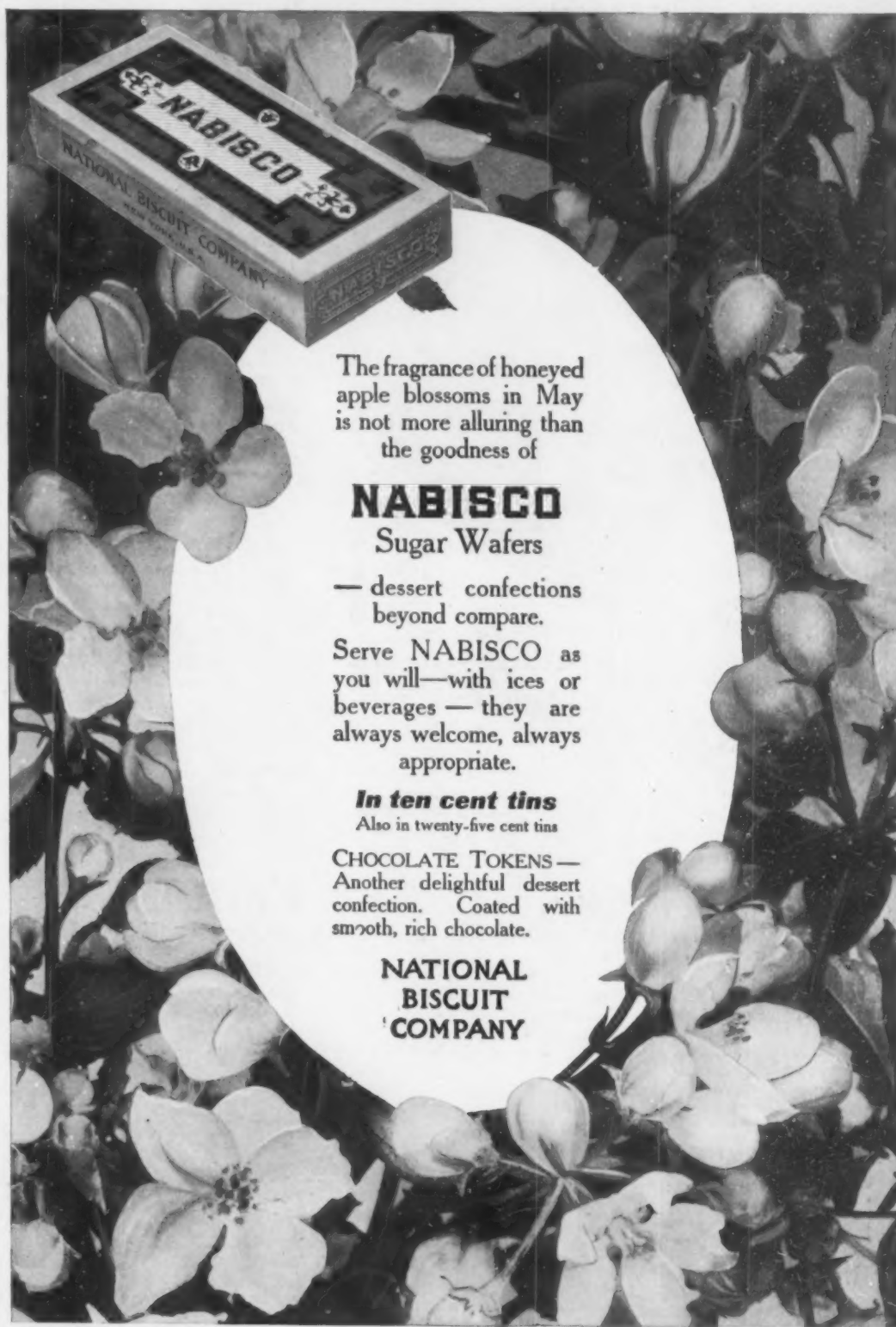
the great diversity of color and markings that we are familiar with in the larger pansies, but for work in solid colors they are excellent. Especially is this true of the golden *Lutea Splendens* and the *White Perfection*. Violas are easily grown from seed which should be started early in flats or coldframes and planted out before the weather becomes hot. Give plenty of water during the blooming season and treat in all general particulars, like pansies.

For a permanent edging one could not do better than to select one or more of the hardy garden pinks of which *Her Majesty* is the finest white; this variety, however, is a June bloomer, but *White Reserve*, an almost equally good form, is a perpetual bloomer. The old-fashioned June or Cinnamon pink will always be a welcome addition to the garden and is lovely when covered with its pale pink, delightfully scented flowers. All of this class of pinks are easily increased by division for wherever the branches touch the ground they form roots and can be removed and set out elsewhere; so that in a few seasons one can produce many feet of edging from a single original plant.

The polyanthus was always a great favorite in our grandmothers' gardens and is just as attractive today as then. The plants may be raised from seed or purchased from the florist. They require dividing each year, as soon as their period of bloom is past, so a few original plants will soon provide for a considerable extent. They are perfectly hardy, but the flowers will be much finer if some protection is afforded the plants during winter.

The *Phlox subulata* make a beautiful edging for beds of hardy perennials, especially when covered with its wealth of rose-colored or of white flowers in early spring. It needs some attention, however, as it spreads rapidly and the old growth is apt to die out and should be removed to prevent an unkempt appearance. For beds of Japanese or German Iris there is an attractive dwarf variety of iris—*Iris gracilipes*, which grows but eight to ten inches high and produces quantities of lavender flowers, while for the canna beds there is nothing more characteristic than the dwarf nasturtiums. The dwarf campanula (*C. carpatica*) is an excellent low-growing plant for edging beds of taller varieties, growing but eight inches high and producing quantities of blue or white flowers from June to October. The plants are hardy and easily grown.

Where the flower beds are inclosed with curbing the edging plants may take the form of erect growth, but where boards must be used to retain the beds it is desirable that they be covered by some form of recumbent plant like the *Phlox subulata*, hardy garden pinks and the like. Certain of the dusty millers are useful in this connection, as the recurved leaves droop and cover the sides of the beds. The plants are easily raised from cuttings, as it is only necessary to cut twigs of the plant into short lengths and stick them in



The fragrance of honeyed apple blossoms in May is not more alluring than the goodness of

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Another delightful dessert confection. Coated with smooth, rich chocolate.

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Which Do You Smoke?

I doubled my business in 1910. As I write this, 1911 is doubling 1910. Been doing this for quite a while now.

I've seen the rise and fall of a dozen brands while Makaroff has been growing up—and I expect to see dozens more rise and fall while Makaroff *keeps right on growing by holding old friends and making new ones all the time.*

What's the answer? Listen—the usual way of putting a new cigaret on the market is to put the same old cigaret into a new box, and *whoop 'er up!* A big selling organization and big advertising are brought to bear and

big sales are the result. The first few years of the usual "new" cigaret are its best years. Sales are big and profits are big only while the advertising is big. When the novelty of the new label wears off and the public is ready for a change, *the process is repeated*—and the patient public goes on *smoking advertising*—not cigarets.

For fifteen years the public has been *stampeded* from one cigaret to another in just this way, and about the only change it ever gets is from a red box to a blue one and back again—with perhaps an occasional dash of brown. In short, the average cigaret is not a *smoking* proposition, but a *selling* proposition.

The Makaroff business is different. I started the manufacture of

MAKAROFF RUSSIAN CIGARETS

because that was the only way I could be sure of *getting the kind* of cigarets I wanted. It has grown because there are a lot of other folks who *want that kind* of a cigaret. And the number grows just as fast as people find out *what kind* of a cigaret Makaroff is.

Just let this fact sink into your consciousness and stay there—*this business is and always will be operated to make a certain kind of cigarets*—not merely to do a certain amount of business. I always have believed that if we produced the quality, the public would produce the sales. And that faith has been justified. Makaroffs are really different from other cigarets—and the difference is all in your favor.

You will find that you can smoke as many Makaroffs as you want without any of the nervousness, depression or "craving" that follows the use of ordinary cigarets.

Makaroffs are absolutely pure, clean, sweet, mild *tobacco, untouched by anything whatever* to give them artificial flavor, sweetness, or to make them burn.

Pure tobacco won't hurt you. You may not be used to it, and you may not like the first Makaroff, but you'll like the second one better, and you'll stick to Makaroffs forever if you once give them a fair chance. We have built this business on quality in the goods and intelligence in the smoker—a combination that simply can't lose.

Makaroff No. 15 is 15 Cents—No. 25 is a Quarter

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Makaroff - Boston

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Mail address, 95 Milk Street—Boston, Mass.

the ground where they are wanted. In warm, moist weather they will root readily and grow freely from the start and the silvery foliage is very attractive and effective, especially when used in combination with dark-leaved foliage plants. The plants may be easily raised from seed sown in flats in the house or in the hotbed.

Beds of hardy anemones are improved by the native hepatica which does admirably under cultivation, as does the wild anemone (*A. Sylvestris*).

The *Arabis*, or rock cress, makes dense tufts of foliage covered with white flowers in early spring. The double form is the more attractive, and both it and the single are excellent for edging or for carpet bedding.

There is a pretty little saxifrage recently introduced—*Tunica saxifraga, flora rosea plena*—which should prove very desirable both as an edging plant or on the rockery. It makes a dense tuft of exceedingly bright green foliage and is literally covered during the entire summer with double bluish-pink flowers. If one does not care to go to the expense of purchasing a considerable number of plants of the florists, one may grow them from seed or one could indulge in a single plant and from that save seed for an extensive planting the following year.

One of the showiest annual flowers for edging is the candytuft, variety Empress, which gives immense spikes of pure white flowers and comes into bloom in a very short time from the sowing of the seed. Two or more sowings should be made for a continuance of bloom, the first in flats or the hotbed and the second in the open ground.

Then there is the Tiarella—a pretty little native plant about eight inches high with spirea-like spikes of white or of rose-colored flowers in May and June. It is a fact that we are constantly purchasing of the florist and nurserymen native plants which we could have for the digging if we only realized their worth when growing in their native haunts. Usually they appear as something novel and rare when appearing under their botanical names in the catalogues. I recall buying, and making much effort to succeed in making grow, a couple of clethras, and later in the season finding two immeasurably finer specimens which had come up, bird-sown I suppose, in a berry patch which had been in sod for some years. The plants were three or four feet high and in bloom when discovered. If one will let a bit of good land lie idle a few years he will, in time, find himself possessed of many native plants, some of which may not have been known in the vicinity before. My wild flower garden, the soil of which remains undisturbed from year to year, now possesses many plants that have moved in of their own accord, some of them very desirable, too.

The schizanthus make charming edging plants, being literally covered with their lovely, orchid-like flowers. They are annuals, and for early bloom the seed should

A Purple Martin House at Cost



This house is built especially for the colonization of that social, useful little bird-neighbor, the purple martin.

It is not a make-shift miniature, but is of three eight-room stories and attic.

The house is 28 inches high, substantially constructed throughout and always gets the martins. It may be purchased at cost by bird lovers anywhere for \$11.00 f. o. b. Chicago. Correspondence solicited.

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be started in flats in the house or hotbed in April, and planted out where they are to flower when the weather is warm. At the time of transplanting a second sowing of seed may be made in the open ground between the plants already set, as the schizanthus gives one remarkable burst of bloom and then dies or amounts to very little afterwards, but while this florescence does last the plants are a perfect pyramid of blossoms. As soon as the young plants are up the old ones may be pulled up to make room for them and they will soon come into bloom. A third sowing may be made as the second is coming into flower, which will carry the edging well through the summer.

Bacteria as the Gardeners' Allies

(Continued from page 354)

deners. Many experiments were made, by U. S. and foreign departments of agriculture, and by individual scientists and farmers. Healthy bacteria were collected from legumes by the United States Department of Agriculture, spread on cotton, and sent to all parts of the country for trial. Some of these trials were successful, although the bacteria were dried, for by good treatment they were brought back to life; others dried out entirely and died because they were separated from their natural element, moisture.

It remained for someone to find an artificial medium in which the bacteria would thrive and grow, and which could be kept for a long time. A New Zealand scientist, now of this country, finally discovered a process which enables nitrogen-gathering bacteria to be kept alive, healthy and active for years. A medium in which bacteria will thrive was found after much experimentation, in a jelly which can be sent by mail. This jelly, which is devoid of nitrogen, is enclosed in an ingenious bottle with a glass tube through the hard rubber cork; through this air reaches the bacteria after passing through separate filters of cotton. The bacteria gather nitrogen from this air, and are kept in a healthy state. The medium is prepared in liquid form and sterilized with its rubber cork and open tube, and when it sets into jelly, a needleful of bacteria from the mother culture which was secured from a healthy plant is inserted in the jelly.

The simple process of applying this fertilizer recommends it strongly to the small as well as to the large gardener. The culture is mixed with a little sugar and water in the bottle and the jelly is shaken until it mixes or dissolves. It is then applied to the seeds, inoculating each seed with the nitrogen-gathering bacteria.

The power of these bacteria is well proved by Government and by private experiments. Farmers and gardeners in all parts of the country are employing bacteria as seed fertilizer with marked success, and have found splendid results not only in the increased growth of legumes, but in the enrichment of the soil for other crops.

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Any houseowner who wants to do a little figuring should get from his local dealer prices on the following ingredients:



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4 gallons pure linseed oil	".....
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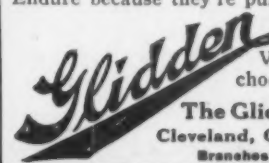
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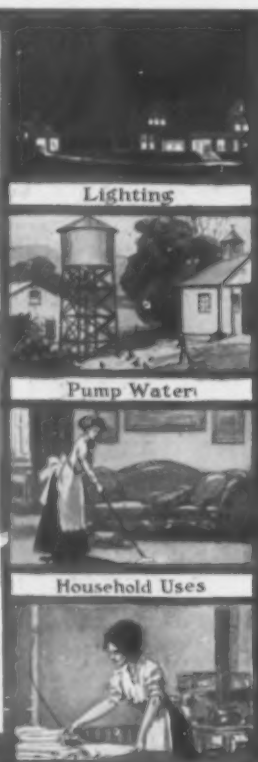
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peas or beans, or in getting luxuriant sweet peas with large blossoms? If so, it is probable that there is not sufficient nitrogen in the soil, and that it needs bacteria to fix the nitrogen in a form available for plant food. The United States Department of Agriculture says it is worse than useless to attempt to grow any leguminous crop without being certain of the presence of the bacteria which enable the plants to fix free nitrogen. This is the reason for the familiar rule against growing sweet peas for successive years in the same soil.

Most lawn seed is a mixture of various grasses and white clover. White clover is a legume, and the nodules forming on its roots will testify as to its nitrogen-gathering capacity. If the seed is inoculated with bacteria before planting, it will not only produce a good crop of clover in your lawn but will so enrich the soil that the grass seed will derive much benefit therefrom. Lawns on which the bacteria have been introduced assume a deep, healthy green color, and remain in green during the summer heat when other lawns are yellowed and dry.

The bacteria may be applied to the roots of plants already started as well as to seeds with marked success. The experiment is well worth trying in your garden, as it has been thoroughly proven a wonderful success by practical farmers, as well as by many scientists and gardeners.

The Month's Activities

(Continued from page 339)

sistance of the gardener, survived these attacks, in recent years numerous fungous and parasitical diseases have come to the aid of the insects.

One of the insect pests, cut-worms, was spoken of at length in the April article. There are a few others that attack several kinds of plants: the aphid, or plant-louse, potato-bug, flea-beetle, root-maggot, white fly and white grub. (Insects peculiar to special sorts of plants, such as the asparagus-beetle, and squash-bug, are mentioned later under the special cultural directions for each vegetable.)

The aphid, or soft-bodied, small green plant-louse, is not likely to get on healthy growing plants in the field, but often puts in an appearance in time of heat and drought, when the plants are checked. Kerosene emulsion or tobacco dust, especially prepared for this purpose, will usually succeed in driving them off and destroying the older insects. The striped potato-bug, or Colorado beetle, has quite a varied diet for a strict vegetarian. Its first choice seems to be the egg-plant, and many a well started crop of this delicious vegetable has been ruined in literally a few hours by its unchecked depredations. To protect potatoes, Paris Green is still used more than anything else; but arsenate of lead, alone or in combination with Bordeaux, is now largely replacing it, mainly for the reasons that it stays on a great deal longer and will not burn the foliage, as Paris Green is apt to do. Arsenate of lead should al-

ways be used to keep the beetles off young tomato and egg plants. Where there are but a few plants to be watched, nothing is better than the old-fashioned hand-picking, but it must be done thoroughly, and all eggs, which are usually bright yellow and laid on the under side of the leaves, taken off.

The flea-beetle is a small, hard-shelled jumping-jack which attacks turnips, young cabbage and cauliflower plants, potatoes, etc. Bordeaux mixture has some effect in stopping it, and kerosene emulsion is good. Plaster dusted on the leaves affords a mechanical protection. The root-maggot, attacking cabbage, cauliflower, onions and other crops, is a small white maggot which gets into the roots and seems to sap all the strength of the plant even before it has done much eating, causing the plants to wilt down in the heat of day. Rotation of crops and well limed soil are the best preventives. Strong lime-water poured into the soil about the roots of plants, first scraping away an inch or so of the surface soil, has often checked them, but not before considerable damage is done; top dressing of nitrate of soda or guano, with cultivation and hilling, will sometimes give the plants extra stimulation enough to withstand the attacks of the maggot. The white fly, although a bad pest under glass, seldom does much damage out-of-doors. On the first appearance spray thoroughly with kerosene emulsion, and then keep the plants well dusted with strong tobacco dust. The white grub or "muck-worm" sometimes chews off the roots of plants and occasionally injures grass plots and lawns. Dig them out and kill them, and replant or resod. Fall plowing and constant cropping, in the garden, will prevent their getting a start.

SPECIAL CULTURE DIRECTIONS FOR THE VARIOUS GARDEN CROPS.

For convenience, we may class the garden crops roughly into three sections:—the root crops, such as beets and carrots; the leaf crops, such as cabbage and lettuce; and the fruit crops, such as the melons and tomatoes. This classification is merely for convenience in giving cultural directions, so we need not heed the howl of the botanist at finding onions among the root crops, and cauliflower among the leaf crops.

The Root Crops: This group includes beet, carrot, kohlrabi, leek, onion, parsnip, potato, radish, salsify and turnip. All of these are what may be termed cool-weather plants. With the exception of the potato, they can be planted as early in spring as the ground can be got into good shape, and are sowed in drills, 12 to 18 inches apart, where they are to remain, and thinned out to the proper distance in the rows after they are well up. They like a very rich, deep, fine loam, and the soil can hardly be made too rich. With the exception of the onion-maggot and the potato-bug, they have hardly any enemies. All will be benefited by one or two top-



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dressings of nitrate of soda during the growing season.

Beet. The first crop is started under glass in February or March, transplanted to flats, like early cabbage, and set out about four inches apart in rows. Sow from April to last of June for succession crops.

Carrot. To do their best, carrots require a rather sandy soil which should not be made too rich in nitrogen from organic sources. In other ways the culture is much the same as for beets. Extra early carrots may be had by sowing and growing to maturity in coldframes.

Kohlrabi. This vegetable, which is not as well known as it should be, is a sort of overgrown turnip. It is of the easiest culture. They should be used when not more than two inches in diameter. When once tried, I believe this vegetable will largely replace the turnip, especially for home use.

Leek. Grown similarly to onions, except that the stalk should be blanched, either by hilling up or by the use of paper collars, held in place with drawn-up earth. For early crop start under glass and set out.

Onion. By far the finest onions may be had by starting the seed under glass, as early as February, if possible, and setting out later. Trim the plants back about half, once in the seed-bed and again if they are tall, at time of setting out, at which time the roots also should be trimmed back about one-half. For the crop raised from seed, make the ground as rich and as fine as possible, before sowing the seed, and then keep the bed clean. Watch for cutworms and kill these by hand or poisoned bait. Give two or three dressings of nitrate of soda, and frequent shallow cultivation during the summer. When the tops die down and wither, pull and store in a dry airy place in thin layers. Store before severe freezing, on slatted shelves or in ventilated barrels.

Parsnip. One of the easiest of all vegetables to grow, if care is taken to have the seed-bed fine and deeply prepared. Sow about one-half inch deep. Dig part of crop very late in fall for winter storing and let remainder stay in ground till spring.

Potato. For a few extra early ones, start in flats of sand, under glass, first cutting the tubers to one or two eyes each. Main crop, plant in drills twenty-eight to thirty-six inches apart, thirteen to fifteen inches apart in the drill and three to four inches deep. Keep thoroughly cultivated and hill up moderately when buds begin to show. Spray with arsenate of lead or Paris Green for bugs and flea-beetle, and Bordeaux mixture for early and late blight.

Radish. Sow every two weeks for succession crops; work a little land-plaster into the soil at time of planting.

Salsify. A very delicious vegetable which should be much more extensively grown. Give same treatment as parsnip, a deep sandy soil if possible.

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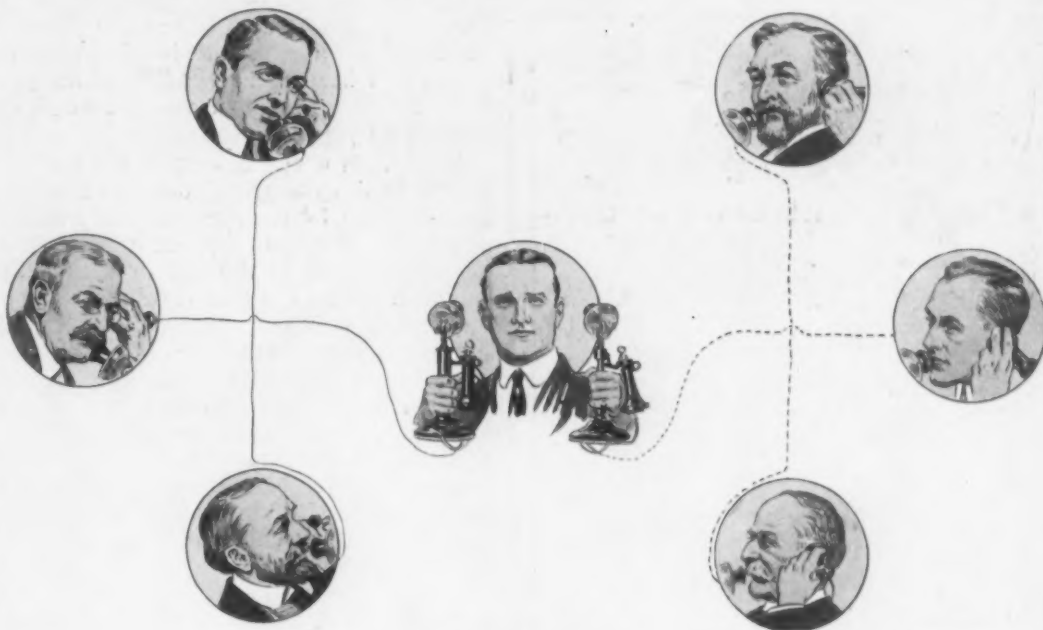
The Leaf Crops: These too are crops that do best in the cool weather of spring or fall. They also require soil that has been made thoroughly rich; especially must they have plenty of available nitrogen. Many of them will do well on soils a little heavier than those best suited to the root and fruit crops—a point to keep in mind when laying out your planting, if you have different sorts of soil. They are for the most part started under glass, for the early crops, and set out early in spring. Succession crops are sometimes sown where they are to mature, but better results can be had by starting plants in a seed-bed, thinning out properly and trimming back, and then setting out in their permanent place. What might be designated the stalk crops—asparagus, rhubarb and sea-kale—are set out in beds that last many years. They should be well enriched with old manure or fertilizer, not only early in the spring, but just after the cutting season, as the summer growth furnishes material to be stored away for early spring growth, in the succulent root-clumps.

Asparagus. Usually set out in beds, the rows being three or four feet apart, and the plants about a foot in the row. Trench out each row, unless the soil is already very rich, and put in six to twelve inches of rotted manure, cover this with soil to within three or four inches of the surface and then plant, putting the crowns level and the roots evenly spread out flat; cover in to within at least a couple of inches of the surface, and fill up level as growth starts. Usually two-year-old roots are used. Give clean cultivation and cut off and burn tops in the fall, giving a coat of rough manure. Spade in a good dressing of manure in early spring, and give a top-dressing of nitrate of soda. It is best to stop cutting in June and allow the tops to grow.

Brussels Sprouts. This is a sort of miniature multiple cabbage, easily grown. It is better in flavor than any cabbage and should have a place in every home garden. Frost only improves the hard little heads. Give the same culture as cabbage.

Cabbage. To do well cabbage demands a deep soil and heavy manuring. It is also advisable both to plant after some crop other than those of the cabbage or turnip group, and to give the ground a good dressing of lime, the fall previous, if possible. Wood ashes dusted on the young plants will be good for them and also keep off the cabbage-fly and caterpillar butterfly. Unless the ground is very rich, use guano or cotton-seed meal in the hills when setting, and at the first or second cultivating a dressing of nitrate of soda. Except on heavy land, hilling is of no benefit.

Cauliflower. Requires much the same treatment except that it must have more moisture, especially at the time of maturing. It is usually more certain, and better, for a full crop, for which it is started



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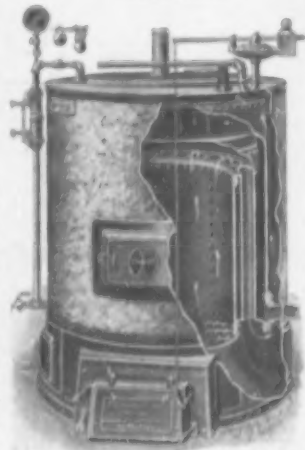
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the first part of May. Give extra manure or fertilizer just as the heads begin to show, and keep them shaded, either by tying the leaves together over the heads or putting on paper.

Celery. It would be easy to use a whole article in describing the details of celery growing, but I have space for only a few directions. In the first place, it must have moisture, either in the soil or artificially supplied. Start the seed carefully, as it is fine and of slow germination; firm it well into the soil and barely cover. For early, start in March under glass; for late, in April, either inside or out, but where it may be watered and if necessary shaded, until up. Transplant to flats. When setting out, shorten back the roots and set in firmly, just up to the crown. Give clean frequent shallow culture. Early in August bank up that to be used in September; and by August 15th hill up that for fall and winter use, and handle about September 1st to get it ready for winter storing. It is usually planted in rows two or three feet apart, and the plants about six inches in the row. On rich soil, where moisture can be supplied, it may be grown in solid beds, setting the plants eight to twelve inches apart each way, and thus letting it blanch itself.

Endive. Is grown much like lettuce, except that it is of much better quality in late fall, and needs tying up to blanch it.

Kale. Is another not frequently used vegetable. It is grown like cabbage and used for greens. Much improved by frost.

Lettuce. For first crop out-of-doors, sow under glass about February first; again March 1st, and outside April 1st. During late spring and summer, sow every two weeks for succession crops. If wanted for winter in coldframes or hotbeds, begin sowing about August 10th, using a variety suitable for forcing. Cultivate often, and use dressings of nitrate of soda to induce rapid growth, for upon this the quality depends.

Parsley. Soak the seed in warm water before planting, and sow a few radish with it to mark the rows. Will do well in partial shade. Take up a few plants and set in a box of good soil for winter use.

Rhubarb. Set out one or two roots—division of old clumps, every three or four feet in the row. Enrich liberally with old manure, as directed for asparagus. Top-dress every spring with old manure and nitrate of soda. Keep seed stalls cut out.

Sea kale. Is grown in permanent beds, like asparagus. Sow seed in drills fourteen inches apart and one inch deep. Transplant in following spring, as directed for asparagus, three feet each way. In late autumn, after the leaf stalks fall, cover each hill with a half-peck of sand and on top of this a foot or more of soil. The blanched stalks are cut in the spring, and then the earth and sand shovelled off and manure spaded in about the plants. This most delicious vegetable is not as widely grown as it deserves.

(Continued on page 380)



Make your windows attractive

The freshest, daintiest curtain stuffs will look cheap and inartistic if your window shades are cracked and wrinkled.

Brenlin, the new window shade material, always hangs straight and smooth.

BRENLIN Window Shades Won't Crack Won't Fade

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Climbing American Beauty

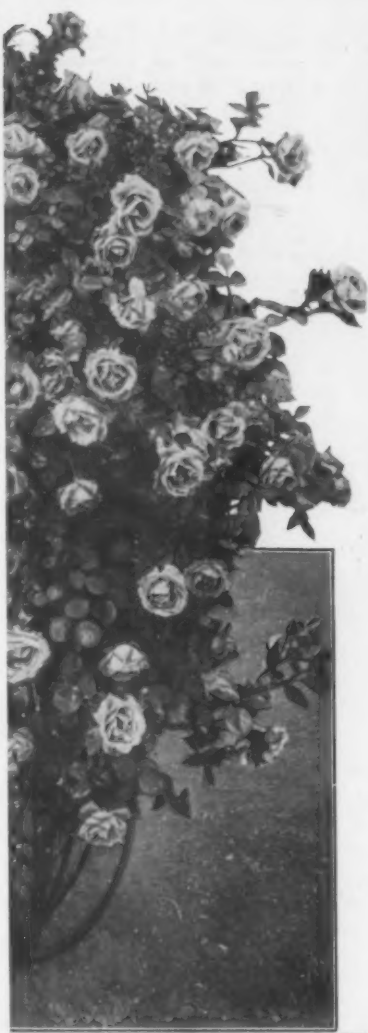
In Your Garden This Summer

OUR Climbing American Beauty Rose is a hardy plant that will thrive and bloom and grow out in the open. It comes out a mass of gorgeous, fragrant blossoms in June and continues blooming occasionally during the growing season. Each flower is a perfect American Beauty Rose, three to four inches in diameter and rich in perfume.

Our Climbing American Beauty Rose has large, bright, glossy, green leaves, that remain on the bush all summer, giving it a most pleasingly ornamental appearance. There is no other rose so perfectly suited to a place in the gardens of American rose lovers. If you would have one in your garden you should act quickly, as now is the time to set them out. We are carrying one-year-old Climbing American Beauty Roses in pots now so they can be planted outside as late as June. We will send you, postpaid, one of these plants, or as many more as you wish, ready for planting, at \$2.00 each.

ORDER NOW—Every time this summer you look at the spot in your garden where a climbing American Beauty should be, you will reproach yourself for negligence unless you act at once. Order now or you will be a whole year without this wonderful plant in your garden.

Hoopes, Bro. & Thomas Co., West Chester, Pa.



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Household
Refrigerating and Ice
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plant such as this means 10 to 15 lbs. of pure ice, for table use, fresh every day, in addition to direct refrigeration by means of the only sanitary and perfect system. Meats, fruits and vegetables in perfect condition always. Your refrigerator, however fine, if cooled with ice is damp and unsanitary and your food menaced by germs that thrive in damp. Any space in your kitchen or pantry is the space to set in a

greatest selling force is its many satisfied users—a list of whom will be sent upon request. Ask any of them if they would sell theirs for twice its cost. Every modern residence should be equipped with a

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APRIL and MAY PLANTING

The proper way to buy is to see the material growing. We shall gladly give our time and attention to all intending purchasers visiting our Nursery, and invite everybody interested in improving their grounds to visit us. Our Nursery consists of 250 acres of highly cultivated land, and is planted with a choice selection of Ornamental Nursery Products, placing us in a position to complete plantings and fill orders of any size.

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FLOWERING SHRUBS IN A LARGE VARIETY. We make a specialty of them, and can do planting or fill orders of any size.

ORNAMENTAL SHADE, WEEPING AND STANDARD TREES. 200,000 of these, in all kinds, can be seen in our Nursery. We grow them for every place and purpose.

MAP TREES. Our display of these fascinating Trees is larger this season than ever. We are growing many hundreds of perfect specimens.

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LAWN GRASS SEED. Our Rutherford Park Lawn Mixture has given satisfaction everywhere.

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TUBS. We manufacture all shapes and sizes. Ask for special list.

Our new Illustrated General Catalogue No. 40 will tell you about the above and all our other products for Lawns and Gardens.

WE CAN MAKE OLD GARDENS NEW AND NEW GARDENS OLD WITH OUR WORLD'S CHOICEST NURSERY PRODUCTS.

WE PLAN AND PLANT GROUNDS AND GARDENS EVERYWHERE. VISITORS, take Erie R. R. to Carlton Hill, second stop on Main Line; 3 minutes' walk to Nursery.

BOBBINK & ATKINS, Nurserymen, Florists and Planters, Rutherford, N. J.



Garden Furniture

One of our many new designs for the coming season which can be made up in any desired color : : : : :

Catalogue sent on request

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"Farr's Hardy Plants"—A book that tells about the wonderful Irises, Pansies, Peonies and Anemones that have made W. Farr's famous, besides numerous other garden treasures. More than a mere catalogue—Free. **Bertrand H. Farr, Winding Nurseries, 643 F. Penn St., Reading, Pa.**

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is all you could desire if you use

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For Lighting, Cooking, Water Heating, Laundry, Etc.

"It makes the house a home" Send stamp today for "Economy Way"

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Tuthill Cut Glass

Full cut from blown blanks. Never duplicated in pressed-cut glass.



Write for the Connoisseur Book
TUTHILL CUT GLASS CO.
Middletown, N. Y.

(Continued from page 378)

Spinach. Is rapidly grown, either by sowing (the hardy varieties) in September and wintering over, or sowing for succession crops early in the spring and on through summer. Swiss Chard is, in my opinion, the most satisfactory spinach for the home garden. It is grown like beets, of which it is a variety. It yields early and provides continuous cuttings all through the season, of very tender, light green leaves, the mid-ribs of which are frequently used like asparagus. Do not fail to try it this year.

The Fruit Crops. With the exception of peas, and early beans, these require hot weather. They like a warm, light, quick soil. Nothing is gained, and everything may be lost, by trying to rush the season and put them in before the ground is thoroughly warmed up and all danger of frost is over. The soil should not be made too rich, especially in long-lasting forms of nitrogen, which will cause delay in the maturing of fruit. An application of nitrate of soda, during the early stages of growth, will give a good quick start and enable them the sooner to begin their work of setting and ripening fruit. Many of the plants in this class need special preparation of the hills in which they are to be planted or set. Such hills are made by digging out the soil to a depth of six or more inches and eighteen to twenty-four inches square, and filling in with the compost or thoroughly rotted manure, to which it is well to add half a pint of cotton-seed meal, and a few handfuls of wood ashes. Incorporate the compost thoroughly with the soil and fill in with good earth to about two inches above the general level.

Bean, dwarf. The dwarf varieties are sown in single or double drills, and like a light, or even gravelly soil, which should not be made more than moderately rich. A slight hilling will help to hold the stalks erect. Never pick, or work among them when the foliage is wet. For blight, spray with bordeaux.

Bean, pole. These should not be planted until ten to fifteen days after the first early sorts. It will pay to prepare the hills as described above, being sure, however, to use only old rotted manure. Plant a dozen or more seeds to a hill, and when well up thin out to two or three.

Bean, limas. These are the tenderest, and also the best of the beans. Wonderful improvement has been made in the bush limas within the last few years. Plant when there is not likely to be a rain within forty-eight hours, edgeways and eye down, covering with light sandy soil.

Corn. For a few dozen extra ears, to surprise your friends, start on inverted sod, cut six or eight inches square, in frames, and set out after danger of frost. Corn is often grown too thick. If you must plant in hills, do not leave over three or four at the most. An easier and better way is to plant in drills, thinning out to a foot or eighteen inches according to va-

(Continued on page 382)

Make Lawn Mowing A Pleasure

You can keep your lawn neat, with a velvety appearance without continual raking—catch every blade of grass while mowing, if you use an

"Easy Emptying" Catcher

It can be put on and off in a second.

So light that it never drags on the mower—so durable that it will last for many years.

Can be adjusted to fit any size mower perfectly.

Send for booklet—"Useful Things for the Lawn." It illustrates and describes a number of mighty valuable articles, especially the "Detachable" Hose Reel which revolves on the faucet.

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GUARANTEED ROSES

Guaranteed to live, grow and bloom. Backed by 50 years of priceless experience and success. Write for 1911 Floral Guide—authority on the right varieties for every place and purpose. FREE to you. Get it now. Be ready for Spring. **THE CONARD & JONES CO., Box 126 WEST GROVE, PA.**



"You choose the colors, we'll make the rug."

THREAD and THRUM RUGS are now made seamless in any width up to **16 FEET**

and any length; in any color or color combination. 65 regular shades—any other shading made to match. Send for color card.

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THE modesty of every gentle woman is offended before others by the gurgling and noisy flushing of an old style closet. No room in the house seems free from these embarrassing sounds.

You can rid your home of this annoyance by telling your plumber to put in a

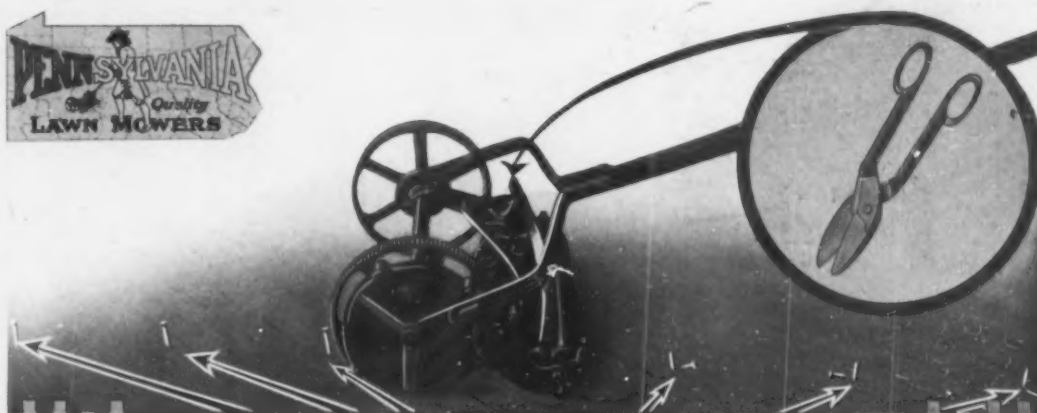
"SIWELCLO" Noiseless Siphon Jet CLOSET

The siphoning is done so noiselessly, quickly and thoroughly that, even with the lid raised, the flushing will not be heard outside of its immediate environment.

The durability and perfect action of the "Siwelclo" is assured because each fixture is stamped with "the star within the circle" trade mark.

Booklet 981 T giving full information gladly sent to you on request.

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TRENTON POTTERIES CO.
Trenton, N. J., U. S. A.



The Lawn Mower That Actually Cuts Nails



SENT FREE

A prominent authority has written especially for us a valuable booklet, "The Lawn—Its Making and Care," which is most helpful to all interested in lawns. We will gladly mail a copy on request.

A row of nails was driven in the floor and run over by a "Pennsylvania" Quality Lawn Mower. Each nail was clipped in two as easily and cleanly as if done with tinsmith shears.

The "Pennsylvania" is the only mower that can do this without injury to its cutting knives, because it is the only mower in which all the blades are of crucible tool steel, hardened and tempered in oil—the same kind of steel that is used for tools requiring the keenest cutting edges.

This is the reason why

"PENNSYLVANIA" QUALITY Lawn Mowers

are positively self-sharpening; why the blades are always in first-class cutting condition.

35 years experience in building *quality* Lawn Mowers is back of all "Pennsylvanias." This means in the finished product, a mower that is self-sharpening, light-running and will wear for many years without repairs or re-grinding.

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Dexter Brothers' English Shingle Stains

do more than beautify—they protect, adding years to the life of the wood. And the colors will not fade. The secret lies in the use of the best English ground colors mixed in linseed and our own Dexter preservative oils.

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A Composition for the Sanitary Treatment of Concrete or Cement Floors, Walls and Ceilings

The charm of an out-of-door breakfast room appeals to every one.

The pergola, patio and inner court yard have become important features of the American country or suburban home. To find a finish for concrete or cement walls and floors has interested architects and clients.

KONKRETO made by Murphy Varnish Company, fulfills the requirements. It prevents dampness and gives a smooth and dust-proof surface preserving the cement. It may be procured in the natural gray tone or the dull red as desired.

Suggestions are sent for the treatment of out-of-door rooms as well as for the finish and decoration of the entire house.

The Penetrating Oil Stains made by Murphy Varnish Company for interior wood trim show beautiful natural tones and are lasting and easy to apply.

WRITE today for sample panels, mentioning the wood to be used in the building, and send your blue prints or a rough draft of them to Murphy Varnish Company's Department of Decoration. You will receive a complete color scheme for your house, and careful and expert advice regarding its interior finish and decoration.

This Department is under the direction of Margaret Greenleaf, whose reputation as Consulting Decorator is national. This assures you artistic as well as practical help.

The compliment of this service is extended by Murphy Varnish Company to their patrons and is without charge.

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ELIZABETH VIOLETS

Large, Fragrant, Developed to perfection by my process. Plants now ready. Violets should be planted now.

Large mature plants 25 cents; two for 45 cents.

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We will make working drawings for your fireplaces for \$5. per fireplace, with our written guarantee to the amount of \$100. each fireplace, that if built in accordance with our drawings the fireplaces **WILL NOT SMOKE**. Send a set of your plans to

THE H. W. COVERT COMPANY

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Opal-Glass-Lined \$31⁷⁵ Oak Refrigerator

Freight Prepaid from Factory

You get this highest grade Solid Oak, Wickes' New Constructed Refrigerator, lined with Opal Glass, "better than marble," for only \$31.75—freight prepaid from factory.

You buy the Wickes Refrigerator direct from the factory, at actual factory prices. You save all the dealers', jobbers' and department store profits. You get the Wickes at the price asked everywhere for ordinary "enameled" refrigerators, for which you have to pay the freight in addition.

Ice Capacity
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The Wickes New Constructed No. 230

is made of solid oak, to last a lifetime—perfectly joined and beautifully finished. The food compartment and door are lined throughout with OPAL GLASS, 7-16 inch thick. Our exclusive construction gives you double refrigeration from every pound of ice. Opal glass makes the WICKES absolutely sanitary.

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It shows you the famous Wickes Refrigerators of all sizes—inside and out. Guaranteed and sold by

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(Established Over 60 Years)

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We prepay the freight from factory to every point East of the Rockies. West of the Rockies only the freight from Denver is added.

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Measurements:
Height 45 in. Width 36 in. Depth 21 in.

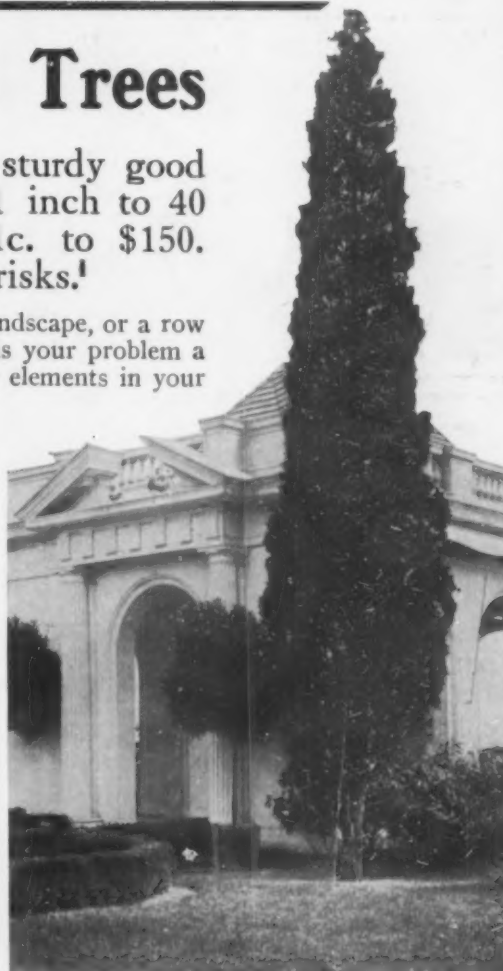
Hicks' Unusual Trees

Unusual in size and their sturdy good health. They range from 1 inch to 40 feet in height; cost from 1c. to \$150. They thrive. You take no risks!

Do you need a single sentinel in your landscape, or a row of them through your formal garden, or is your problem a more prosaic one of screening undesirable elements in your landscape? We have large Red Cedars up to 30 feet high growing in our nursery which can be shipped at any time during May.

At the base of the Cedars, covering their bare stems, groups of Rhododendrons will find a most happy home. These also may be planted in May. You can come here and select these plants now while the spirit of planting possesses you. You can group and arrange the materials on the ground, shifting the balls of earth like chessmen, and then planting them when the combination pleases you. If more are needed, you can order them shipped even after all the deciduous trees are in full leaf, for we ship these with large balls of earth and they suffer no check if you will water them carefully once in two weeks during the summer, and keep the ground mulched with leaves or stable litter.

If you haven't our price list, it will certainly pay you to get it. It offers every size of tree from 1 inch at 1c. to 40 feet at \$150. It is interspersed with pithy paragraphs showing how our stock will solve your problems, and has illustrations showing exactly the stock we offer. You can order with knowledge and confidence.



Isaac Hicks & Son,

**Westbury,
Long Island**

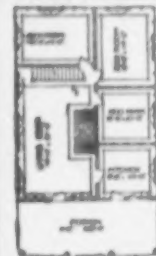
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Send 6 cents for a copy of "24 Craftsman Houses" showing exterior and floor plans of 24 houses that cost from \$200 up to \$1000. To interest you in our magazine, "THE CRAFTSMAN" and its Craft articles, we will also send you a beautifully printed 32 page booklet entitled "The Craftsman House."



If you are interested at all, both of these books will be very useful to you. "The Craftsman House" shows you how to save money on useless partitions—how to avoid over-decoration, how to get wide sweeps of space (even in a small house), restful tones that match and blend—and enables anyone to always have a beautiful and artistic home.

"The Craftsman Magazine" treats on building, furnishing and beautifying homes—on art-embroidery—cabinet work—and kindred topics.

"Craftsman Homes," by Gustav Stickley, 205 pages, beautifully bound and printed, treats on home building, home making, home furnishings in full.

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Your own selection of 110 House Plans \$3.75
Edgar E. Phillips, Manager The Craftsman, Room 210 41W. 34th St., N.Y.

Grow Your Own Fruit

(Continued from page 352)

free of undesired sprouts as directed under pruning. Secondly, spray with Bordeaux mixture before every rain, if possible, from the time the vine leaves come out until about the middle of July. After that use ammoniacal copper carbonate. Take special pains to cover every part of the new growth upon which the fruit is borne.

Where only a few vines are grown, the bunches are often protected by covering with manila bags, put on when the grapes are well formed on the bunches. The top of the bag is slit down three or four inches on sides and ends—four cuts—at the top, slipped over the bunch, and the flaps formed by the cuts folded over the canes and pruned below the canes.

For early black sorts, Campbell's Early, Moore's Early and Worden. Concord is an old fine dependable sort. Wilder and



In pot layering the runners are rooted in pots; cut from the parent stock they are easy to transplant

Eaton are also good. Of the reds (early) Brighton; (medium) Catawba and Salem; and (late) Delaware and Ionia are fine proved sorts. The best of the early whites are More's Diamond and Green Mountain (Winchell). Niagara and Empire State are good late whites. Four or five well-tended vines will yield many baskets of more delicious grapes than you can buy. It is well worth while to grow them.

The Chrysanthemum Outdoors

(Continued from page 346)

Practically all the hardy border plants are better for some protection in winter in the northern States. Leaves or straw litter, concealed and held in place by boughs of pine or spruce, should be put on as soon as the ground freezes—not before, on account of danger from mice. This should be removed in early spring. In the chrysanthemum bed the tall-flowering stalks should of course be cut off before the protecting covering is added.

After the bed has become established a light top-dressing of manure early each spring will help to keep the plants vigorous. There is often a tendency to send up too many shoots for the best results in flowers, so it is worth while to pinch out late in spring a part of the weaker ones, especially in the more crowded parts of the bed.

CLARENCE M. WEED

SAVE MONEY

An Underfeed Heater Will Reduce Your Coal Bills From 1/2 to 2/3

If you are among the thousands who have been paying big money for unsatisfactory heat, why not take out that old heating plant at once and reduce your future coal bills from one-half to two thirds, by installing one of

THE PECK-WILLIAMSON UNDERFEED HEATING SYSTEMS

Warm Air Furnaces—Hot Water or Steam Boilers

The UNDERFEED burns cheapest slack or pea and buckwheat sizes of hard or soft coal. All fire on top, smoke is consumed. This coal-burning way endorsed as best for health.

H. J. Heinzen, 301 Hazel Ave., Canton, Ohio, has had an Underfeed five years. He says: "We have June weather the year round. My coal bill to heat eight rooms has never been more than \$14 for the year."

Underfeed Furnace Booklet, with fac-simile testimonials or Special Catalog of Steam and Water Boilers—both FREE. Heating plans of our Engineering Corps are FREE. Fill in and return coupon below today.

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I would like to know more about how to cut down the cost of my coal bills from 50% to 66%. Send me—FREE

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Boiler Booklet

Name _____
Address _____
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INTERIOR DECORATION

of all descriptions planned and executed. Single rooms or whole houses furnished, and wall coverings, hangings, rugs, furniture, etc., selected to suit any scheme.

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Lamp and candle shades. Stenciling.

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And also Southampton, L. I., after July 1st

Better Lawns, Flowers and Vegetables with Wizard Brand Pulverized Sheep Manure

Wonderful results quickly. No weeds or foreign grasses. Economical and convenient to use. Unequalled for lawns, flowers, trees, shrubs, fruit, meadows and grain fields.

\$4.00 per bbl. freight prepaid east of Missouri River. Cash with order. Ask for quantity prices. Write for copy of booklet "Lawn and Garden." Gives valuable pointers.

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MURRAY & LANMAN'S Florida Water

"THE UNIVERSAL PERFUME"

A floral water of absolute purity and enduring fragrance, in use for nearly a century. Most delightful for all toilet purposes; for the bath; after shaving; it is, in a word, by far the most satisfactory toilet perfume for general use.



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and tell you why you ought to have the

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The *Landscape Gardening Book* will show you how to plan and plant your grounds in such effective ways as this.

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By F. F. ROCKWELL

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The Autumn Garden of Dahlias

(Continued from page 360)

have not grown this flower, begin at once and you will soon be as great an enthusiast as I am. Of course dahlias take up so much room that other things are crowded out, but I always make room in my fall garden for cosmos, hardy chrysanthemums, asters, salvia, marigolds, zinnias and calendulas. The perennial asters, or Michaelmas daisies have been a joy. They grow to a height of from four to six feet and send out a shower of feathery small blossoms. I have a "golden walk," bordered on each side with dwarf marigolds in the "burnt-custard" tones, and these are backed up with a border of tall marigolds. And do not by any means forget calendulas. These should be selected in the rich orange colors. The flowers are very prolific and bloom from July to November. They spread out when cut and, put in water, last well. Generally the last dying note of color in my fall garden is a spot or two of orange where a hardy calendula has waited for a peek at the first snowstorm.

A Home of the Eighteenth Century Today

(Continued from page 357)

stick and chairs of mahogany, rosewood, and walnut, the clock that ticked away the hours of the entire nineteenth century—a storehouse of old furniture of England and the Colonies of all styles and makes, from delicate inlay to coarser pieces fashioned from black walnut trees that grew on the home farm. The spinning-wheel and warming-pans have found their way into the parlour; for an old house naturally tends to become a museum; fortunately so, since the spirit that prompts the conservation of such utensils and furniture insures proper respect for the house, that it be neither neglected nor disfigured by incongruous alterations.

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ONE of the difficulties which the amateur has to contend with is the selection of varieties to suit his taste. The catalog photographs often strike his fancy but he finds that when his seeds have grown and his plants flowered that his results are far different from his preconceived notion of them. The safest way to do is to visit some flower show or exhibition. There are many varieties shown and one can judge of final appearances. Select for color effects, for you can see just how the plants will look when grown in your garden.

June offers exceptional opportunities to the Peony enthusiast who lives within touch of Philadelphia, for the American Peony Society is undertaking to hold its annual exhibition there. For some time past the Society has been working to show the value of the Peony as a decorative plant and to obtain a proper classification

(Continued on page 388)

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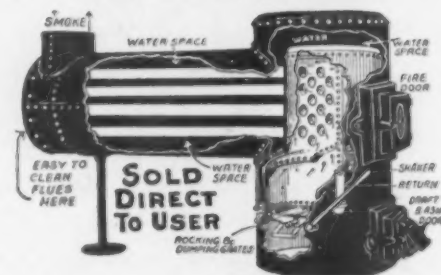
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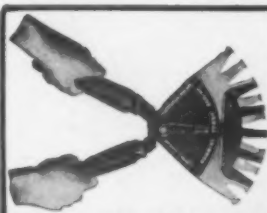
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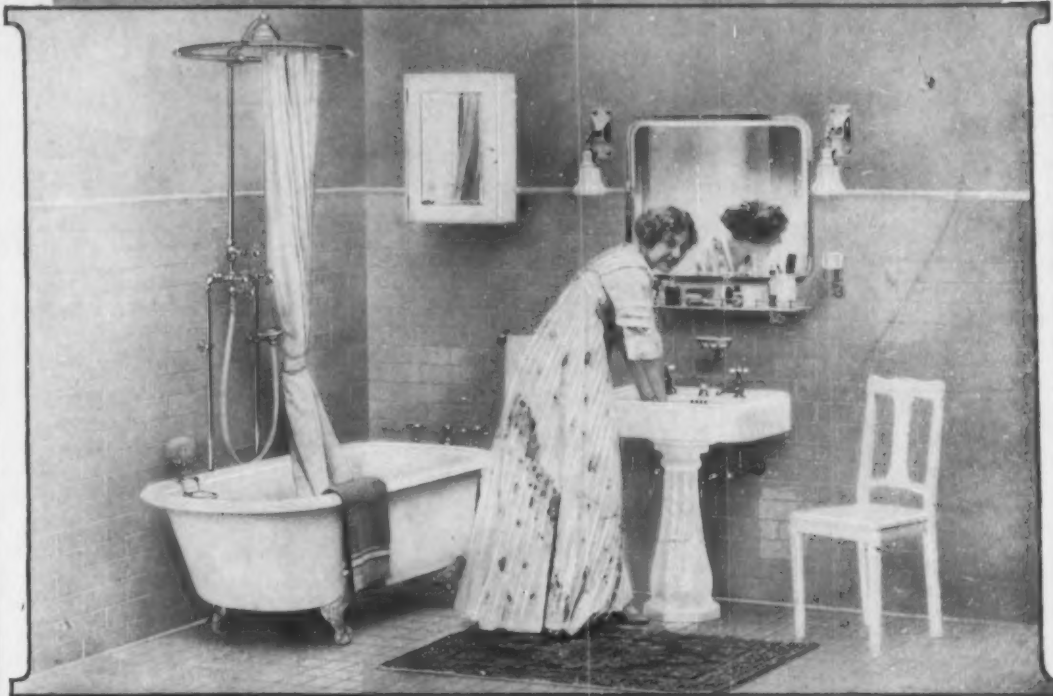
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E. F. HODGSON CO., 104 Adams Square, Boston, Mass.

(Continued from page 386)
and nomenclature of varieties. With this end in view, several thousand plants have been set out at the Cornell Agricultural College. This collection will be seen at the Philadelphia exhibition and will give any one interested an opportunity to find out what plants he wishes to buy and what striking effects can be made with them.

Old English Glassware

[This is the second short article by Miss Northend about old glassware. The first one appeared in the March number, a third will follow in an early issue.—Ed.]

IN England the collector does not speak of tumblers, but he displays his "toddy glasses," which are the ancestors of our



Three typical examples of old glassware in the Waters' collection. The glass with the cover is a "toddy glass"

modern tumblers. One of these "forebears" is carefully housed in one of Salem's fine, old Colonial mansions, where, with many other heirlooms, it rests in huge closets in the dining room. Much of this collection shows the lifelong work of Mr. Fitz Waters, and forms with the Waters' family collection a wonderful combination of old glass, representing not only different periods, but countries as well. An illustration shows Mr. Waters' toddy glass in

GARDEN TERRA COTTA and POTTERY

Your Garden Terrace, Hall and Conservatory will be beautified by appropriate selections from the Galloway Collection of Terra Cotta and Pottery.

The material is strong and durable in the severest climate. The workmanship and designs have artistic value.

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Glasses in the West collection that are early examples of stem cutting and are dated about 1800

the centre. Also three glasses in this group are elaborately engraved.

Another interesting collection is that of Mrs. William West. The three wine-glasses belonging to her are part of a set originally in the possession of Nathaniel West, one of Salem's noted merchant princes. The cutting on the stems indicates that they are probably dated about 1800.

More of the same glass is shown below. These glasses are of unusual shapes, and the bird and shield design, also the wreath and flowers of the centre goblet, are re-

(Continued on page 390)



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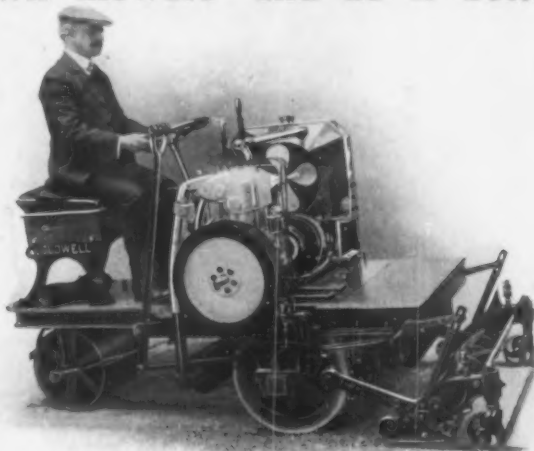


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THE musical garden ornaments, lawn chimes, placed on the market this season for the first time. These chimes can be concealed by flowers or vines, and the least breath of air will produce the sweetest tones, coming apparently from a distance.

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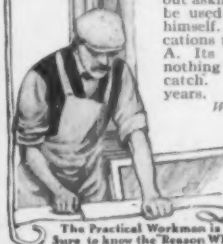
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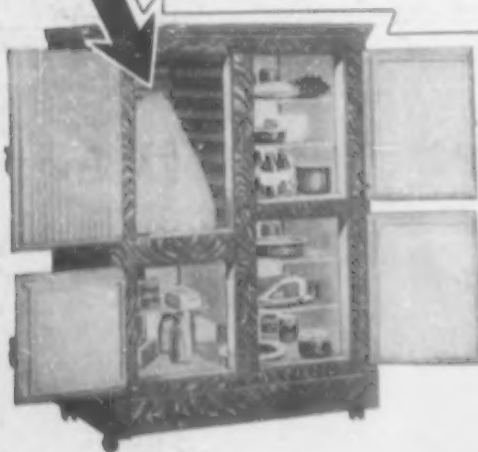
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exclude the heat, confine the cold and keep it dry, clear, and free from moisture.

The outside heat excluding case is separated from the inside cold confining case by a wall that is not affected by either heat or cold—one reason why McCray Refrigerators are used in the better class of residences, clubs, hotels and by the United States Government.

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McCray Refrigerator Company
293 Lake Street Kendallville, Ind.
Display Rooms and Agencies in all Principal Cities

(Continued from page 388)
markedly clear. The cut stem of the right-hand glass dates its age as being about eighteenth century. Two glasses in this collection which are known to be equally old are shown also. The glass at the right is of the group designated as "White twist stems;" a stem which was the result of some particular process, and marks the date of the two right-hand glasses as being A. D. 1745 and 1757. The small bubble of air in the stem of the glass on the left is known as the tear-drop. This is common in eighteenth century glassware



Unusual shapes with remarkably clear decoration, from the West collection

and is one of the marks which prove it genuine.

From England and the stage coach era we in America are indebted for much old glass. "Runners," a queer kind of goblet prevalent at that time, ale glasses, mugs and decanters, originated with the public ale houses and taverns, where our English ancestors held their noisy revels.

The Scotch also bequeathed us some odd shapes. One is a strange little glass, funnel-shaped, and four to six inches high;



Very old glasses with characteristic marks; on the left is a "tear-drop" stem, on the right a "white twist"

instead of the usual foot, there is only a round knot, so that the glasses stand only when upside down.

Let us go back in fancy to the youth of this glass. When the coach drew up to the door of the inn, a servant would rush out with a trayful of these "knobby" glasses which were quickly filled, and as quickly emptied; afterwards the coach would roll on without delay. Another Scotch specimen had a very heavy "foot," in order that the vigorous roisterer could applaud a toast by a bang on the table.

Now a word about the value of old glass. Many times it does not range so high as that of china, and often an old cut piece will

(Continued on page 392)



MADE for any latitude, in special or stock designs and in either modern or antique styles, our Sun Dials and Pedestals possess all the charm that makes the garden or lawn more attractive. Moderate prices.

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Plans and estimates for planting Water Gardens, Lily ponds, pools, etc. Catalogue on application.

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Waterlily Specialist
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If you own a home or hope to own one, either in the city, the suburbs, or the country, you will want to read this book.

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THE author has not only written with a view of helping the builder or prospective builder with suggestions and advice, but she has gone further and made her book just as valuable to those whose aim it is to constantly improve their homes. She discusses homes of all degrees of pretentiousness that she has visited, in an intimate way, telling how they were built and how much they cost. Her writing is supplemented by a fine series of illustrations.

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¶ In every detail of making

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the superior skill and uniform accuracy of Whittall textile methods have been applied to reproducing the finest examples of design and colorings of Oriental Art.

¶ The strong lustrous wool is the same as used in Oriental masterpieces. But from that point modern technical skill replaces the crude uncertain methods of the East. Where the Oriental worker spins the yarn in a single operation, the Whittall methods require many distinct steps, every one essential to the Whittall standards of strength, lustre and resiliency.

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came from great distances over giant aqueducts, built at tremendous expense. They got the water, but at what a cost!

THE CORCORAN IDEA

is water supply from a tank tower erected on your grounds and built to harmonize with the surroundings. It is economical and safe. It also saves the extra specifications demanded by a house tank. Cypress or cedar is used in the construction; thus the ravages of the weather can do no harm.

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is the lower tank shown in the illustration. It catches any overflow and a reserve supply is always at hand for the garden and grounds when the dry season is on.

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(Continued from page 390)

not cost as much as a modern, heavy piece. Recently a beautiful pair of cut glass bon-bon dishes were marked \$28; \$50 would have been reasonable for them. Generally such pieces as are illustrated here would fetch from \$15 to \$20, and occasionally, beautifully cut pieces can be purchased for \$25. One pair of late eighteenth century cruets were marked recently at \$4.50 each; tumblers of the early nineteenth century may sometimes be found for \$2.

MARY H. NORTHEED.

Making a Rose Garden

(Continued from page 335)

country. In Dr. Huey's experience, roses that are budded on these stocks will thrive much more luxuriantly and give much better blooms than those which depend upon their own root systems. It is necessary, however, to set the point where the shoot is budded to the stock about two inches beneath the surface; otherwise there is the constant danger that suckers will spring from the root and, if overlooked for a time, these will kill the more desirable shoots.

A word of warning might profitably be uttered against the cheap roses budded on "Multiflora," grown in Holland and sold in some of the department stores. They are short-lived and very poor in comparison with plants on brier and Mannetti. Multiflora has been entirely discarded as a stock by English and Irish growers.

Roses on their own roots have the advantage of being cheaper—one-year-old plants costing a dollar for six to a dozen; two-year and three-year-old bushes which are, of course, far more desirable, cost more in proportion.

Now as to the preparation of the rose bed itself. First of all dig the soil out to a depth of two feet at least, keeping the top soil and sods and the sub-soil in separate piles as they are taken out. Loosen up the floor of the trench with a pick and on this, if the ground needs draining, put a layer of stones, cinders and other material that will not decompose. On top of this place the best of the sub-soil mixed with a generous dressing of well-rotted manure. Finally add the sod, well broken up and the top soil, also enriched with manure. Then fill in the bed with enough good top soil, unmanured, to bring it two or three inches above the adjoining surface. Make sure that the surface of the bed, after it has settled, will be about one inch below that of the adjoining sod in order to retain the moisture from rain. This preparation of the bed should be done at least several weeks in advance of planting time.

In composing the soil for the rose bed, it is well to remember that the Hybrid Perpetuals require a heavy soil containing some clay. For Teas and Hybrid Teas a lighter, warmer soil is better. The top soil from an old pasture, taken with the grass roots and chopped very fine, will do excellently for the Hybrid Perpetuals. Mix

(Continued on page 394)

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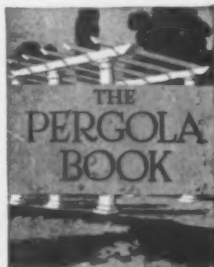
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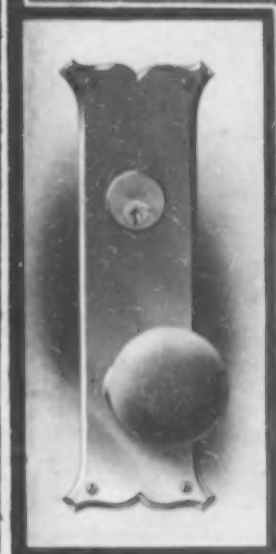
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(Continued from page 392)

with soil of this kind about one-quarter of its bulk of sand and leaf mould to lighten it for the Teas and Hybrid Teas. Remember, also, that all the manure that is used should be incorporated with the lower two-thirds of the bed; the upper third should not contain any recently added manure as it is apt to harm the roots of new plants.

Before setting the plants examine each carefully and cut off the broken roots with a sharp knife as well as all eyes that may appear on the root stock, in order to forestall suckers. The plants should be set immediately upon their receipt from the nurserymen so that they will not become dried out. If they seem dry it may be well to puddle the roots in thin mud just before setting. Make the hole large enough to accommodate all of the plant's roots without crowding, remembering to put the budding point not less or more than two inches below the surface and with the roots spread out nearly horizontally, but inclining downward towards their ends and without crossing one another. Above all, see that the plant is firmly set into its site, using the balls of the feet to accomplish this. After the plants have been set, rake the soil to loosen it up over the whole surface.

If this planting has been done in the fall a top dressing of about three inches of rough manure should cover the whole bed and the long wood of the bushes should be cut back to about one foot in height. If planting in the spring, this wood should be cut back to leave but two or three eyes, and, of course, the top dressing will not then be put on.

Pruning may be started with the dwarf Hybrid Perpetuals in March—leaving four or five canes three feet in length if large masses of bloom are wanted. The result will be a large number of small flowers. If, on the other hand, fewer and larger flowers are wanted, all weak growth should be removed and every healthy cane retained and cut back in preparation of the plant's development. The weakest should not have more than four inches of wood left on the root, while the strongest may have eight or nine inches. Always prune a cane about a quarter of an inch above an outside bud unless the cane is very far from the vertical, when an inside one should be left for the terminal shoot, and see that the wood is not torn or bruised in the operation. The pruning of Hybrid Teas and Teas had better be postponed until the first signs of life appear. The bark becomes greener and the dormant buds begin to swell. Dead or dying wood will then readily be noticeable and it may be removed. These two classes do not need such severe pruning as do the Hybrid Perpetuals. Twice the amount of wood may safely be left if it seem promising.

If you have planted your roses in the fall, remove the mulch of rough manure just before growth starts in the spring. Dig in with a spading work all the fine particles of the mulch that remain, but do

(Continued on page 396)

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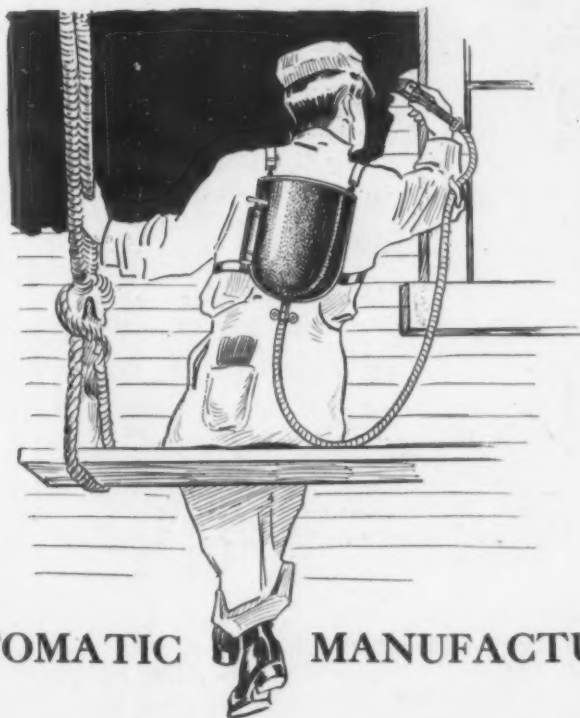
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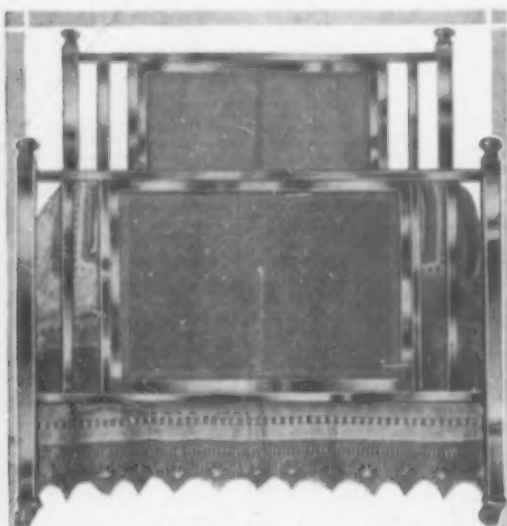
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(Continued from page 394)

not cultivate too deeply or the roots will be damaged. Three inches in depth is sufficient cultivation for a bed that has not been trampled upon. It is absolutely essential to keep the surface of the ground loosened with a hoe and a sharp steel rake throughout the summer. After every hard rain loosen the soil as soon as it is dry enough to work, to conserve the moisture. Give a stimulant of weak liquid manure—a half gallon poured around each plant weekly from the time the flower buds begin to form until the plant ceases to bloom. This stimulant is particularly appreciated just before a rain, for it will then be washed down to the lower feeding roots. Give this liquid manure in weak form and often rather than once in a longtime at greater strength. Half a bushel of cow manure to a barrel of water is just about right.

The bushes will appreciate the refreshment that a fine spray hose will give, and incidentally this is one of the most efficient ways to keep plants free from their enemies.

Certain varieties of roses form large clusters of buds at the ends of the leading shoots. If all these are allowed to develop the vigor of the plant is distributed among them with the obvious result of smaller flowers. If you would rather have one really fine bloom on the end of each shoot, retain only the most promising bud, pinching off the others as soon as they appear.

Growing Potatoes

THE potato is often neglected in the home vegetable garden as unprofitable for the small place, but in reality it responds most readily to a little care and fertilization and causes little trouble.

A fertilizer for growing potatoes which is based upon a formula advanced by the New Jersey Board of Agriculture consists of:

Nitrate of Soda.....	10 lbs.
Sulphate of Ammonia.....	10 "
Tankage	10 "
Acid Phosphate	50 "
Sulphate of Potash.....	20 "

This quantity is sufficient for a plot of ground containing about one-tenth of an acre, or about what is needed for a family supply.

Aside from having the necessary food elements, the soil should be moderately moist and of the yielding consistency characteristic of loamy soils well enriched with manure or the humus of some green crop like clover. The soil should offer the least resistance to the tubers in the expansion of growth.

Early potatoes are planted as early in the spring as the ground can be made ready. There must be sufficient room between the rows to admit of cultivation and the growth of the vines without interference—say about three feet for larger areas where a horse cultivator is to be used and for garden cultivation thirty inches. The seed should be planted at least four inches deep for proper development of tubers.

(Continued on page 398)

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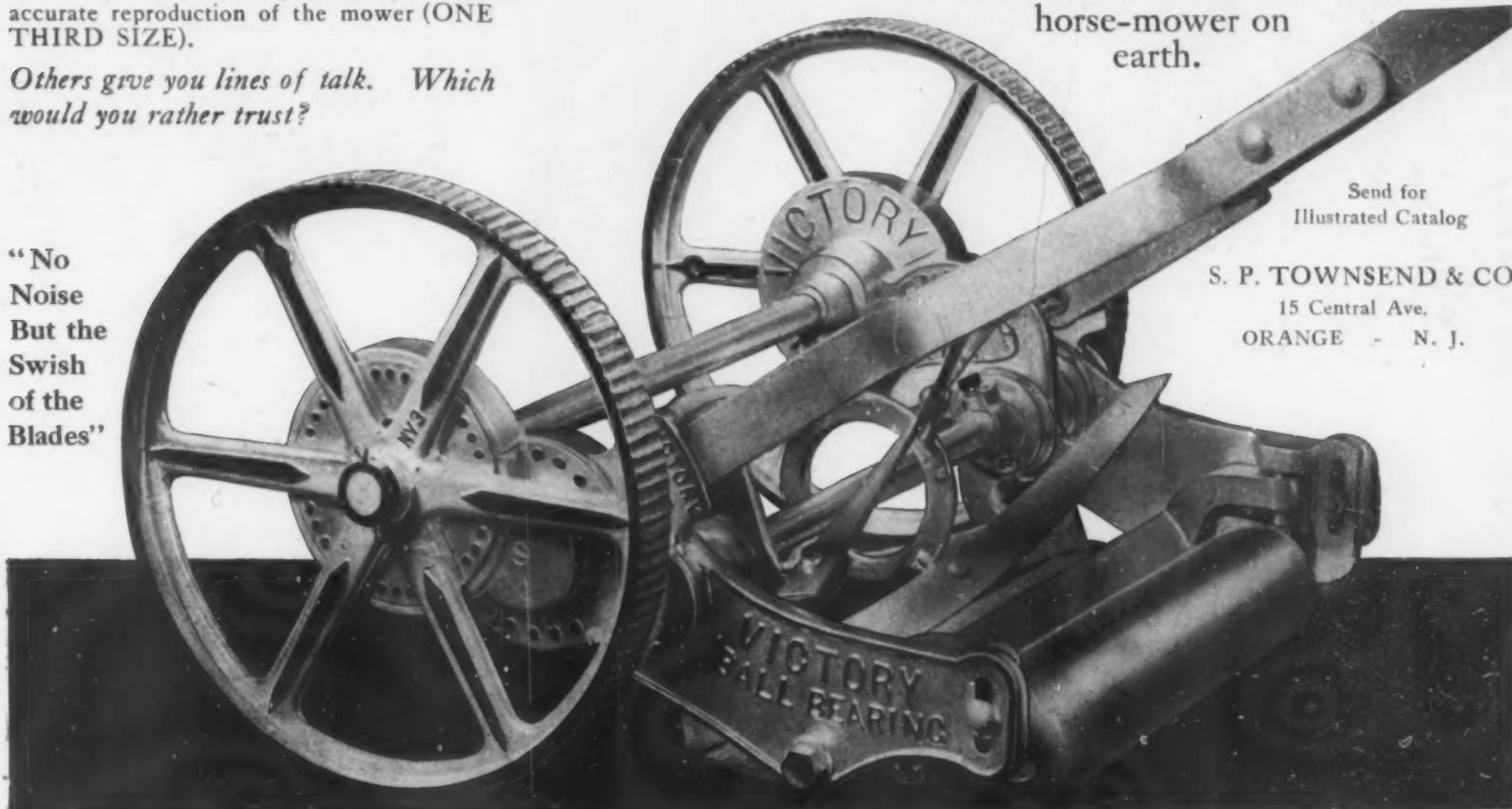
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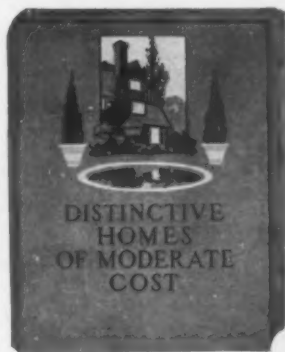
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Outside View



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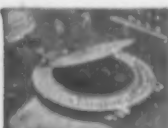
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WM. WARNER HARPER, Proprietor

(Continued from page 396)

The potato is grown true to parent stock from the eyes or sprouts on the parent tuber; hence for planting, potatoes are cut into sections having one or more eyes. The larger the portion of flesh about the eye, the better the chance of growth, as the tender shoot depends entirely upon this for its nourishment until it puts forth rootlets.

For field planting two eyes are usually allowed to a section, but for garden planting where conditions of growth more nearly approach the ideal, but one eye need be allowed.

Select clean, unsprouted potatoes for seed, such as are free from scabby or rough skin. This condition is due to disease and is transmitted to the new crop.

It is of the utmost importance to have the soil very mellow well below the tuber. Make deep furrows, sow the fertilizer, cover slightly and drop the pieces about one foot apart. Cover, and cultivate the crop on a level for six weeks. After that hill them slightly.

As soon as the potato beetle makes its appearance, spray with Paris green water, using one tablespoonful of the poison to one pail of water, or use land plaster and Paris green in the proportion of four ounces of Paris green to twenty-five pounds of plaster and apply it dry.

When the vines have yellowed and dried, it is time to dig the crop.

Among the best varieties for early and medium crops for garden culture are Early Rose, Queen, Beauty of Hebron, early and Green Mountain, medium early.

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This year we have, besides rose cuttings, wegelia, cape jessamine, hydrangia, fuchsia and different kinds of geranium cuttings, all green and flourishing.

Of course, in the north where the ground freezes to a depth of several feet

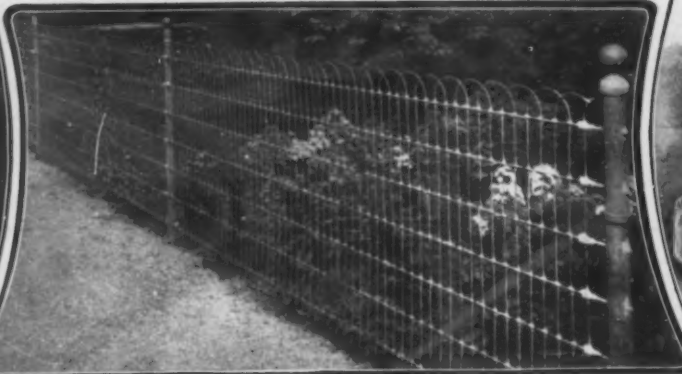
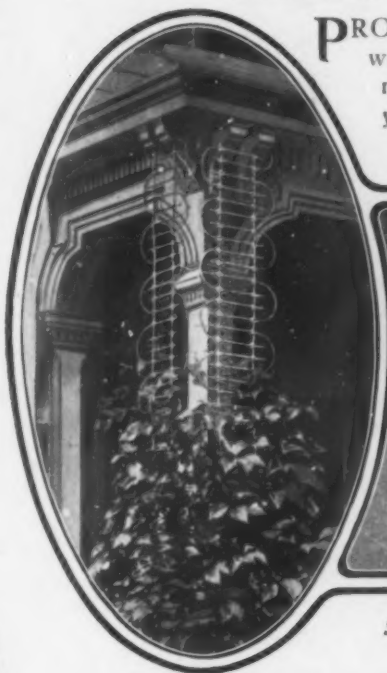
(Continued on page 400)

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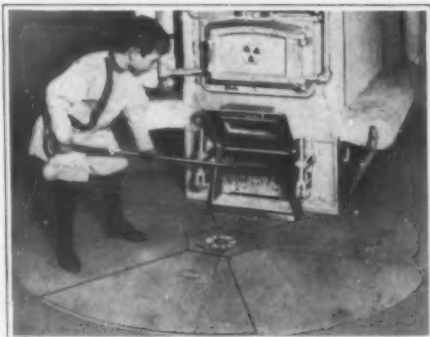


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Solves that dirty problem of moving ashes from ash pit to ash can. Disposes of unsightly ash barrel and rubbish heap in the cellar. Stops that fine, floating dust that sifts up through the floor and settles on rugs, carpets, furniture, and draperies. In fact it is such a convenience and saving that it is a wonder some one never thought of it before.

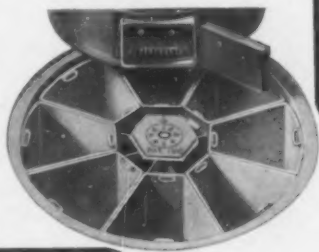
Approved by Health Officers and Physicians; by Architects and Heating Engineers. The cost is not prohibitive, even for the ordinary home, when you consider the saving of labor, dirt and dust,—to say nothing of the features of cleanliness and sanitation.

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Sows
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Grass Seed

The "Velvetlawn" Fertilizer and Grass Seed Sower will sow any brand of dry pulverized fertilizer and will also sow Grass and Clover Seeds. The machine sets low to the ground, the bottom of the hopper being only two inches from the ground; therefore the wind cannot blow away the materials being sown. The cultivator teeth work the seed or fertilizer into the soil. **ELIMINATES WASTE PROMOTES GROWTH.**

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ABSOLUTELY GUARANTEED to do all we claim for them, or money refunded without fuss.

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We will send you these ten packages of Gregory's Honest Flower Seeds, postpaid, for 25 cents in coin.

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(Continued from page 398)

and remains so for months, this method would not be practical, but from the Ohio River down it is the safest and least troublesome way to root cuttings for spring planting.

BELL BAYLESS
Kingston, Georgia



Book Reviews

[The Publishers of House and Garden will be glad to furnish any books desired by subscribers on receipt of publisher's price. Inquiries accompanied by stamp for reply will be answered immediately.]

Agriculture and Its Needs. By A. S. Draper, L.L.D. Cloth, 16mo. 92 pp. Syracuse, N. Y.: C. W. Bardeen.

This little book is a reprint of Dr. Draper's address before the New York State Educational Association, and will be attractive to everyone interested in the study of agriculture in its relation to our educational progress. There is much that bears strongly on the questions of the day besides adding new thoughts to the place agriculture should occupy in the future.

The Science of Living. By W. S. Sadler, M.D. Illustrated. Cloth, 16mo., 420 pp. Chicago: A. C. McClurg. \$1.50 net.

Dr. Sadler's book is written mainly for the person who is well and wishes to keep well. His rules for health are happily free from faddism, and are based on sound physiological reasoning.

Rural Hygiene. By Henry N. Ogden, C.E. Cloth, 12mo. Illustrated. 434 pp. New York: The Macmillan Company. \$1.50 net.

With the present hegira of city dwellers into the rural sections of the country Mr. Ogden's book comes at an opportune moment. People are expecting to find small paradises in the country and they are disappointed when they come face to face with the problems—drainage systems, sewage disposal and water supply. Mr. Ogden takes these subjects and carries them through scientifically and thoroughly from the engineer's standpoint. There is much to enlighten the individual as to his relations to his neighbors and much of practical value in the latest and best methods of sanitation and disease prevention for the single home or the rural community.

The Garden and Farm Almanac. Paper, 8vo. Illustrated. 222 pp. Garden City, N. Y.: Doubleday, Page & Co. 25 cents.

The Garden and Farm Almanac for 1911 is "Poor Richard" amplified and enlarged for the needs of the modern rural dweller. It contains much practical information in concise form touching on all the activities of country life. It is illustrated with many photographs and diagrams and should be a useful book of reference.

