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HENRY H. SAYLOR
Editor

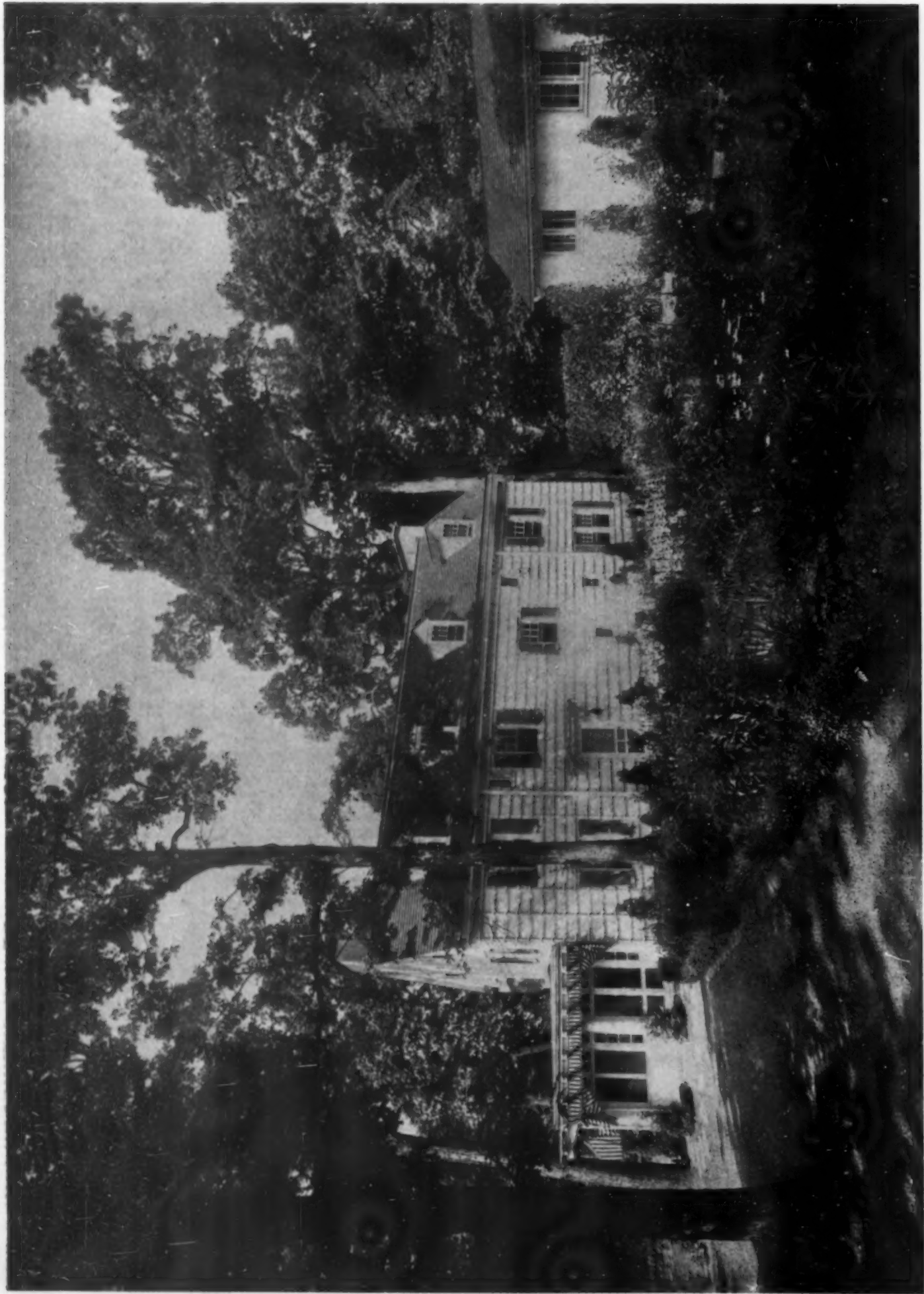
WILLIAM A. VOLLMER
Managing Editor

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NUMBER 5





Here the problem of fitting the house to its site has been successfully solved by the arrangement of the garden which is planned to be quaint, simple and informal, even though laid out on somewhat formal lines, intended to give the effect of the cottage garden of England and the garden of Colonial times. The entrance to the house leads through the garden



House & Garden



VOLUME XXIII

May, 1913

NUMBER 5



The simplicity of Mr. Keen's house, so evident in its structure, is an element of beauty. A style appropriate to the locality was chosen and the best traditions of the older architecture preserved; the plainness of style wins beauty without the apparent struggle for effect that is so often evident

Homes That Architects Have Built For Themselves

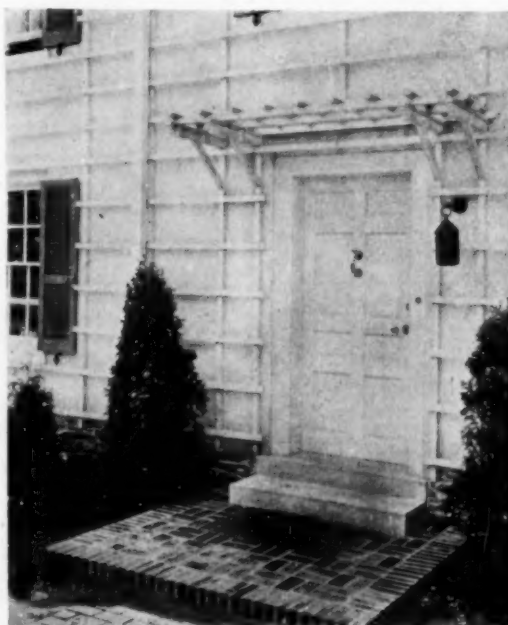
THE HOUSE OF CHARLES BARTON KEEN AT STRAFFORD, PENNSYLVANIA — A HOME THAT IS ADMIRABLY PLANNED FOR PEOPLE OF MODERATE MEANS AND BUILT IN HARMONY WITH THE SURROUNDINGS

BY MABEL TUKE PRIESTMAN

THERE is something distinctly individual and pleasing about the home that Mr. Keen has built for himself at Strafford, Pennsylvania. Although it is built after the manner of the farmhouse of Colonial days it possesses many unique improvements and well planned additions which display a notable development that has brought Mr. Keen widespread recognition.

The farmhouse type is the ideal American home, its architect maintains, for people of moderate means. It is the natural and logical outgrowth of the climate and of the traditions and sentiments of its inhabitants, and is best suited to its environment. For it is simple, broad, hospitable and rational in its close relationship with the trees and flowers.

The house was designed primarily to meet the demands of the family. At the same time there were many theories the architect wished to test. It is inter-



The lattice work for vines over the doorway is the keynote to the scheme of the whole house

esting to note these theories, and to find that after considerable care on the part of the architect they have proved as practical as they were ideal. The simplicity of the house is evident in the very structure of the building, which in itself is an element of beauty. The accentuated horizontal lines give the house the effect of harmonizing with the country and make it appear as a natural growth instead of something built or transplanted.

In answer to the question aroused by the preference he has for the farmhouse type exemplified especially by the house adjoining his own, "Why do you favor heavy column supports for projecting roof lines?" Mr. Keen replied, "In houses in which the second floor extends over the first floor, the projecting roof lines cast a strong shadow and have a heavy effect. The heavy columns are necessary from the practical and esthetic standpoint to give them proper support."



This home is nothing more than the original farmhouse brought completely up-to-date. It is claimed that the farmhouse type is the ideal American dwelling, being the natural and logical outgrowth of the climate and traditions of the country. It is hospitable, broad and rational



The lattice-work for vines and the vines themselves give interest to what would otherwise be a too monotonous expanse of white plaster

Another question put to the architect was "What do you aim to accomplish when planning a simple country home for your clients?"

"In the first place I aim to plan my houses to make them fit the requirements and mode of living, tastes and desires of those who will live in them. These considerations and the general plan arrangement dictated by the site, to take full advantage of the outlook and exposure, light and air, determine the style and general treatment. I am strongly convinced that we struggle too much for effect and if we plan and design in a more logical and natural way we get the most attractive and successful results. Houses of the same style and period, if designed in this manner



The wide eaves over the windows are distinctive and the red brick tiles contrast well with the gray underpinning and white plaster walls

have their own characteristics and charm and are really quite different and individual. I further aim to give as much of the home-like flavor and atmosphere as the conditions will permit."

Mr. Keen has found by experience that long narrow houses one room deep, or approximately so, are the most desirable where the proper exposure can be obtained admitting the maximum of sun and air. The modern methods of living require a greater

floor area for the second floor to accommodate the necessary number of rooms, than is required for the first floor with its few large simple chambers. In the farmhouse type expansion of the second floor is possible by building out the first floor below. Dormer windows are a necessity to give the proper amount of light and air to the interior. A group of such windows gives a better



The sun-room is admirably planned and furnished. The window-sashes are adjustable and can be removed if desired, giving an open porch



The antique furniture of the dining-room is well shown by its simple setting. In winter the rag carpets are replaced by Oriental rugs



The hallway is broad and roomy and the wallpaper is a reproduction of an old Colonial one, appropriate for the house and its furnishings

impression of a long low roof line than a series of separate or detached dormers. The December number of *HOUSE AND GARDEN* explained a house at Woodmere, Long Island, designed by Mr. Keen, which shows a more artistic group of dormer windows than does the house designed for his own use.

In looking through a number of photographs of houses planned by this architect one cannot help being struck by the examples of cottages with stucco walls. He favors stucco because by means of it he can most easily carry out his favorite color scheme, namely, white and green. He likes the shutters and roof green with a sharp contrast of white walls. These he partly conceals with a trellis, which when covered with vines gives a charming wall surface. The lattice-work primarily intended as a support for vines gives a scale to the whole house, accents the horizontal lines and by its pleasant shadows gives an interest to what would otherwise be a too monotonous expanse of white plaster. The vines relieve the monotony of white walls and soften its rigid lines. It is generally conceded that ivy and other creepers clinging to walls are apt to make the house damp, but when trained over lattice-work the vines act as a protection, shedding the water and breaking the force of a severe storm. Stucco is a favorite medium to-day with most of our well known architects. Its advantages lie in the fact that it is economical, decorative, and suitable both for winter and summer homes. Stucco being a mixture

(Continued on page 434)



An old-fashioned bedroom, Colonial in character, where the rush-seated chairs harmonize with the antique four-poster and rag carpet



The mantel and fireplace of the living-room show the combination of decorative skill and restraint that are typical of the entire house

The Part Transplanting Plays in Garden Making

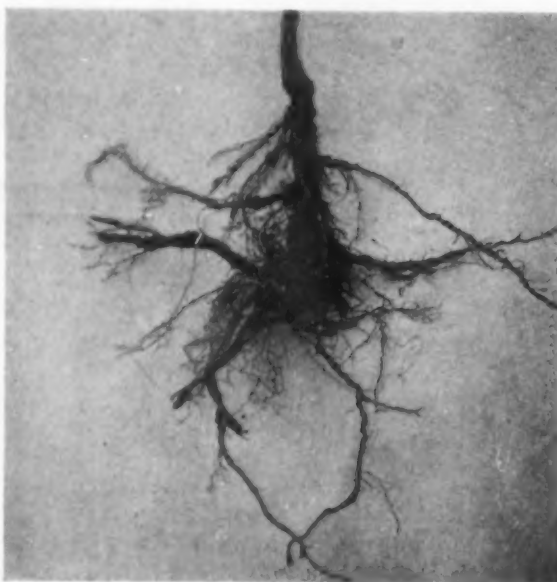
THE CORRECT METHODS [OF TAKING UP TREES AND SHRUBBERY—THE BEST TIME TO MOVE THE DIFFERENT VARIETIES—ROOT PRUNING AND ITS RESULTS—SOME DIFFICULT VARIETIES TO HANDLE

BY GRACE TABOR

NOTHING in this world is more fixed in habit than trees or plants of whatsoever kind they may be. "Rooted to the spot" they certainly are, and uprooting them is a process which cannot fail to be very disconcerting to them, however carefully it is carried out. As planters we are, as a rule, curiously obtuse, however, for we give almost no consideration to this phase of transplanting. Rarely does one feel uncertain how to unplant a specimen, however doubtful he may be of his ability to restore it properly to the earth. Yet the success of the entire process of transplanting depends almost as much upon this first half of the work as it does upon the second half, so much more carefully considered.

Perennials and shrubs of almost any age may be lifted and moved from one spot to another without much reason to apprehend failure, but trees, of course, are another matter. Some species will hardly bear transplanting at all, while all kinds are risky handling unless they are small and have been originally nursery grown. These are sold as large as fifteen feet in height, with a trunk diameter of from three to four inches; and a nursery-grown tree of this size may be moved from its position, if this is not satisfactory, without much risk of injuring it. But above this size I would not advise transplanting, if more than one year planted. And certainly nothing smaller than half this size should be moved if it is a seedling or natural growth that is occupying its original position.

Trees grow at their roots very much as they grow at their tops, and respond to pruning below ground with just the same results, practically, as they follow branch pruning above—that is, the root system grows thick and dense and compact when the root tips are frequently shortened, either by actual pruning or by transplanting—which has the same effect by breaking off enough of the small root tips to induce much branching of root further up towards the tree bole—just as the branch system grows dense when the ends of the branches are cut back, or the tree



Arrange the root stocks and fibres as nearly as possible in the position they would occupy in growing

is headed in by having its leading branch shortened. "Root pruning" is accomplished not by actually cutting off the roots, but by plowing about the tree, near enough to it and deep enough into the ground to reach the roots which it is desired to nip.

The dense balls of root network that result from such care naturally offer very little resistance to lifting the tree from the ground within a year, or perhaps even two years, from the time of its last planting. But by the end of this time the roots have progressed considerably in their natural way of growth and have extended out and into the soil to begin the anchoring of the tree, which is a part of their function when it has grown large and woody. Beeches, for instance—the beech is a notoriously "hard planter"—do not actually begin to send out new roots for some time after they have been moved, but when

they finally get a start and begin to grow, their first efforts are directed to penetrating the ground just as far as possible, outward and downward. When a beech has been moved, therefore, and has made a start into actual growth above, beware of attempting to move it again. Its long roots put forth from the compact mass which it was induced to grow only by most careful contriving and care will make successful transplanting almost, if not quite, impossible, because many of them will suffer such injury that the tree cannot repair them.

Trees that have never been transplanted or root pruned develop their root systems according to natural habit and location, but the latter is never quite so important a factor as the former. Nevertheless it counts. Certain kinds of trees send straight down, directly beneath the trunk, one very long and very strong root, called a tap root, which is as large around, perhaps, as the tree trunk itself, and which reaches deep into the earth. Its integrity seems particularly vital, for injury to its tip will almost certainly cause the tree's death, in many species, and its great length and woody character make it particularly susceptible to injury if the tree is taken up. Trees with roots of this character are acknowledged to be



It is better to use tree-moving machinery and skilled labor with large specimens in order to avoid all risks

hard to transplant, even by their growers. The only way possible to overcome their aversion to being handled is to begin when they are very young, thus giving the tap root no opportunity to reach the depth it is seeking.

But a great many trees that do not have this great tap root still spread themselves about below ground in such a fashion that they stubbornly resist transplanting and suffer from it greatly, especially if growing in poor soil or where the moisture is deep down from the surface. If more than seven or eight feet high, such trees are more likely to die than to live when transplanted, save where the work is done by an expert. Tree moving machinery exists that will remove forest specimens of course; but the moving of these is a doubtful undertaking, even with the most skilled labor, and one which I never advise. After all the time of waiting for a tree to reach an appreciable size is not very great. And it is surely much better to have a well established and thrifty tree, at the end say, of six years, large enough to be a distinct ornament and to give definite shade with a promise of yearly increase, than to have a sickly forest specimen which will never recover its vigor, will gradually dwindle and ultimately must be taken away, leaving the original vacancy.

Limit yourself to trees six or seven feet in height or under for transplanting natural growth, and to specimens not more than twelve feet high for nursery grown stock. If you can wait a season with the former, or even until next fall, plough or spade deeply around them now about a foot within the line of the diameter of their tops, and cultivate the space within this ring all summer even watering it if the soil or the season is dry, to encourage the growth of surface roots rather than the deeper ones.

But if you cannot wait, if the transplanting must be done immediately, make up your mind to unplant as carefully and patiently and thoroughly as you will replant, and unless you choose wrong varieties there will be no trouble. At the end of this article you will find out how to avoid these.

It is always safe to assume that the spread of the roots of even a root-pruned tree, is the same as the spread of its branches. On this line, therefore, marking what we may for convenience call the circumference of the roots, we begin the work of taking up

any woody plant, whether tree or shrub. With a pick-axe work with back toward the tree trunk, digging up and loosening the earth from this line in towards the tree. When a layer is loosened, shovel it out; then loosen another in the same way and remove it, working more and more carefully as you get down to, or among the roots. In using spade or shovel, set the blade always with its *edge* towards the tree, not its flat face or surface. This avoids cutting the roots to any great degree, for the blade goes down between them instead of chopping them across transversely.

When a depth has been reached that really begins to loosen the specimen—it is not necessary to take away all the earth that is above the roots but only to go on picking it loose, deeper and deeper—a helper may take hold of the tree, and gently work it back and forth while the digging with the pick goes on. By and by the plant will readily tilt away over upon its side, thus allowing the one who is digging to work under the middle of it and gradually free the deepest central roots. And at last, with a gentle, even, long pull it will come free—but be sure that it is a gentle pull, and an even one. Never drag a shrub or tree forcibly from the ground, either through impatience or a mistaken degree of force. Go easily—very easily! It is much better to be over careful than a little less careful than you should be.

It sounds very simple to say restore a tree to the ground exactly as it came out of it; but in order really to do this, it is necessary to give attention to several things—and to all of these at once. Of course plants must be set into the ground to the depth at which they grew; then roots must

have not only the same spread, but they must follow the same general direction down from the center towards the circumference; and the weight of the tree or shrub must be supported so that it does not drag at the roots as it settles. And finally the littlest roots—roots so small that they are like nothing so much as hairs—should all be restored to perfect contact with the soil! That is, the earth should enclose them on every side, casing them in completely.

Of course it is not possible to accomplish literally any such task as in this description of ideal transplanting. But actually it

(Continued on page 430)



Not everyone realizes the benefits of garden beautification found in trees. At this season of the year much can be done by transplanting to gain the attraction that trees afford

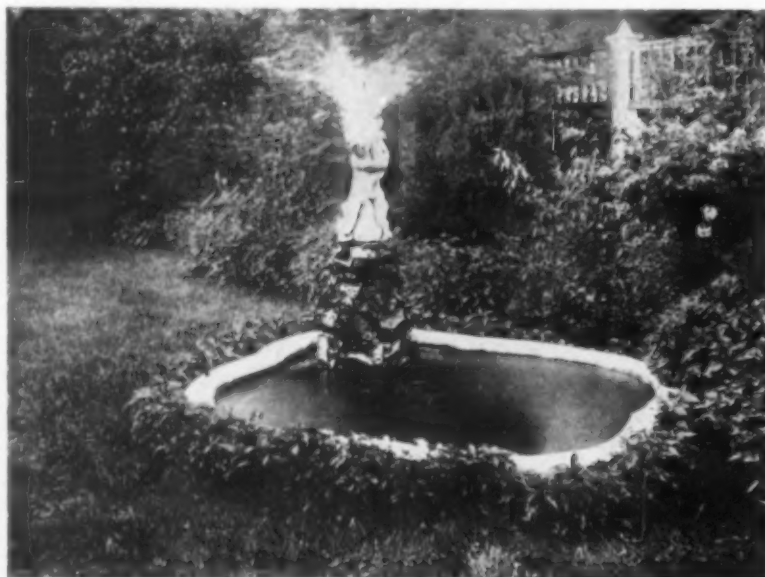


Within and without a garden in the Far West that shows a successful pergola treatment and a walled garden of a Southern type.

A PAGE OF SUBSCRIBERS' GARDENS

Editor's Note: From time to time HOUSE & GARDEN will reproduce photographs submitted by enthusiastic gardeners who have felt that the instruction contained in the magazine, replies to queries, and the inspiration of others' work, have been beneficial in giving them results. There is much that may be gained by noticing what others have done. Miss Tabor will supply criticism and explanation, making the photographs more helpful.

THE garden above was grown in a soil of clay and hardpan. Only the most carefully thought out scheme could have accomplished the results here shown—and within one year from planting. The pergola columns are made of three sections of concrete drain pipe, reinforced with an iron rod and poured full of concrete to make them solid. The whole structure, with its framework of rough saplings overhead, is particularly fine, conforming as it does to the best standards and the earliest tradition.



A CHARMING doorway garden of the middle west, shielded and secluded and therefore inviting to use and repose—which the true garden always should be. It seems almost hypercritical to object to the planting around the fountain rim, yet the omission of this would be a decided improvement. This fountain basin is a formal one and its lines are as much a part of its decorative function as the little figure above, or the water itself. Some creeping plant that would not conceal them might be used.



The three pictures above show what has been accomplished by one garden lover in making a garden living-room secluded from the street and with all the privacy of indoors

A New Garden Enemy and How to Fight It

A FUNGOUS DISEASE THAT ATTACKS THE PEONY, HITHERTO CONSIDERED IMMUNE—
HOW ANTS CARRY THE INFECTION—WHAT PREVENTIVE MEASURES MAY BE TAKEN

BY H. H. WHETZEL

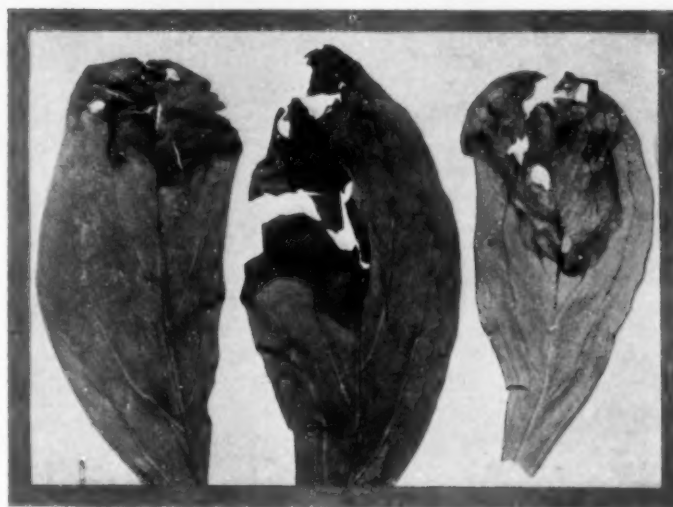
PROFESSOR OF PLANT PATHOLOGY, CORNELL UNIVERSITY

Photographs by the Author

THE peony is frequently said to be a perennial markedly free from diseases and pests, but our observations extending over a period of the last eight years convinces us that this is not entirely true. During this time we have had the opportunity not only of examining many diseased specimens sent to the University for diagnosis, but have for the past four seasons observed the diseases of this plant as they appeared in the large collections grown in the variety test plats of the University. Brought in from many parts of the country and in large collections from various nurseries, it is not surprising that here we had a rather complete representation of peony diseases, at least five of which have appeared in these test plats, for the most part not very destructive. One disease, however, has occurred every season with more or less severe injury. This we are designating as the American botrytis blight of the peony to distinguish it from the European botrytis disease which appears to be different.

It is a disease to be reckoned with in growing peonies and the writer has been assured by several prominent growers that a satisfactory means of controlling it would be a distinct boon to the growers of this perennial.

The American botrytis affects all parts of the plant above ground, even



In the peony leaf blight the lesion usually appears first at the tip, extending in a V into the blade

extending down the stem to the crown. Whether it ever invades the crown and roots is still a question. Probably it does not, since plants badly affected one season appear to grow equally strong tops the next.

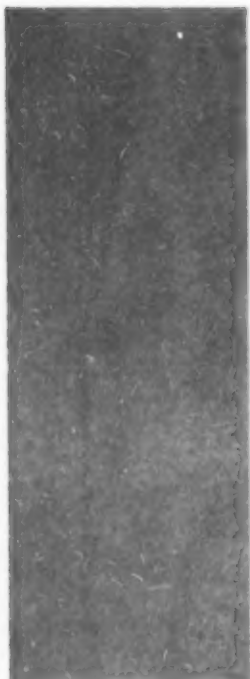
The first appearance of the disease in the spring is usually in the form of a rot at the base of young stems. Shortly after they appear above ground they begin to wilt and droop, finally falling over. An examination of the diseased stalk shows it rotten at the base, the rot usually extending to the crown below ground and upward, often to the leaves. The advance of the disease up the stem is indicated by a water-soaked appearance of the recently affected

tissues. The rotted part of the stem soon becomes brown or black and often covered with a gray-brown felt of the fungus causing the disease. Usually only a few stalks in the cluster are affected early, though in severe cases all may go down quickly. However, stalks in the cluster continue to be affected throughout the season if conditions be favorable, and large stalks with fully expanded flowers often wither and die from a lesion at the base. Then, too, stalks affected toward the end of the season after the tissue is more hardened may not show wilting, the only evidence of the

(Continued on page 404)



The photograph at the left illustrates a characteristic appearance of young peony buds and leaves blasted by the botrytis. In the center are shown diseased buds compared to a healthy one, and at the right is a stem exhibiting the water-soaked appearance caused by the fungus



If you would double the interest centered about a pond or lake keep some swans swimming about in it. They need little attention if proper quarters are given them in a secluded place near the water's edge



When Fine Feathers Make Fine Birds

ORNAMENTAL LAND AND WATER FOWL THAT GRACE THE COUNTRY PLACE
—BIRDS THAT HAVE ALL THE INTEREST OF PETS—HOW TO CARE FOR THEM

BY E. I. FARRINGTON

Photographs by E. J. Hall and Others

WHILE it is true that fine feathers may not make fine birds when mere utility is considered, yet beauty of plumage is an important item in the breeding of ornamental poultry. Take, for example, the peacock. With its blue neck, its black and green wings, its brown, violet and gold train and its aigrette or crest of twenty-four upright and richly-colored feathers, the peacock is an object of admiration to all, including himself. Were it not for

these splendid adornments there would be no place for this bird on the country estate or anywhere else. Both the flesh and the eggs are palatable, to be sure, but there is no demand for them.

In these modern days the peacock is valued only for his ornamental qualities, and they hardly atone, sometimes, for the vexation one feels when startled from slumber by the hair-raising screech with which he salutes the morning sun. He is as vain as a village belle, loves to disport himself before the hens, and finds pleasure in the mirrored reflection he finds in the cellar window.

The most striking physical characteristic of the peacock is his train, commonly supposed to be his tail. The real tail is composed of plain brown feathers about six inches long, which can be held erect, and which serve to support the wonderfully brilliant train, spread out like a disc and marked with gorgeous eye-like spots. When he stands with this huge fan opened and glistening in the bright sunlight, the peacock is incomparably lovely; his vanity is forgiven him. When the moult comes on the feathers fall out gradually and may be picked up here and there all about the grounds. It isn't a sin to extract by hand the few which are held to the last, if they can be reached as the bird perches on the grape arbor or the limb of a tree at night.

The peacock and his consort, small, modest and unbedecked, demand no special care. They live on the same fare as the barnyard fowl, but resent confinement. They can fly freely, and spend their nights in the trees or elsewhere outside, regardless of the weather or the time of year, except that on rare occasions they may seek the shelter of an open shed. They like green stuff, and sometimes do damage in the garden.

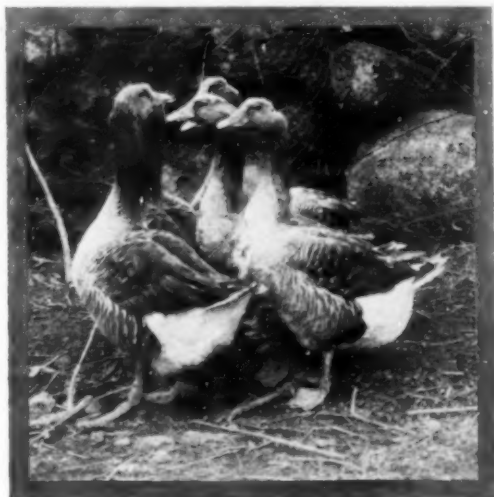
Peacocks do not get their trains until the third year, and should not be used for breeding until then. The peahen nests on the



The gorgeous plumage of the peacock demands a formal setting or smooth green lawns to be fully effective

ground and lays a few eggs in late spring. If the eggs are not molested, the hen will bring off her small brood in about 28 days. The treatment customarily given turkey poults will suffice for them, which means that they must be kept dry and must be protected from rodents. Hard-boiled eggs, bread crumbs, bread soaked in milk, or rolled oats should constitute the menu for the first two or three weeks, cracked grains being gradually introduced. It is not feasible, as a rule, to try bringing up the youngsters with common hens. The hens are almost sure to desert their charges long before the latter are able to look after themselves.

It is an easy matter to get from \$15 to \$50 for a pair of peafowl, but it is not necessary to raise young birds every year, unless the profit in them is an object, for the old birds live long, even up to 25 or 30 years. There are also white peafowl, and they bring a much higher price, not because they are more beautiful than the kind commonly seen, but because they are much more rare. Peacocks are bet-



Toulouse geese are handsomely feathered, but are too noisy to be kept near the house

ter adapted to rather large estates than to small places, but they are among the most ornamental of birds wherever they may be.

Pheasant breeding is a highly popular diversion across the water, and is being taken up by many people in this country. Even a suburbanite with an ordinary back yard can keep pheasants, for they make little protest at being confined and are not difficult to care for. When first hatched, pheasants are very delicate, also very lively. They must be kept warm and dry and not allowed to stray away. Most commonly they are hatched under bantam hens, or the fluffy little Japanese Silkies, and from 21 to 25 days are required, according to the variety. If a small incubator is available, it is an excellent plan to transfer the eggs to the machine a few days before they are due to hatch. Then they will get a safer start in life.

The first of June is quite early enough to set pheasant eggs, and ten or a dozen are sufficient for one hen. When the little birds are hatched naturally, it is well to run a low wire fence

around the nest box where the hen is setting; otherwise the first ones to appear may start out to see the world before their more belated brothers and sisters have pecked their way to freedom. For the first few weeks the youngsters must be kept perfectly free from dampness and draughts. By the time they are two months old they become strong and hardy, and at four months are almost fully grown. They forsake their foster mothers early and go hunting bugs and worms on their own account. Lice and gapes are the two evils to be watched out for. Powder will destroy the former, and fresh ground obviates danger from the latter.

In England, ant eggs are considered almost indispensable for young birds, but they are not needed here. Some American breeders feed maggots, but Hamburg steak answers very well. In fact, excellent results have followed the use of canary seed, rolled oats and common chick feed. It is a good plan, though, to give a custard for the first week or two, made by beating up a raw egg in a very little milk.

Mature pheasants are exceedingly hardy and ask only an open shed, with a long run, which they will use winter and summer alike. The shed is best placed when it faces the south, and must be tight and dry. It is well to have the floor raised a foot higher than the ground outside, and it should be kept covered with several inches of sand. The front of the house may be boarded down a little ways to keep the rain from beating in to a large extent, but the house must not be dark. The birds like a retreat of some sort, so it is well to have a pile of brush in one corner; a large box with a hole in it will answer as well. A few piles of brush in the yard will be welcomed, too. There must be perches for the pheasants in the shed, but nests would be superfluous, as the eggs are laid in the sand. Commonly the eggs are dropped late in the day, and it is well to gather them as soon as possible, for pheasants are very prone to acquire the reprehensible practice of feasting on their own product.

The yards must be covered, and it is well to use netting with one-inch mesh, in order to keep out sparrows, which steal much grain. Also it is wise to have a concrete founda-



Muscovy ducks are not only attractive but are especially good for table use; besides they may well be kept upon the small place

tion extending down to the frost line under both the shed and the yards, or to sink the netting into the ground deeply,



The curious carriage and peculiar beak formation of Chinese geese make them a distinctive attraction

in order to keep out marauders who might reach the birds by burrowing.

Thousands of pheasants are being imported by Americans, and other thousands are being raised in this country. The elegance and beauty of these birds make a strong appeal. It is also well known, of course, that they are the delight of epicureans:

in several states large numbers have been liberated, in the hope that they would multiply and add to the decreasing list of game birds.

The pheasant most commonly and most successfully reared in the United States is the Chinese Ring-necked pheasant. No doubt the English bird, also imported largely, is a descendant of the Chinese Ring-neck, but it is not considered quite so hardy as the Oriental pheasant. The bird often called the Mongolian pheasant is really a Ring-neck pheasant. The Ring-necks lay more eggs than most of the other sorts—often as many as 60—and as a rule they have a high percentage of fertility.

From the standpoint of fine feathers, the Golden,



Pheasants are as brilliant as peacocks and may be kept in small confines

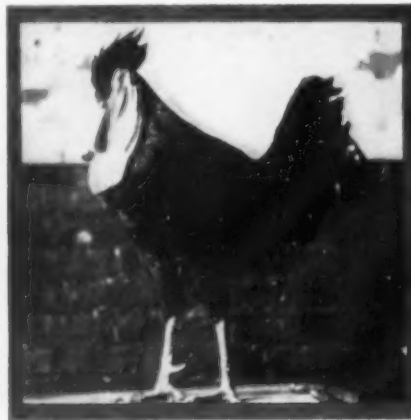
will do well to start with Golden and Lady Amherst pheasants, although the prices are considerably higher than those obtained for the Ring-necks.

This is when they are to be kept in aviaries or allowed to wander about the grounds. For stocking coverts the Ring-neck is, of course, the best. Other ornamental and popular pheasants are the Swinhoe, the Elliott and the Reeves, the latter having the longest tail feathers of all, extending to four feet and over. As a class, pheasants take the lead among all fine-feathered birds.

There are several breeds of poultry kept by fanciers which are highly ornamental, but more domestic in their habits than peafowl and pheasants. They include the Hamburgs, Polish, White-Faced Black Spanish, Houdans, Andalusians and various members of the bantam family. The Hamburgs are aristocratic birds, and, as the



Polish fowl are very ornamental in their black plumage and great turban-like white crests



The Black Spanish is one of the oddest of poultry with a long white face hanging very much like a bib



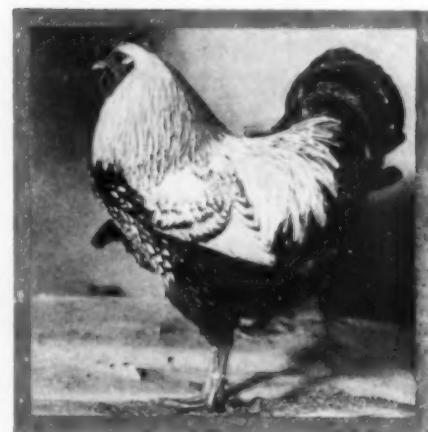
Houdans have every fifth feather tipped with white, which gives them a peculiar mottled appearance

Silver and Lady Amherst are the varieties to keep. They may not be quite so easy to raise as the English or Chinese Ring-neck, but they are tamer and more ornamental. The Golden pheasant defies description, to borrow a newspaper phrase. It is easy to call it the most brilliant bird known, to tell of its orange crest, its rich red breast, its blue wing coverts, its long tail

and the stiff red feathers on each side, but the words convey little idea of the real gorgeousness of the plumage. This variety is easy to keep and in high favor among amateurs. The Silver pheasant is also handsome, with its two-foot tail and bright red wattles. Although tame, easy to keep and beautiful, the Silver pheasant has one fault—it makes a rather unpleasant noise. In any collection the Lady Amherst pheasant is sure to excite special comment. The cock's great length of tail is a prominent characteristic. This is a bird of many colors—green, black, red, white and gray. Most amateurs

American Standard of Perfection says, the Silver and Golden Spangled and the Silver and Golden penciled varieties rival the pheasant in beauty of plumage. In a yard or on the lawn the Hamburgs are exceedingly handsome. They have other qualities, too. They are exceptionally prolific and lay most of the year. Their eggs are white like those of Leghorns, although hardly as large. This is a very old breed and the young birds come remarkably

Polish fowls are certain They have crests or top-

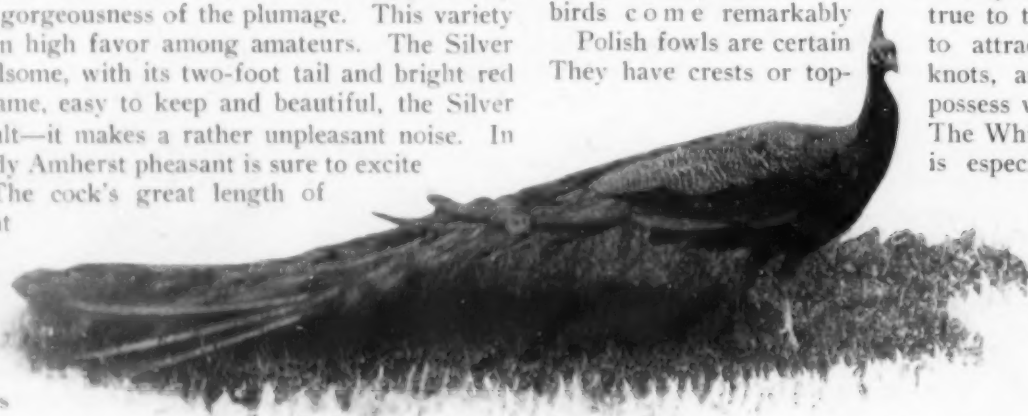


The Silver Lace Wyandottes are a popular domestic breed with extremely beautiful feather markings

true to type.

to attract attention anywhere. knots, and some varieties also possess what are termed beards. The White Crested Black Polish is especially interesting, being solid black except for the pure white head dress. The Silver and Golden varieties have beautifully marked feathers.

(Continued on page 415)



Cut Flowers from the Fall Garden

THE THREE MAINSTAYS OF AUTUMN—CHRYSANTHEMUMS, DAHLIAS AND ANEMONES—
THE MODERN IMPROVED SORTS AND THEIR ATTRACTIONS—SOME GOOD VARIETIES

BY A. W. DEAN

Photographs by George Oakes Stoddard and Nathan R. Graves

MY summer garden is not as great a subject of care as is the garden of spring or fall. When the early bulbs have had their bloom I leave the garden very much to itself to be reigned over by a few of the most flourishing perennials. But when late summer turns into fall the stars of my garden appear. I have three favorites which seem to make my garden more glorious than any of the other bloom. They are, chrysanthemums, the hardy sort, dahlias and anemones. Often asters are used as well, but the gorgeous brilliancy of my three favorites seems to be without peer. From the last of August until frost there is something blooming—a bloom appreciated because so much of it is desirable for cutting. Besides this there are such wonderful chances for color combinations, the reds and browns and golds may be blended and perhaps emphasized with high-lights of pure white. The busy nurserymen have done so much in developing the races of these fall flowers that the stiff varieties we used to know are quite surpassed by extraordinarily graceful and immense blossoms.

My first care is the little hardy chrysanthemum. True, it is an old-fashioned flower, but has been neglected for so long in this section that it appears now almost as a new variety. Growers are appreciating it more and more and developing new types.

The little pompon chrysanthemums belong in the garden of him who is hurried. They take little time and little care, but bring rich reward. Of course, atten-



The hardy chrysanthemums appear in a wonderful variety of forms from the compact type to quilled *Souvenir d'Or*



Japanese anemone is one of the most satisfactory flowers of the fall and is especially valuable for cutting. There is great diversity of color in the blossoms

tion to disbudding and cutting back, brings results in larger blossoms, but even if you just plant them and let them grow in masses, the results are most satisfactory.

After there is no possibility of frost you may set out the plants, which, if you are wise, you will order early. They are grown in the nursery from cuttings and divisions, but best results come in the use of pot grown plants made from cuttings. Your only care should be in the selection of a well drained spot in the garden, with a lightish soil. Heavy loam or clay is apt to give opportunity for winter killing, and in such soil the plants do not thrive vigorously. Protection on the north is valu-

able, and you may set your plants out in the early part of May if planted on the south side of a fence, or if not in such a situation, close to shrubbery or a growth of plants that will keep off the wind. The stocky little plants will soon show rapid growth, if in well cultivated and fertilized soil, and by the end of the summer will need a stake to protect them at the time of bloom. Protection will prevent an untidy appearance of the bushes and is conducive to better bloom. I like to see the chrysanthemums massed; the rich yellows, golds, browns and maroons may be combined to make a border that is very beautiful. If the plants are set about eighteen inches apart they will not interfere and will succeed well.

It is hardly worth while to go into the subject of classification with these flowers. There is some misconception as to races, types and varieties, but the nurseryman's catalogue is quite descriptive



This old dahlia has been developed into such modern beauties as the cactus and peony flowered sorts



Golden Shower is descriptive of this unique form of hardy chrysanthemum



Julia Lagravere is one of the best known types. It is a rich, deep garnet



Baby Margaret is a white button type of considerable beauty and a trifle larger than Baby

of the colors and forms of various blossoms, and all you need to do is to select according to your taste. These flowers have the advantage of variety and naturalness over their pampered sisters, the greenhouse sort, and I do not care to place them by kinds, but grouped and massed together, chosen only for their colors I get my best effects. They vary from the little button types to large blooms about two inches in diameter. The following are some varieties that I have had good success with: Baby, a small button type of clear bright yellow; Baby Margaret, a little larger than Baby, but with white buttons; Bedouin, a small sort of deep maroon mixed with white; Savannah, a button type of brilliant yellow; Mary Keyes, a single form of white like a daisy; Autumn Queen is almost two inches in diameter, a beautiful rosy pink; Soeur Melaine, a white, full flowered sort; Julia Lagravere, one of the most popular of all, shades from maroon to deep garnet; Fremey is an un-

usual type with crepe petals of a brick red; Globe d'Or is a large, light lemon yellow flower; Strathmeath, an attractive, rosy pink; Stratagem, about the same size, but crimson with a glint of gold; Brown Bessie, a terra cotta brown button type; Nellie Rainsford, medium sized, orange shading to red; St. Illoria, a pretty sort with quilled petals of rose tipped with silver; Sunset is large type of glowing color with petals of scarlet bronze about a golden center; Daybreak is a large, soft pink.

Round tight dahlias that we used to see primly guarding a stiff walk seemed like so many colored cabbages, and were suggestive of the dreadful period of wax flowers beneath glass domes. Nowadays the word dahlia means an entirely different thing and the careful developers of this flower have eventually added to its improved beauty the attraction of fragrance. Its deep green foliage and well formed bushes make a background
(Continued on page 402)



Irene Craig is a hardy chrysanthemum of large size, pure white with yellow center



The cactus dahlia is an interesting addition to any fall garden, its loose form being a great improvement



Harold Shaw has white petals, the tips of which are tinted with pink



The sundial adds the final touch of completeness to the garden, and lends an atmosphere of charm that is difficult to be duplicated by any other single feature

Simple Instructions for Plotting a Lawn Sundial

CALCULATIONS ENABLING ANYONE TO LAY OUT A SUNDIAL WITHOUT TECHNICAL KNOWLEDGE—COMPLETE MEASUREMENTS IN INCHES FOR A DIAL AND GNOMON THAT WILL WORK ACCURATELY IN ALL SECTIONS OF THE COUNTRY

BY CLAUDE L. WOOLLEY

Diagrams by the Author

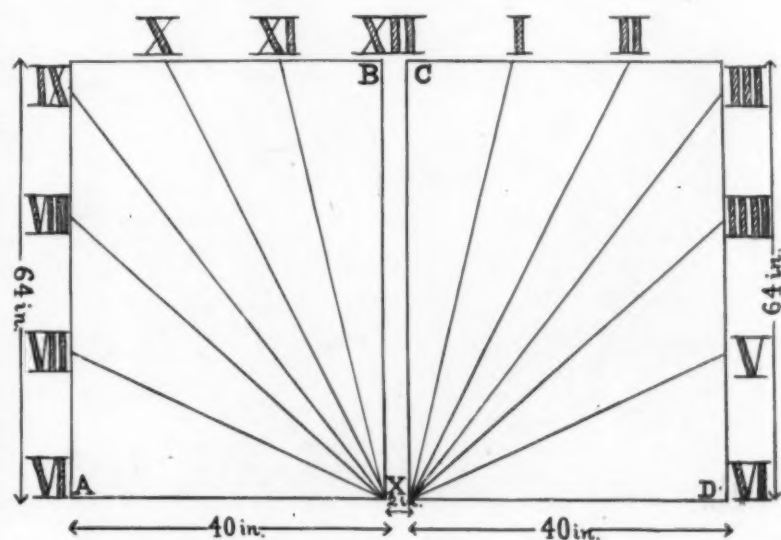


ORDINARILY, making a sundial wherein the hour lines and figures are laid out and marked with lines of various colored flowers, or other means, is not necessarily a difficult matter, but it requires a knowledge of the measurements for the positions of the hour lines for various latitudes, together with the measurements for the proper angle of the gnomon, or piece that casts the shadow.

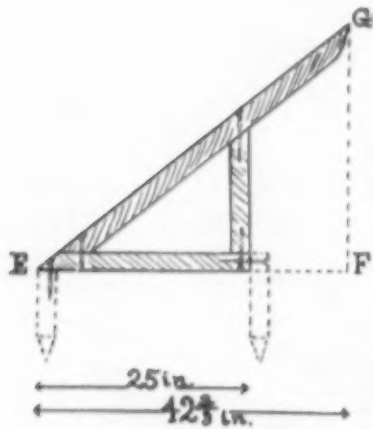
With this information at hand, and a level lawn or other suitable piece of ground on which the design may be placed, you are in a position to lay out a large dial that will be very pleasing and attract much attention.

In the present article I have supplied in the drawings and tables of measurements the proper measurements in inches for the positions of the hour lines, and for the proper angle of the gnomon, for some of the principal cities of the United States, embracing a general range of North Latitude of from twenty-nine to forty-eight degrees from the equator. To apply these measurements and directions to any given location it is necessary only to select the measurements in the tables which are nearest in a north or south direction to the place where the dial is to be constructed and made use of. To illustrate, let us draw an imaginary line on the map, running east and west through Chicago. All cities or towns

nearest in a north or south direction to that line will use the measurements for Chicago; the same rule is to be applied in the case of other cities. This imaginary line, passing in an east and west direction and cutting through any given city on the table, may be extended, not only across the United States, but around the whole northern hemisphere, and cities and towns nearest to it in a north and south direction may make use of the measurements for that city. The distance that you may be located east or west



This figure illustrates the outline of a rectangular dial, and shows the measurements and positions for the hour lines and figures. The letters refer to the table on the next page



The gnomon is made of 2" x 2" pine and fastened with screws

of the city of the table whose measurements you use, is of no consequence. The measurements will apply very accurately to locations within a distance of seventy-five or one hundred miles north or south of the line referred to in any given case, and will work well enough for all practical purposes for locations as much as one hundred and seventy five or more miles north or south of the line referred to.

The best results are obtained by preparing a level piece of ground, with a surface much like a tennis court, the surface soil being mixed with a certain amount of clay. A level lawn may be utilized, but the rapid growth of the grass covers the hour lines and figures of the dial unless it is clipped every

New Orleans, La.....	D to 5 o'clock	20 "	C to 1 o'clock	8 1/2 "
St. Augustine, Fla.....	D to 4 "	45 1/2 "	C to 2 "	18 1/2 "
	D to 3 "	.....	C to 3 "	32 "
	A to 7 "	20 "	B to 11 "	8 1/2 "
	A to 8 "	45 1/2 "	B to 10 "	18 1/2 "
	A to 9 "	.....	B to 9 "	32 "
Charleston, So. Car.....	D to 5 o'clock	20 "	C to 1 o'clock	9 "
San Diego, Cal.....	D to 4 "	42 "	C to 2 "	20 "
	D to 3 "	.....	C to 3 "	35 "
	A to 7 "	20 "	B to 11 "	9 "
	A to 8 "	42 "	B to 10 "	20 "
	A to 9 "	.....	B to 9 "	35 "
Savannah, Ga.....	D to 5 o'clock	20 1/2 "	C to 1 o'clock	9 "
Tombstone, Ariz.....	D to 4 "	44 "	C to 2 "	20 "
	D to 3 "	.....	C to 3 "	34 "
	A to 7 "	20 1/2 "	B to 11 "	9 "
	A to 8 "	44 "	B to 10 "	20 "
	A to 9 "	.....	B to 9 "	34 "
Memphis, Tenn.....	D to 5 o'clock	19 "	C to 1 o'clock	10 "
Flagstaff, Ariz.....	D to 4 "	40 "	C to 2 "	22 "
	D to 3 "	.....	C to 3 "	37 "
	A to 7 "	19 "	B to 11 "	10 "
	A to 8 "	40 "	B to 10 "	22 "
	A to 9 "	.....	B to 9 "	37 "
San Francisco, Cal.....	D to 5 o'clock	18 "	C to 1 o'clock	11 "
Springfield, Mo.....	D to 4 "	38 "	C to 2 "	23 "
	D to 3 "	.....	C to 3 "	39 "
	A to 7 "	18 "	B to 11 "	11 "
	A to 8 "	38 "	B to 10 "	23 "
	A to 9 "	.....	B to 9 "	39 "
Washington, D. C.....	D to 5 o'clock	17 "	C to 1 o'clock	11 "
Baltimore, Md.....	D to 4 "	36 1/2 "	C to 2 "	24 "
Denver, Colo.....	D to 3 "	64 "	C to 3 "	.....
	A to 7 "	17 "	B to 11 "	11 "
	A to 8 "	36 1/2 "	B to 10 "	24 "
	A to 9 "	64 "	B to 9 "	.....
New York, N. Y.....	D to 5 o'clock	17 "	C to 1 o'clock	11 "
Philadelphia, Pa.....	D to 4 "	35 "	C to 2 "	24 "
Indianapolis, Ind.....	D to 3 "	61 "	C to 3 "	.....
	A to 7 "	17 "	B to 11 "	11 "
	A to 8 "	35 "	B to 10 "	24 "
	A to 9 "	61 "	B to 9 "	.....
Boston, Mass.....	D to 5 o'clock	17 "	C to 1 o'clock	11 "
Chicago, Ill.....	D to 4 "	35 "	C to 2 "	24 "
	D to 3 "	60 "	C to 3 "	.....
	A to 7 "	17 "	B to 11 "	11 "
	A to 8 "	35 "	B to 10 "	24 "
	A to 9 "	60 "	B to 9 "	.....
Buffalo, N. Y.....	D to 5 o'clock	16 "	C to 1 o'clock	12 "
Madison, Wis.....	D to 4 "	34 "	C to 2 "	26 "
	D to 3 "	58 "	C to 3 "	.....
	A to 7 "	16 "	B to 11 "	12 "
	A to 8 "	34 "	B to 10 "	26 "
	A to 9 "	58 "	B to 9 "	.....
Bangor, Me.....	D to 5 o'clock	15 "	C to 1 o'clock	13 "
St. Paul, Minn.....	D to 4 "	32 "	C to 2 "	27 "
Salem, Ore.....	D to 3 "	55 "	C to 3 "	.....
	A to 7 "	15 "	B to 11 "	13 "
	A to 8 "	32 "	B to 10 "	27 "
	A to 9 "	55 "	B to 9 "	.....
Tacoma, Wash.....	D to 5 o'clock	14 "	C to 1 o'clock	13 "
Bismark, No. Dak.....	D to 4 "	31 "	C to 2 "	27 "
Quebec, Canada.....	D to 3 "	54 "	C to 3 "	.....
	A to 7 "	14 "	B to 11 "	13 "
	A to 8 "	31 "	B to 10 "	27 "
	A to 9 "	54 "	B to 9 "	.....

A table of measurements to be applied to Fig. 1, and varying according to geographical position



By drawing a circle about the first plan a circular dial may be made

few days and kept up carefully.

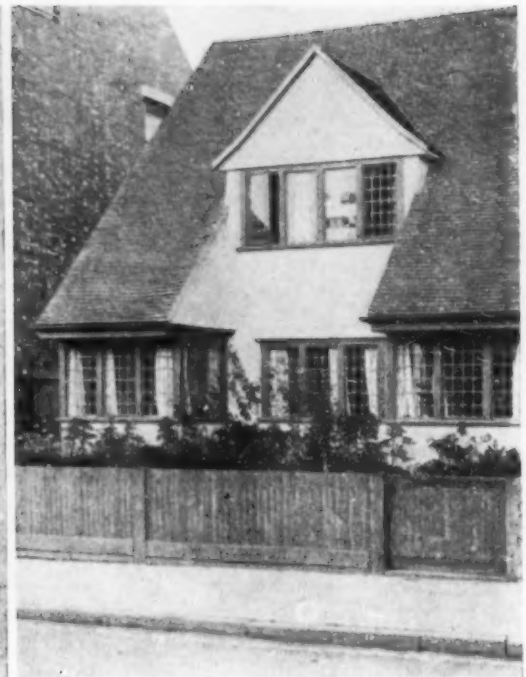
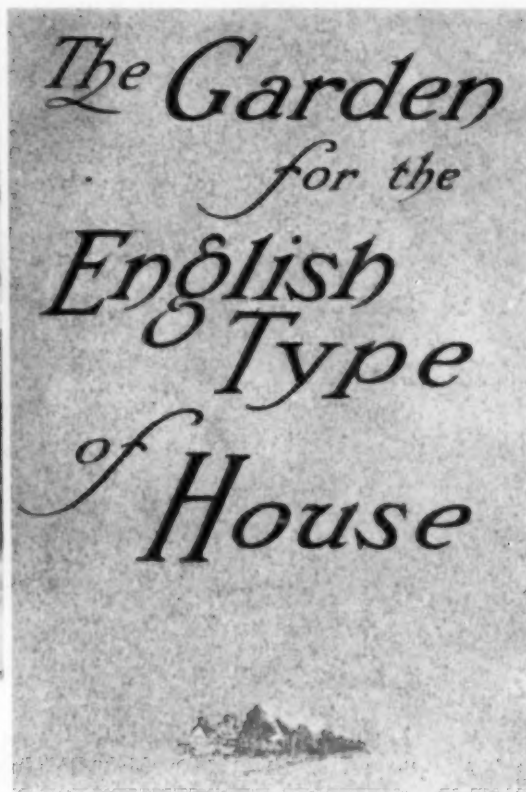
The general outline of the dial, together with the hour lines and figures as shown in Figure 1, may be composed of rows of various colored low-growing plants. Other materials are liquid plaster of Paris, or liquid cement whitened by adding some slaked lime to it and poured into grooves cut into the soil, or small broken pieces of marble or limestone pressed into the soil on the lines and figures as laid out.

The gnomon, or shadow piece, as shown in Figure 2, is composed of square white pine or other wood, 2" x 2" in diameter. If it may be made of metal accurately cut out, of course its durability is increased. It is of the shape as shown in the shaded portion, it being understood that the

(Continued on page 413)



Care should be taken in placing the sundial not only in the preparation of a level stretch of lawn or turf, but to make it a feature in the garden design. A seat such as this about it makes the sundial dominate a special corner of the garden in an effective and appropriate manner. Do not let the vegetation interfere with the sunlight that reaches the dial



THE HARMONY OF COMPOSITION
TYPICAL OF ENGLISH GARDENS

THREE FACTORS WHICH UNITE IN GIVING THEM THEIR PECULIAR CHARM AND INDIVIDUALITY

BY GRACE TABOR

Photographs by Thos. W. Sears and Others

GARDENS are gardens, of course, and at a superficial glance one may seem very like another, although even cursory inspection usually notes the presence or absence of that elusive charm which is the very soul of a garden. It requires really close observation, however, combined with careful analysis, to discover the reason for the presence or lack of this quality. Indeed, gardening is so subtle and intimate an art that one despairs altogether of presenting some of its nicer points, or of defining many of its requirements. Knowledge of them and feeling for them must grow, along with the growth of cultural skill, as one gardens.

But there are three factors in the garden which is now up for consideration which are obvious, and that go a long way toward establishing its individuality and very distinctive charm. These are, first, its brim-fulness, if I may coin the word; second, its absolute freedom from any sense of clutter and crowding, in spite of this; and, third, the fact that it has a "brim" and never runs over. It is in the analysis of these three factors, I think, that we shall find a clue which may be taken as a guide to the reproduction of a true setting for the house which has had the English dwelling, whether cottage or manor, for its prototype.

Gardens and gardening about the old houses of this type begin at the house door and extend to the limits of the space set apart for dooryards. Against this brim the abundance within rolls up and falls back upon itself, as it were, in an abandon of plenty;

and it is not too much to say that the very existence of the garden depends upon this sharply defined and very carefully defended division between it and the world. Remove this and it would spill out and run away; and the outer, coarser world would run in—and no more would there be a garden in that place. Wall, fence or hedge must therefore inclose the garden space first of all. Out from the house and in from this the garden then develops, and in the smaller gardens that are a part of cottage homes, every inch of the space lying thus between house and boundary is not infrequently a mass of flowers.

It is in the care of these and in their arrangement that the sense of crowding which might so easily result from

such planting, is avoided. Margins are scrupulously kept; rows, where they exist, are as rigidly maintained; tall growing plants that have a tendency to lop over or spread themselves about, are trimly supported and held in place; dead growth, either leaf or branch, is removed as soon as it shows withered, and turning



A hillside garden where there is ready entrance from every level and a delightful air of familiarity prevails



The walks are as distinctive as other parts of the English gardens, and this one of earth is in characteristic harmony with flowers and cottage



There is a fulness about these gardens which, although it does not result in overcrowding, yet occupies all the available space

from its green freshness; faded flower heads are trimmed off; and everything is perpetually in order. Everything has its place and keeps it, thanks to the discipline maintained; consequently everything has room enough—and there actually is no crowding, although the space is trim full. However small the space may be, too, it still affords garden opportunities, under this method.

Here, for instance, is a scrap of land alongside an old stone cottage which is as eloquent an example as may be found of adaptation to conditions, and of small opportunity made the most of. The crudest materials have been used—stones and old tree stumps, hollowed out to hold earth—but a garden bit of exquisite harmony and feeling has been produced; and this on a four-foot strip against a building—one of the most difficult spots to handle satisfactorily. Really this little garden is almost vertical, with the vines and rose against the cottage and the other plants among the

rocks so close at the foot of its walls. The rose which is not at once apparent in the picture, ascends against the wall beyond the bow window, one branch sprawling over the stump at the right.

This spreading and climbing rose emphasizes one of the secrets of the charm of old gardens generally, and of this type of garden in particular; that is, the close relationship, the intimacy existing between the house and the garden. The nearness of the house to the ground is one reason for this unity, of course, but growth that ascends the house wall as well as spreads outward at the foot of that wall unites house and ground as no merely vertical growth possibly can. It is directly into the house entrances that the well-kept garden walks lead, however, with no arrogant steps to interrupt or delay them on their way; and this makes it seem that the turf and the flowers themselves would be as welcome inside as out, if they chose to venture within such inviting portals; no barrier is ever raised to stay their progress.

Here is a hillside garden, for example, where there is ready entrance from every level. Surely it would occasion no surprise to find the flowers marching in and making themselves at home. Why shouldn't they? Is it not evident that outdoors and indoors are so close to each other as to be almost one, in this home? Observe that here in this garden, however, even with all its abundance and sweet disorder, there is no clutter and no crowding. The graveled walks maintain their proper lines; and the luxury of bloom is such as comes only to plants that do not have to struggle for a living. Here is a veritable flower paradise, where none is worried or troubled—and none is lonely.

The walks themselves are as distinctive as all the rest in these gardens that are so close and intimate a part of the house and the home. Nowhere is there a walk that in itself is not interesting, full of character, and possessed of a real beauty. Such a hideous thing as cement is unknown; care and thought have been put into the construction of these homely utilities, and they are developed as real features, with real indi-



A walk of four parallel rows of tiles set in the turf not only adds character to the stretch of turf, but prevents an unsightly path being worn in the grass



The terrace vies with the porch as a loitering place on summer afternoons, careful flower planting adding greatly to its charms



The intimacy and home-likeness which are prominent features here are two of the greatest assets in gardens for the English type of house

viduality. Here is one of earth, leading through this wilderness of blossom to the cottage doorway. Into it gravel and small stones have been worked, in time, until it is as smooth and hard as a walk of brick. Here is another of tile, laid neatly just into the ground, in four parallel rows. Could anything be more charming? The breadth of turf between the long borders of foxglove and plantain lilies on either side is all included, of course, in the entrance space; but the tiles take the actual wear, and prevent an untidy little path being trodden in the midst of the turf stretch.

Here, by the way, is a garden space not quite so lavishly filled. To the left lie the fruit and kitchen garden; to the right a second broad space of turf equal to the entrance space, with another border beyond, parallel with the first. Simplest of simple designs it is; yet what distinction it has; and how truly picturesque it is. Here would be commonly found, in altogether too many American dooryards, a flower-bed shaped like a star or a crescent or a heart—or goodness knows what! And at great trouble this ugly and unnatural form would be maintained, its edges trimmed and its even proportions carefully guarded. Whereas, the long straight border has little or no difficulties of this sort to be overcome; and it is infinitely more beautiful.

The brick walk which leads into the old cottage at Berry is a bit more pretentious perhaps, but not a bit more attractive, than the others. Here an edging of low growing boxwood restrains the flower borders on either side. These, by the way, will form a veritable hedge before the summer wanes, with their tall growth and the lesser, denser specimens before it. Where but before an English cottage would it be thought possible or proper to have such great tall fellows growing out in the open? The commoner way would be to plant them against a wall or before a building where something taller than they would rise back of them. This is not necessary; hollyhocks beside a path are as suitably placed as ever they are when against the house. Be sure of this.

Flowers in the greatest abundance

the garden about the English type of house must have; but these will not necessarily be the flowers commonly found growing in the gardens of English houses. Plants which do so well there sometimes will not thrive here at all. So it is a question of selecting, of finding out what will furnish the very best results in a given place—and then of concentrating on those things. The garden that is well planted will be dominated by one thing at a time, and half a dozen varieties of superlative merit will come nearer to duplicating the effect of the Old World garden than twice that number of less excellence. Remember that it is effect that is to be striven for; not actually an imitation of the English garden, in kind as well as design. Native wild asters will produce here a mass of rich color and gorgeous floral display quite different from the English daisy, for example—yet in its way quite as superlatively good. A

(Continued on page 406)



More pretentious than the one pictured on the opposite page, this brick walk leading to a Berry cottage doorway is edged with low boxwood



Before planting one should get an idea of the height and spread of a plant before placing it in colonies. Cosmos, for instance, needs some tall companion and should be used in the background or to break a vista

The Best Use of Annuals

THE FUNCTIONS OF ANNUALS IN ROUNDING OUT FOR HARDY GARDENS—GUIDING SUGGESTIONS FOR PLANTING—VARIETIES THAT SHOULD BE BETTER KNOWN

BY H. S. ADAMS

Photographs by N. R. Graves

BEST of all the uses of annuals is the most natural one—the employment of them to fill any spaces that hardy plants leave in the garden. Then, if the planting be naturalistic, the flower colony looks as though it had sprung up spontaneously.

No one can be said really to know annuals who has not seen them in such plantings. Barring a few of the very stiff ones, they take on a grace and beauty—a final touch of both—that is lacking in the formality of set designs. It is the difference between the irregularity of a dazzling patch of corn poppies in an English field and a circle, square or triangle of the same flowers cut out of a patch and removed where there is no more of the kind.

Annuals thus employed are invaluable to the hardy garden and

borders. Even in the best regulated families, hardy plants cannot always be made



to cover every inch of the ground that they are required to fill unless they have evergreen foliage to begin with, and even then there may be perishing just the same. Spring bulbs die down after blooming, the early lilies soon turn brown—as do bleeding-heart, Oriental poppies and some other perennials. Not a year but there are bare spots that nature will strive to fill with weeds rather than have them bare. Here annuals are welcomed.

But it would be doing annuals scant justice to leave them to hazards of this sort. Paradoxical, though it sounds, it is an unideal hardy garden that does not provide in the layout for one or more colonies of annuals. Without them there is, somehow, a sense of incompleteness in the garden.



The peony has been wonderfully improved in color and size, and is valuable for borders and edgings

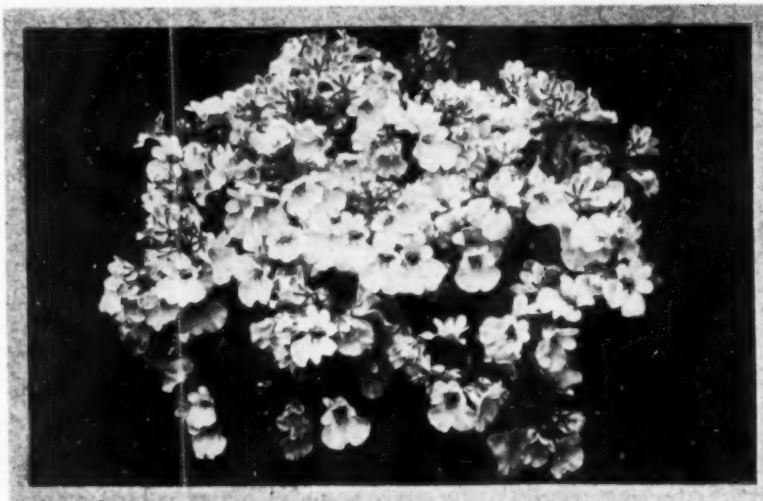


The greater the departure from the conventional the more objection there is to using double flowers. The objection is highly elastic; nine times out of ten it need not bar the showy double forms of the China aster, clarkia, zinnia, stock, poppy and African marigold. The chances are, however, that where thought is given to the matter the peculiar advantages of single forms for drifts and other naturalistic plantings will be apparent; single China asters and poppies look natural, double ones do not.

Besides those mentioned some of the best annuals for unconventional massing are larkspur, *Arctotis grandis*, godetia, lupine, Drummond's phlox, schizanthus, candytuft, leptosyne, nigella, cornflower, eschscholzia, cosmos, petunia, nemophila, *Saponaria vaccaria*, phacelia, scabiosa, chrysanthemum, spreading lobelia (*L. speciosa*), nemesia, *Gypsophila elegans*, nicotiana, viscaria, *Brachycome iberidifolia*, portulaca, coreopsis, alonsoa, *Dimorphotheca aurantiaca*, leptosiphon, petunia, sweet sultan and *Lavatera rosea*.

Where there is a choice of color, as in the case of the larkspur and phlox, make it the general rule to plant only one tone in a colony. If the latter is very large and two colors are desired, mass each; but divide the space unequally between them and make the line of division very irregular.

One of the saddest mistakes made with annuals is to plant them in mixtures. Some flowers, poppies for instance, never shock you grievously when all colors are thrown together; but zinnias, China asters and Drummond's phlox, among others, do with a vengeance. While between these extremes are instances where a mixture may be suffered, no annual can be seen in perfection unless the varieties of the species are segregated. Treated this way some of the shades of the zinnia and China aster that seem unbearable when in close contact with others take on genuine beauty. The sweet sultan, scabiosa, portulaca, nemesia, petunia and Drummond's phlox likewise show a vast improvement



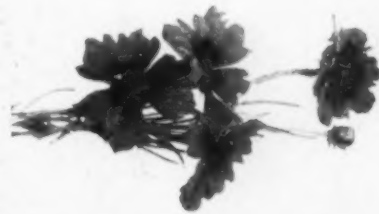
Nemesia should have a place in your garden. It does best when started in pots and can be transferred later



Poppies are about the only annual that can be planted with species mixed, but a colony of single color is very attractive

when the colors are separated.

Beware of "art" and strange shades, unless the scheme is one that needs just such tones; they are beautiful when rightly applied, but not easy to apply. The large mauve blossoms of *Martynia elegans* are



Silene self sows rapidly. Cut the flowers or it will crowd out other plants

difficult picture material; so are the gold-veined blossoms of salpiglossis. And there are certain shades of scabiosa and sweet sultan that it were better to discard than to use without proper thought.

Before deciding on annuals for temporary colonies in the hardy garden and borders, get a comprehensive idea of the height and spread of the plant; frequently a seed catalogue will give the one in print and the other in picture. Thus cosmos is very tall and therefore for the background, save when used near a border edge to break a vista—though its height may be reduced by the somewhat reprehensible practice

of pinning down the plant and letting the side shoots grow perpendicularly. Low annuals, like *Brachycome iberidifolia* and godetia, are for the immediate foreground or very open spaces between perennials that are farther to the rear.

In the placing of annuals among perennials a point always to be considered is the freedom with which they self-sow and thus become a nuisance unless watched very closely. The cornflower, larkspur, coreopsis and *Silene armeria* are as much of a pest as weeds if left entirely to their own way of thinking what their share in the population of the garden ought to be. These should have the blossoms, as they fade, snipped off with scissors—not a burdensome task if the planting is not an uncommonly large one and the work is done daily.

Where the planting of a hardy garden or border is delayed to afford time for accumulating a stock of perennials in the home nursery, annuals may serve two excellent purposes at once. Get the ground in readiness for its eventual use and then devote it to annuals entirely for one, two or three years—as circumstances

(Continued on page 410)



This view of the garden shows what a pleasant effect was obtained by vistas through an opening in the wall suggestive of cloisters. No elaborate horticulture is attempted, the floral effects being restricted to vines on walls and trellises, and urns filled with ferns and an occasional geranium

Embellishing the Back Yard

HOW CITY YARDS MAY BE IMMENSELY IMPROVED BY THE USE OF BRICK AND PLASTER
AND THE ASSISTANCE OF GARDEN FURNITURE—SUBSTITUTING ARCHITECTURAL
BEAUTY FOR THAT OF BLOOM AND BLOSSOM—THE VALUE OF VINES

BY VIOLET GORDON GRAY

Photographs by the Author

FOR years the city back yard has been placidly accepted as hopeless. A convenient spot, it is true, in which to keep the household garbage-pail and ash-barrel, but certainly not a place which could ever be expected to lay the slightest claim to the aesthetic. Lately, however, the city householder has ceased to shrug his shoulders quite so calmly, for the dreariness of his little yard is affecting his nerves. Besides, he is realizing that there is a remedy; that his tiny scrap of ground may be made to yield almost as much real pleasure and refreshment as the half-acre of his suburban brother.

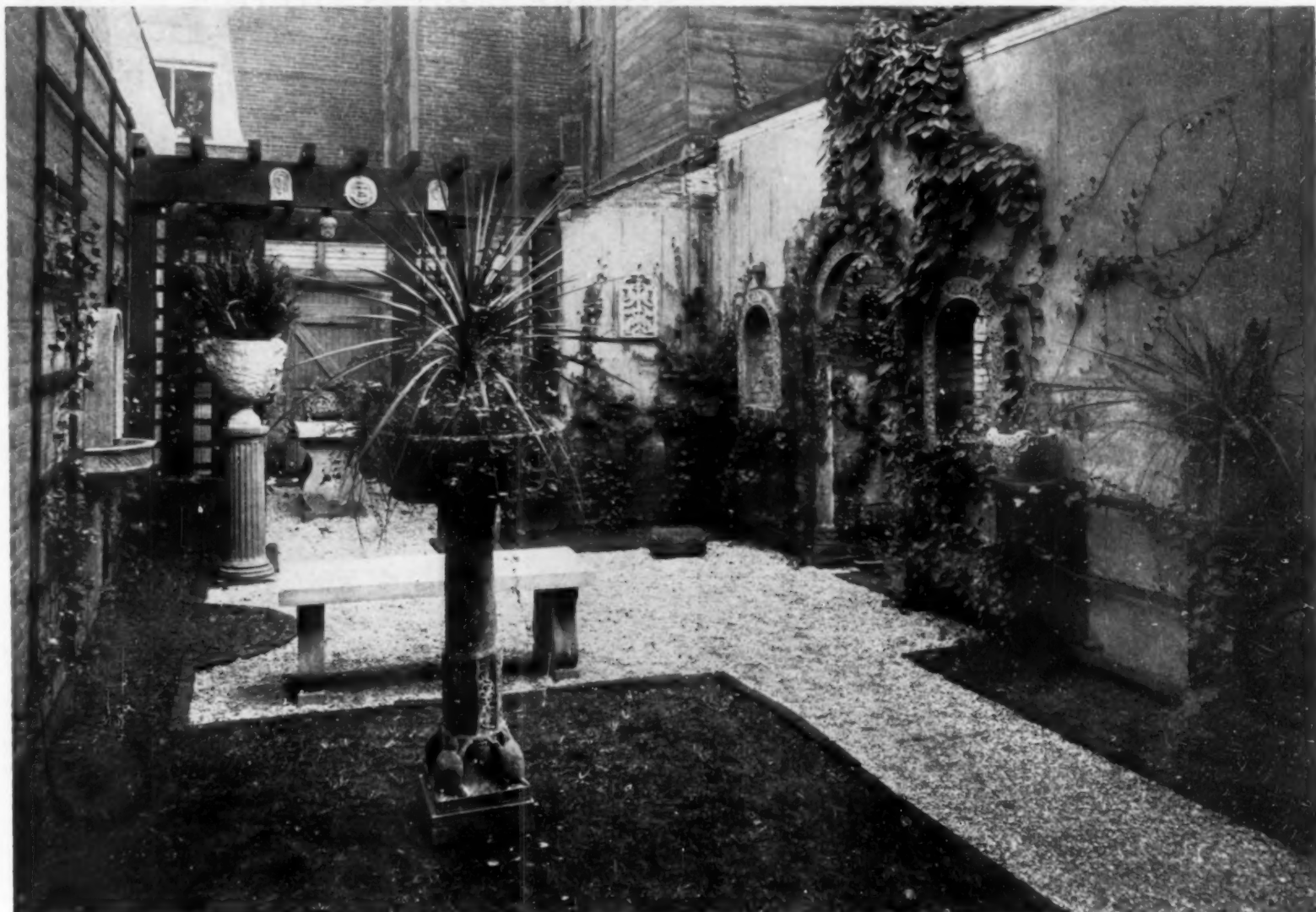
Of course, for the city dweller there can be no great, glorious beds of brilliant-hued flowers sprawling in the sunshine, no massive clumps of shrubbery, no wide-spreading trees. His garden must necessarily be compact and formal—specialized. Paradoxically enough in its meagerness and formality lies its charm, a quaint charm reminiscent of the little cloistered gardens that are so frequently to be found in the old monasteries.

Even more than the country garden the city one is dependent for success upon thoughtful and judicious planning, rather than on the mere expenditure of money. Where space is so restricted every detail is of importance, and a false note is disastrous.

The background of the garden, its surrounding walls, are the first and greatest problem. A high wall built of handsome, dull brick, with the quaint coping we find in Kate Greenaway's pictures is considered the ideal thing by many experts, but in the long run the ordinary brick wall, its crude redness hidden under a coat of plaster tinted in soft, old ivory tones, may be even more satisfactory and certainly affords an artistic background for vines and shrubs.

If the garden is surrounded by a board fence this may either be painted the conventional white with the green lattices of the French garden, or, more practically, be stained a soft brown.

A few well-chosen pieces of garden furniture are needed. Beautiful reproductions of the old-world marble benches and



A back yard of hopeless outlook had its very limited space transformed from unsightly bareness to considerable attractiveness by the use of garden furniture and ornaments and the judicious planting of vines. The walls are brick covered with plaster

urns can be had in concrete, which is not only so much cheaper, but much more suitable for our rigorous American climate. The cement does not become weather-stained, and its gray tones are always charming.

The planting of the garden depends, of course, on individual preference. Blooming plants, however, are hard to raise where sunshine and air are limited. Evergreens, shrubs and ivies will prove more practical, with, perhaps, a few potted flowers from the florists to lend color.

The accompanying illustrations show what has been done by the Arts and Crafts League of Philadelphia with the yard in the rear of its shop and studios. Quaint and beautiful, it is also extremely practical and has some points well worth considering.

The low trellis, stained in dark brown, and covered with ivy, is delightful against the brick and plaster walls. At intervals the trellis is divided by posts which serve as pedestals for cement and mosaic jardinières. An arbor at the back of the garden obscures the high board fence separating the garden from the alley, and gives an air of distance.

In the background is a little old brick court belonging to some of the League studios. This is connected with the main garden by an arched opening which, with its columns, has a most alluring air of mystery. In front of the archway the narrow pebbled path is enlarged into a good-sized square.

Across the pebbled square from the arch is a wall fountain and a concrete bench. Several flower urns on pedestals of good design are extremely decorative.

No elaborate horticulture has been attempted. Instead the floral effects have been wisely restricted to English ivy clambering over the walls and trellises, urns filled with ferns and ornamental evergreens, and here and there a brilliant-hued geranium making a gorgeous splash of color. In spring the path is bordered with crocuses and hyacinths.

To all those who know and visit the Arts and Crafts League the garden is a delight. Where the League has pioneered, we hope that others will follow, and that the neglected back yard will soon be a thing of the past.

There are many cases where the formal treatment is adaptable to country as well as city gardens. The pergola should lead to a summer-house, and where this is of old, damp woodwork, some dry, comfortable concrete structure of simple design, floored with brick and roofed with tile, can well be substituted. Here formality and the use of architectural ornament give unusual and artistic results. Again, where the serving-yard is separated from the garden by a wall, arches will give the most attractive vistas—and the walled-in garden is by no means unusual in the country. In fact, people are growing more and more to appreciate the advantages of this type, especially in the South and the Southwest, where it forms a practical out-of-door room to the house and can be used throughout the greater part of the year. Here the enclosed garden can easily be made to conform to the attractive type of the Spanish mission, and the ideas that have been employed by the League can be varied in an infinite number of ways, all of which may have equal artistic possibilities.

Success with Asters

HOW TO PLANT AND CARE FOR THIS GREATLY IMPROVED ANNUAL SO AS TO HAVE A WEALTH OF BLOOM EXCELLENT FOR CUTTING—THE ASTER ENEMIES AND HOW TO DESTROY THEM

BY NINA R. ALLEN

Photographs by Nathan R. Graves



A single aster

THE aster, always deservedly favorite among the annuals, has of late years been so wonderfully improved that it is especially desirable in all gardens. Its evolution from the single type almost like our daisy parallels

that of the chrysanthemum, and today it grows almost as large and showy, many single blossoms being almost six inches in diameter. The colors are remarkably diversified, and the plants grow vigorously even when started out-of-doors. There

are a few hindrances to its growth which may easily be overcome, provided only that proper and consistent care be employed.

Good asters may be grown even in soil naturally poor if one goes about it in the right way. Indeed, asters were produced by the author in new ground, which in early spring was almost as hard as a sidewalk, being a fine gray sand that bakes in the sun to a brick-like compactness; and it was acid, besides.

This is how we did it:

When the bed was marked off, the ground was heavily covered with lime. This was dug in, and the soil was left

surface and spaded in. We did this some two weeks before the young aster-plants were brought from the seedbed to their permanent quarters. Once or twice during the season, the plants were liberally watered with soap-suds, care being taken to put the water at the base of each plant and not on its leaves.

The season of 1911 was very unfavorable, as the early months were hot and dry. But August brought plentiful showers, and the asters, which had been standing still through June and July, shot up with wonderful rapidity. When budding, sheep manure of a good commercial sort—some is much adulterated—was dug in about the plants; and this, with more showers, produced many blossoms, most of which were fine in form, size and coloring. Wood ashes would have been a good tonic for them, but these plants had to do without it.

I have always raised asters under the most adverse conditions, namely in sand. Where there is sand, there are millions of ants, and where ants do congregate, there are the root-lice to be found—aphides is too good a name for the horrid things. Only one plant is more difficult to grow in sand than the aster, and that is the rose, especially the fragrant rose. To attempt the latter is futile; but the aster problem can be solved. And who does not want asters, if attainable?

Asters like a soil similar to woods-earth. Woods-earth, even if obtainable, is liable to be infested with snails and slugs which will destroy the plants.

Dig up the aster beds or borders in autumn, spading in grass-clippings mixed with wood-ashes, and in the spring you will have a soil congenial to asters. Then, six or eight weeks before using, lime the bed heavily, spading it in well, and you will not be likely to have trouble with



Branching asters are long stemmed and large sized. This is an early sort that comes in rose, lavender and white



The Victoria type may be had in all colors, is free flowering, and bears many flowers on a single bush

unused for six or seven weeks to be acted upon by air and rain. Next, grass-clippings which had been heaped up and allowed to decay until of the consistency of rich black earth were spread six inches deep over the

root-lice. If, in spite of this precaution, they should appear, apply wood-ashes to the ground round the main stems, but not so as to touch them; and water with soap-suds. Repeat, if necessary. It is well to examine the roots of young



Truffaut's Peony Flowered Perfection is a double variety with large and incurved petals



The variety Violet King bears extremely large flowers with strongly incurved petals



Crego's aster is almost as large as a chrysanthemum with flat petals gracefully curved

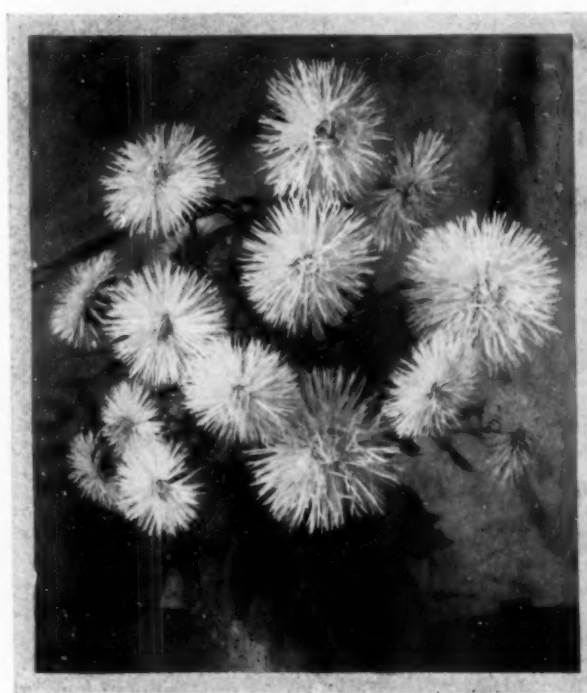


Semple crimson aster is of the branching type, but an excellent and large flowered form

asters before transplanting, and if any of their white or greenish-blue enemies are present, dip them into a bath of soap-suds before setting out the plants. Wood-ashes and Ivory soap-suds provide a sovereign cure for the ravages of these creatures so ruinous to the blossoms of the Composite family, for which they seem to have an affinity. I have seen half a dozen other members of that vast order, when grown in sand, affected by these pests, although not suffering in so great a degree as the aster.

One year, having forty or fifty asters that showed unmistakable signs of root-lice, I took up the plants and found the roots so completely covered with the unpleasant white objects that the crowded aphides looked like beads on a purse. I sprinkled the roots with flowers of sulphur, and put the plants back. They soon recovered from their removal, lost their sickly appearance, and produced perfect blossoms. Late in the fall I examined the roots. The aphides were still there, but they were dead ones. The sulphur had worked havoc in their thriving family.

A tousled appearance of the blossoms, or arrested development



The Ostrich Feather is particularly interesting for its delicacy and light, wavy, twisted petals

in color or form of flower, is usually an indication of root-lice. But signs sometimes fail here as elsewhere. The aster, which endures transplanting wonderfully well, resents even slight interference with its roots; and on one occasion I found only a big angle-worm coiled among the roots, while the symptoms pointed to the presence of aphides.

The aster disease or rust gives to the entire plant a sickly look, with brown or orange spots beneath the leaves, where the tissue has died. Avoid all except the oldest manure, lime the ground if sour, apply wood-ashes as a sweetener of the soil and a tonic to the plants, not using either too liberally at any one time; spray the plants with Bordeaux mixture. This should be used on the first appearance of the trouble, better before, if it is feared. Repeat the spray every week or ten days, taking care to reach the underneath side of the leaves. For best results, apply when freshly made. To make one gallon, dissolve

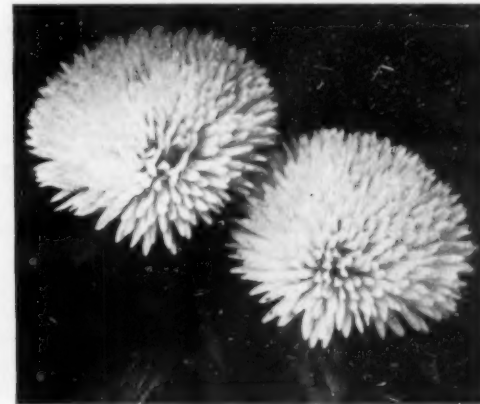
separately one ounce of copper sulphate and two ounces of fresh
(Continued on page 407)



Favorite has flat outside rays with the center florets delicately cleft, and is an interesting type



The rays on Hohenzollern are strap shaped except at the center, where they are incurved and twisted



A quilled form of the Daybreak aster. Another resembling this is the Needle of the Victoria type



Complete Directions for Spraying

FULL INSTRUCTIONS IN DETAIL AND TABULAR FORM
OF HOW TO COMBAT GARDEN PESTS AND PLANT DISEASES
— WHEN AND HOW TO ACT — DIAGNOSING FLOWER ILLS

BY F. F. ROCKWELL

ABBREVIATIONS.—AL—Arsenate of lead; PG—Paris green; H—Hellebore; Nic.—Nicotine preparations; MO—Miscible oil; KE—Kerosene emulsion; W—Water, hot (for dipping); BM—Bordeaux mixture; LS—Lime sulphur; AC—Ammoniacal solution copper carbonate; SF—Sulphur, flowers of (for dusting). a—After; b—Before; d—Days; f—Follow up in; B—Blossoms; O—Open; F—Fall.



SPRAYING TABLE

INSECT OR DISEASE.	ATTACKING.	REMEDIES.	REMARKS.
HOUSE AND FLOWER GARDEN			
Aphis	Various plants, mostly indoors	Nic.; KE	Two or three applications several days apart will be necessary to get the plants clean; avoid shade, dryness and crowding.
Aster-beetle	Asters mostly	AL; strong	Usually appear quickly in large numbers; quick work is necessary to save the plants.
Mealy-bug	Coleus, soft-wooded plants, inside	KE; W	Hide in leaf axils; if only a few appear kill with match stick and alcohol.
Red-spider	Roses and other plants, indoors	Syringing	Avoid dry atmosphere; apply water with as much force as possible several times a week to foliage.
Rose-beetle	Roses, out-of-doors	AL; PG; strong	Use hand picking into can of kerosene and water in connection with spray.
Scale	Ferns, palms and hard-wooded plants	KE; W	Dipping is most effective treatment; rinse carefully afterwards.
Thrips	Various, mostly outdoors	AL; PG; KE	Very small; they eat the leaf epidermis leaving the skeleton.
White Flies	Various, mostly indoors	Nic.; KE	Avoid any sudden shock, such as a cold draft from a window, etc.
Mildew, powdery	Roses and others	SF	Before spraying remove and burn all affected leaves or plants carefully.
Leaf spot, rot or rust.	Various	BM	
VEGETABLE GARDEN			
Aphis	Melons, cabbage, etc.	Nic.; KE	Spray must reach under side of leaves, especially of melons; several applications three or four days apart.
Asparagus-beetle	Asparagus foliage	AL	Late in summer all vines should be cut and burned.
Caterpillar	Cabbage, tomato and tobacco	AL; PG; H	Use BM in connection with LA; tobacco dust as preventive.
Cucumber-beetle	Cucumbers and vines	AL; tobacco dust	Make a poisoned bran bait by mixing 1 qt. wheat bran, one teaspoon white arsenate, one teaspoon cane molasses.
Cut-worm	Cabbage, tomato, onions, etc.	AL; in bran	Especially injurious to seedlings of cabbage, turnip and radish; tobacco dust as preventive.
.....	Tomato, potato; cabbage, turnip seedlings	AL; tobacco dust	Especially injurious to eggplant; hand pick as well as spraying.
.....	Potato, eggplant and tomato	AL; PG	Tobacco dust as preventive as soon as plants get above ground; kerosene emulsion for young bugs.
.....	Squashes and vines	KE; tobacco dust	Tobacco dust as preventive as soon as old flies appear; injury is done by the young nymphs.
White-flies	Tomato, cucumber, etc.	KE; Nic.; tobacco dust	Keep vines sprayed after middle of July with BM as preventive.
Mildew	Cucumber, lima beans, etc.	BM	For cucumbers, same as above; for potatoes, begin spraying when about six inches high, and keep new growth coated.
Blight	Cucumbers, potatoes, etc.	BM	Keep covered with BM after the middle of July; on celery late spraying should be done with AC, which does not stain the foliage and stalks.
Leaf spot, rot or rust.	Beans, tomatoes, celery, etc.	BM; AC	
ORCHARD AND FRUIT GARDEN			
Apple-scab	Apple, pear	BM; LS (summer)	Three times: b B O; a B F; f 14 d.
Blister-mite	Apple, pear	LS; MO; KE; strong	Spray thoroughly in late fall or early spring.
Bud-moth	Apple	AL	Twice; when leaves appear; b B O.
Caterpillar, tent	Apple	AL	Burn nests before caterpillars begin to spread.
Canker-worm	Apple	AL	Same as for Codlin-moth.
Codlin-moth	Apple	AL	In addition to spray use burlap bands on trunk for trap during July.
Curculio	Cherry, peach, plum	AL; strong	Spraying not very effective; jar trees every cool morning and catch beetles on sheet; spread beneath for several weeks after B F.
Curculion-worm	Currant, gooseberry	AL; PG; H	At first appearance, usually before blossoming, spray at once. If a second brood appears after fruit forms, use hellebore.
Leaf-hopper	Grape	KE	Be careful to cover under side of foliage.
Scale, San Jose	All fruit trees	LS; MO; KE; strong	Spray during winter or early spring, covering every part of trunk and branches.
Scale, Oyster-shell ..	Apple and other fruit trees	KE; medium	KE, medium strength, applied in May or June, when young scale which appear like small, whitish lice, hatch out.
Black Rot	Grape	BM; AC	BM until middle of July; after that, AC. For one or two vines cover each bunch when half grown with manila "store" bag.
Fruit Rot	Plum, peach, cherry	LS (summer); BM	Keep fruit thinned so it will not touch. Gather cherries before quite ripe and spread out in a cool, airy place.
Leaf Blight or Curl..	Plum, peach, cherry	LS (summer); BM	In using LS, be sure not to get it too strong.
Mildew	Gooseberry, especially foreign sorts	Potassium sulphide	Keep plants pruned to open form to allow free circulation of air.
Rust	Strawberries	BM	Keep plants sprayed during first season and until a B second season.

CALENDAR OF OPERATIONS

SPRAY APPLE AND PEAR		SPRAY CHERRY, PLUM, PEACH AND APRICOT		SPRAY ROSES.	
When leaves unfold. Three days after petals fall. When first worm hole is seen on tiny fruits; watch closely for this and get busy instantly. Thirty days from this time. Whenever small caterpillars are seen. The twenty-fifth of June. The fifteenth of August.	With arsenate of lead combined with first strength Bordeaux; this makes one application do the work of two. With arsenate of lead alone. With arsenate of lead alone.	When leaves unfold. When petals fall. Ten days after petals fall. Ten days from this application. Ten days from the last application.	With arsenate of lead combined with second-strength Bordeaux. The latter may be omitted from the second spraying and from the last two sprayings, if trees are in prime condition.	Before growth has started at all. When leaves unfold. May first and on, every week. As soon as slugs or rose beetles appear. Whenever aphids (plant lice) appear.	With full strength soap wash, used hot. With second strength Bordeaux. With potassium sulphide. With arsenate of lead. With the dilute soap wash.

PLANT life is much like human life—food and water must be supplied to maintain it, and sufficient artificial means of combating those things which prey upon it must be employed. There is, however, this important difference, that while many of the ills which flesh is heir to run their course and disappear naturally, almost every plant trouble will prove absolutely fatal unless the gardener uses some means of counteracting it. Furthermore the plant is absolutely unable to defend itself, and you as the gardener and also the doctor are responsible in the majority of cases for any fatalities occurring among the plants under your care.

So far the most effective method of treating plant ills, either insects or diseases, has been the use of spraying. And a series of inexpensive and effective remedies have been developed with which, if properly used, the gardener may successfully fight most of the troubles of the sorts which he is apt to encounter. It should be emphasized from the start that success will depend almost wholly upon just how seriously you take those three words. The first law in spraying, if you want satisfactory results, is timeliness; the second is thoroughness. You have got to do the work on time and do it thoroughly or you might better save yourself the time and trouble involved and trust to luck, as so far no Christian Science method of treating squash bugs has been discovered.

And, furthermore, you must make the punishment fit the criminal, not the crime; you cannot reform a squash bug by feeding him Paris green nor produce any effect on a potato bug by spraying him with Bordeaux mixture except possibly to soil slightly his handsome outing costume. In other words, some insects suck the juices from the interior of the plant, and against them poison applied to the surface is of course ineffective. Those which eat the leaves, such as the caterpillars and most of the bugs and beetles may be influenced for the better by such things as lead arsenate and Paris green—but at the same time one does not care to carry this reform as far as the family table, and therefore such things cannot always be employed, even for the insects against which they would otherwise be effective.

Do not, however, be alarmed at the amount of data which may appear at first glance to be in the accompanying table. Not all of these friends will visit you every season, and even for those



The compressed air sprayer is charged with a few strokes of the plunger, hung from the shoulder by a strap, and is ready for use

more convenient, especially when mixing up a small quantity in a hurry, one of the prepared insecticides such as Aphine or Tobaccine. All of these should be properly labeled and kept with the spraying apparatus in a place where they will be safe from children and where you may find at any time what you require for instant use.

A small sprayer of the type suggested above will be useful for so many purposes and during such a large part of the year that you should not think of trying to get along without one. You will require its services in the management of your house-plants and in the flower garden, in the vegetable garden, for your small fruits and for your few but highly prized fruit trees.

When one mentions spraying plants in the house you probably begin to wonder if it would be a good thing for the background of modern wall-paper. Many of these I maintain would be benefited by a spray treatment, but nevertheless it is possible to confine it to the plants themselves by placing them in the sink or tub, or upon several sheets of newspaper on the floor. If you can't put the spray on the plants, you can dip the plants in the spray; immerse them for a few seconds and then, after they have dried a bit, dip them in water to remove the corpses.

The three pests most troublesome in the house are aphides, mealy-bug and scale. A good thing to use against all three of these is Aphine, a pleasant-smelling compound containing a very minute percentage of nicotine, and cedar and pine oils. This and similar remedies kill by

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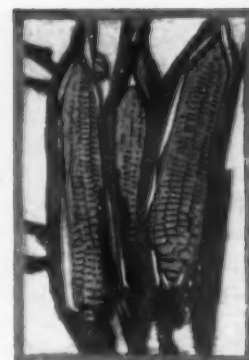
Aphides infest the underneath side of the leaf in colonies of white specks



Their presence is discoverable by a shiny, oily appearance on the leaf surface



THE HUNDRED PER CENT GARDEN



THE THIRD TWENTY PER CENT, PART TWO—LATER PLANTING OF THE MORE HARDY VEGETABLES—CROPS THAT NEED SUPPORT—SPECIAL FERTILIZERS—WEEDING AND HOW TO DO IT

BY F. F. ROCKWELL

Note: Heretofore the home garden has been looked on by many people as more or less of a hobby deserving only as much attention as one usually gives to the pursuit of recreation. That it deserves to be taken up seriously, studied in all its details and developed to the limit of its efficiency is a new presentation of the subject. How to have the very best garden possible on a business basis is the theme of the present articles, although they are also planned to aid those who can give but limited time to the garden's cultivation. They take up carefully and practically one detail after another in natural succession to the completion of the hundred per cent. garden. The first three articles dealt with the sowing of seeds indoors, solving the plant food problem and the planting of early vegetables, appearing in the February, March and April issues. The fourth twenty per cent. will deal with the cultivation of the garden. EDITOR.

THE directions given in the preceding article left the planting of the vegetable garden well under way, and all things which remain to be planted are of two sorts—the “tender vegetables,” and the succession and late plantings of hardier varieties whose first crops have already been started.

These must be treated carefully, for the enthusiastic beginner is likely to be in a hurry to get the balance of his planting done and be able to congratulate himself that he has got the whole job finished. As a matter of fact a good gardener is never done planting. There are a number of things such as lettuce, radishes, beans, beets, turnips which, in order to procure the very best quality in the product, he knows he must plant more or less continually throughout the whole season. And then there are in July late turnips from seed, and cabbage, cauliflower and celery plants to be set out—and possibly on the Fourth of July a last planting of Golden Bantam sweet corn. Along in August, when it begins to grow a bit cooler again, some early peas such as Gradus or Latonian should be planted for a late fall crop; and still later, onions and spinach for wintering.

Nevertheless, there is of course, a “planting season” and it is the second period of this, covering May and early June, that constitutes by far the most important feature of this month's work in the garden. For the convenience of the person with a

small garden and doing most of his work after business hours and on Saturdays, we will plan this work for four Saturday afternoons in May, though of course the actual week day makes no difference.

You may remember that the fact was emphasized that you could not be too early in getting your cabbages set out or your onions planted. Now the beginner who is apt to be over cautious

in these things is just as likely to be too much in a hurry with his peas, tomatoes and other tender vegetables. He should realize, however, that the difference between the hardy and the tender vegetables is not a difference of dates on which they should be planted, but of their nature and requirements—a “race” difference, due to the climates from which they have been brought. Hardy plants thrive best in the cool, moist weather of late spring or early fall. Tender ones which are naturally tropical or subtropical, are “heat lovers” and must have warm weather before they will be-



Adequate supports for tomatoes are easily made by nailing laths or similar narrow, light pieces of wood across stout garden stakes at right angles.

gin to grow properly. Absolutely nothing is gained by planting them until the conditions which they require exist, whether this be on May fifth or June fifteenth. You should be guided by the season—by the blossoming and the leaving out of the trees rather than by the calendar. In fact, in case of a backward season, tender vegetables that are set out or planted two or three weeks apart will begin to bear at about the same time—unless, indeed,

the first lot is not so checked and set back by unfavorable conditions that the later planting will outstrip it both in earliness and yield.

For reasons just the opposite you should not be too previous with your plantings of late crops such as fall cabbage and cauliflower, or late peas. The last, for example, will not begin to thrive until the longer and cooler nights begin to return and little or nothing is gained by planting them ahead of time. On the other hand, however, too long a delay in either case will mean a shortening of the season or possibly a loss of the entire crop through lack of time in which to mature.

There is another difference between most of the crops which you sowed in April and those to be planted during May. Under usual circumstances, to obtain the results with the latter it will be necessary to give special enrichment to the soil in the "hill" or the furrow. And in passing, just a word of advice about "hills." I have already explained that this word gives rather a wrong impression to the uninitiated, as with modern methods of using level culture, almost without exception the "hill" in the garden has practically disappeared. It made much more work and wasted much more water than level cultivation. Furthermore, with modern tools it is much easier to care for a crop that is planted in rows than in hills, and for this reason potatoes, corn, cucumbers and even

such space coverers as squashes and pumpkins which were formally planted in hills are now sown in continuous rows—all the cultivation except a little with hand hoes being given in one direction.

Nevertheless, the term "hill" still sticks, and hereafter, there-

fore, I mean to make use of it in giving directions for planting pole beans, corn, cucumbers, pumpkins, squashes and tomatoes and also late cabbage and cauliflower. Unless the garden is made very rich indeed, richer than most home gardens are, it will be

very desirable after marking out the space for these crops to make results more quick and certain by giving an extra application of manure or fertilizer in the hills or to the row directly under where the plants are to go. If you elect to use manure for this purpose, select the most thoroughly rotted and pulverized that you can obtain. It will not do to have it green and lumpy, nor should it be too rich and strong—a mistake which over anxious beginners are very likely to make in preparing their soil for plantings of this nature.

Hen manure, which is very rich in nitrogen, is a favorite material for this purpose and gives very satisfactory results if it is in proper condition, i. e., dry and well pulverized. If it is sticky and lumpy it would be better not to use it at all. I have found that the best way of using all animal manures of this kind is to reduce them by the addition of water to a semi-liquid state, in which condition they can be poured from the spout of an old watering can or from an old pail in small quantities: In this way they may be much more thoroughly and evenly distributed.

Formerly I used manure in this way quite extensively, but in place of it I now use altogether commercial fertilizers, because they are much more easily to be applied and obtained,

and are much more uniform in their content of plant food. By "commercial fertilizers" I do not mean the kind that you can get ready prepared for any particular crop that grows, put up in hundred pound measures in bags. The employment of these

(Continued on page 426)



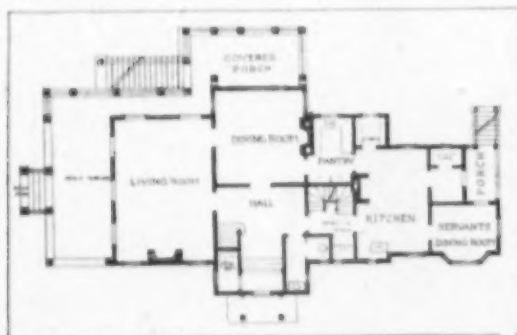
Beans need light and carefully trimmed poles from six to eight feet in height and with "arms" and crosspieces twelve to eighteen inches apart



Brush can be dispensed with in the modern garden by substituting rows of chicken wire which are much neater in appearance and more easily kept in order



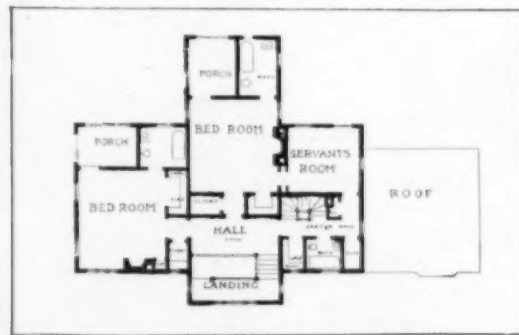
In placing the Crittenden house, the architect took advantage of an irregular situation. The house is placed on the edge of a sharp declivity and the main rooms all have the benefit of an attractive outlook. The house is provided with a terrace opening onto the garden and which becomes a covered porch on the dining-room side



The question of porches is adequately taken care of without shutting off light or spoiling the design



The driveway entrance is unpretentious but attractive. The broken stone flagging is a fitting feature in this situation



The landing at the upper hall opens on a balcony through large French windows

THE HOME OF
MR. WALTER H.
CRITTENDEN,

A RESIDENCE AT

Parker Morse Hooper,
architect

CORNWALL, NEW YORK



The dining-room is strictly a summer room, and with its light enamel and flowered paper is cool but bright. Wide French doors open onto the veranda so that in warm weather the porch may become a dining-room annex



It is not often that such care is given to the hall treatment as in this house. The wide, open spaces spread an air of welcome and add greatly to the coolness of a summer house



Above stairs an Elizabethan motive has been made use of in the balusters of the landing and the upper hall, and there is an effective use of ornament on the newel posts



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

A Novel Coat Hanger

THERE is a new and rather attractive looking hanger for coats, hats and other articles of wearing apparel usually in evidence in a hall or entrance, that is not only ornamental but has the advantage of occupying small space and is therefore particularly suitable for bungalows or apartments where every inch may count.

The hanger is of brass and so substantial in construction as to be thoroughly practical even for the heaviest garments, provided, of course, that it is securely attached to the wall when originally put up. The design shows a heavily veined leaf on which is a butterfly with slender and gracefully curved wings. The leaf, which forms the holder or back by which the hanger is attached to the wall, is provided with five holes for screws, and there are practically four strong hooks for garments, two formed by the tips of the wings and the other by the "feelers." For the sake of convenience the wings are fastened on with hinges so that they may be turned at any angle. In spite of its four substantial hooks the hanger is quite small and unobtrusive in appearance, the leaf being only six and one-half inches long, and each wing measuring twelve inches from the hinge to the tip.

Pressed Flowers on Panels

VERY original and artistic decorative panels can be made from real flowers and leaves as follows: Take daisies, pansies, maple or chestnut leaves, and other flowers and foliage according to your fancy, and dry them. When they are thoroughly dry, iron them lightly with a flat iron on which a little wax is smeared. Then arrange them artistically on a polished wooden panel of a light color, fixing them in place temporarily with pins. Next with a pencil draw their outlines on the wood so that they can be exactly replaced. Now take them off, and with a brush coat them with copal varnish. When dry, coat them a second time, and even a third if necessary. Finally put the flowers back on the panel in the pattern already marked, and glue them firmly to the wood.

"A. C." and "D. C." on Electrical Apparatus

MANY a person wonders what "A.C." or "D.C." means when stamped on electrical apparatus. "A.C." means that the article is suitable for use only with "Alternating Current," while "D.C." means for use solely with "Direct Current." Alternating and direct current are two systems in use for the distribution of the electric current of to-day. Never use an "A.C." apparatus on a "direct current" supply of electricity, or a "D. C." on an alternating supply. Find out when buying or renting



This strong yet decorative coat hanger occupies little space on the wall

a new home which system is in use in the town or city, and do not risk using (as do so many people) apparatus you may have on hand without being sure it is suitable. Fires have been caused by lack of this precaution.

A Good Dust Mop

I made myself a dust-retaining mop for hardwood floors by saturating with crude lemon oil one of the fiber mops sold for cleaning purposes. The mop was allowed to soak in the oil for several hours, then partially dried, when it answered every purpose of a dustless mop. Crude lemon oil is said to be one of the best mediums for the cleaning of hardwood, and costs only from ten to fifteen cents a quart, according to locality. Diluted with one part of turpentine it provides one of the best of furniture polishes, and at very little expense you can get a good supply.

Rust Removal from Gas Ovens

TO remove rust from the lining of your gas stove oven try raw linseed oil, rubbing it in well with a stiff brush. Many loose particles will come away with it, and two or three applications will result in a smooth surface suitable for the application of a coat of aluminum paint, which will renew your old oven. To prevent rust forming when the stove is new form the habit of leaving the doors wide open while the oven is cooling, which prevents the formation of moisture.

Interior Decorating Suggestions

AS the result of an effort to obtain a novel rather than a fine effect, or by a reproduction of plans followed in previous work that may have been successful, modern decoration constantly shows serious faults in design.

The interiors of many homes belonging to the middle and richer classes suggest a showroom or shop-like appearance rather than a living place, and lack a sense of individuality and homelikeness.

Decorators are prone to follow certain and fixed treatments and combinations without sufficient regard for surroundings. This is especially noticeable when the house decoration and furnishing is left to the decorator's own judgment and taste, as is frequently done by people who have homes to furnish and lack ability or training in decoration.

Most decorators have certain color schemes and estimates which vary in cost to suit any customer. These are used over and over again, the detail occasionally varying with the size, shape and location of the room. But with decorators who fail to recognize the importance of changing their suggestions, it matters little whether there is an east, west, north or south exposure. The result is that in the same house where various decorators have been employed, it is easy to notice and distinguish work of individual decorators, so closely do they adhere to fixed rules and the precedent of previous satisfactory work.

For dining-rooms, libraries and halls, New York decorators are showing tapes-

tries for covering walls. A very fine effect is easily attainable, and that without much ability or experience, because these tapestries are woven and sold by the lineal yard. They can also be procured in various widths and designs from three feet to six feet high. The tapestry is tacked to the wall, or placed on a frame and finished with a gimp or wood molding, and it fills the space between the wood dado and the ceiling.

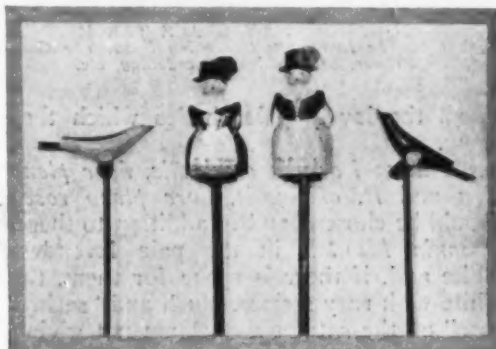
The tapestry is put up in one length, spaces being cut out to allow for windows and doors. These wall tapestries are best procured direct from upholstery firms or establishments that import direct and sell to the individual. Buying from these firms, the intermediate profit of decorators is saved, and there is a better assortment to select from.

The coloring and design of excellent patterns are reproductions of the Tapisserie de Bruges. One especially good one is designated Brabant tapestry. It has a design about twelve feet long, the width being six feet. This is copied from the Gobelin tapestry designed by Chas. Le Brun during the reign and under the patronage of Louis XIV. It represents a woodland scene with running water in form of cascades with a background of distant, fleecy, cloud-capped hills. The colors are soft shades of blue, green and some wood colors that harmonize splendidly with oak or mahogany woodwork. This tapestry is in stock as narrow as forty inches wide. To complete a room with this wall tapestry, the curtains, carpet and table covers should be self-colored or plain shades, which could emphasize the blue, green or brown in the wall tapestry according to taste. The first two colors would be best with mahogany, and any one of the three would look well with oak woodwork.

Plain or figured Imperial velours make handsome curtains and table covers, espe-

cially when trimmed with one of the tapestry borders about six inches wide, made for use in combination with the Brabant wall tapestries.

To decorate a wall with tapestry, the first cost is more than paper hanging, but, in view of the need of frequent renewals of paper and the trouble and inconvenience caused thereby, it is economy in the long



Ornamental sticks for supporting plants may be had in these curious forms

run. Moreover, the best paper never compares in richness with even a cheap tapestry, and tapestry, exactly opposite to paper, seems to improve with age.

Flower Sticks

FOR the amateur gardener who has an eye for the picturesque there are curious little flower sticks topped by carved wooden figures of little men and women and birds, that are useful for tying up plants in need of temporary support. Although the idea originated among the Bavarian peasants, and the figures themselves are quite as foreign looking as one could possibly wish, the sticks are now made in this country and are not at all expensive or difficult to secure. They are painted in all sorts of gay colors, bright reds and yellows and greens that are guaranteed waterproof, while the hats are black and ornamented with tiny feathers.

The sticks are made with sharp pointed ends and are from eighteen to twenty inches high, so that they can be used for tying up plants of quite good size. Even if not an absolute necessity they will at least lend a bit of humor to an otherwise perfectly prim and proper garden bed.

Hanging Window Curtains Effectively

THE two windows illustrated on this page show how differently pretty curtains can be hung, making or marring a room by their arrangement. The little window with the ruffled under curtain and the flowered cretonne outside, should be attractive and make a pretty setting for the window itself, but it is not. In the first place, the figured paper detracts from the artistic value and should be used only with plain draperies.

The figures in curtains and paper do

not harmonize at all, and take away the restful effect of the room. If they had been put up at a window where the paper was perfectly plain the whole effect would have been changed. The outside hangings are too full. Half the width only should have been used.

Note the difference in the alcoved recess in the living-room of the Colonial type. Here the bright colored cretonne curtains do not take away from the dignity of the room, but rather add color and cheer, giving a most artistic effect which is heightened by the sofa pillow on the window seat.

Cretonne of all sorts and colorings is found in most artistic effects. There are to-day nearly a hundred varieties of domestic manufacture which can be purchased for as little as fifteen cents a yard. It is often hard to tell it from the real chintz. It is a most inexpensive hanging as well as an artistic one, for you can often pick up odd remnants at reduced cost, which will often do for window hangings.

A Home-made Hamper

One of the things especially needed about a home is a hamper, and for this a simple box may be utilized to the satisfaction of all members of the family. The home-made hamper needs less space than one of those purchased. Take a box three feet long, two feet wide and about 30 inches in height. Cover with table oilcloth (blue looks best when the hamper is intended for the tiled bathroom), and attach handles of nickel. The inside of the box is enameled white, and the first division is used for stockings and flannels, the middle and largest for table and bed linen, towels, etc., and the third for lingerie and other wearing apparel.

There can be a pocket of the oilcloth fastened to the inside of the cover.



The figured paper detracts from the effect of the otherwise attractive curtains



Here the bright colored cretonne curtains do not take away from the dignity of the room



Garden Suggestions and Queries

The Flower Garden

CONDUCTED BY GRACE TABOR
Author of *The Landscape Gardening Book*, *The Garden Primer*, *Old-Fashioned Gardening*, etc.



MAY is the month of color, of tremulous softness, of delicate touches, of the year's adolescence. Obviously it is the expression of one of Nature's moods that is difficult to catch; and in all the year there is none rarer or lovelier.

It is in the garden's color scheme, I think, that we must undertake to help such expression. Of course, you will guess at once that the softest colors are the ones I am about to suggest—the pale lavenders and mauves, the faint, blush pinks, the silvery blues and the delicate yellows to combine with the tenderest, softest green of the year. Never a bright shade of anything should be allowed to creep in anywhere during the month of May, lovely though such a shade may be in itself. The time for such as these is not yet; they must wait.

Appropriate Flowers for May

NO separate place needs be set apart for the realization of this idea; the entire garden may be treated to it, by judicious planting, so that over it all there shall rest, during the month, a delicacy and misty, shadowy refinement of color. It is simply a matter of putting clumps and masses of the plants which are introduced to produce this effect, where their green will later furnish background or suitable foil for the subsequent bloom of other things.

A selection for the May garden, or the May mood of the garden, should contain masses, or at least one great mass, of the windflower, *Anemone nemorosa* probably being the most satisfactory choice; English daisies—*Bellis perennis*—in the pink form known as "Longfellow"; *Epimedium sulphureum*, which is the pale yellow barrenwort; the German iris, *Iris Germanica*, in varieties selected for their pallor and delicacy; *Mertensia pulmonarioides*, or Virginia cowslip, pale blue and nodding; forget-me-not—*Myosotis palustris*; *Phlox subulata* or moss pink in the opalescent shades of pinkish-white and purplish-white which almost no one ever seems to grow; and finally, early-flowering peonies

in all the lovely pale shades which they show.

Of these *Paeonia officinalis, flore pleno alba* and *P. officinalis, flore pleno rosea* should be chosen; and in addition to these, *Paeonia Moutan* in the pale lavender-white and, if there is space for them, the white with rosy stripes, blush and "satiny-rose" of the catalogues. I am not giving the trade names of the latter, for the reason that practically every dealer has his own strains, and it is much better to select by color. The other method often turns out unsatisfactory and garish results.



The German irises may form a whole garden in themselves when selected with care and grouped with an eye to color effects

The Wood Anemone and Daisy

THE wood anemone in the typical form is not more than six to eight inches high, with pale, purplish-white flowers, but there is a blue-flowered variety, *Robinsoniana*, that reaches a foot in height. All wood anemones do well in whole or part shade, but this one is particularly recommended for shade. A pure white form is *Anemone nemorosa alba*; and another species, *Anemone sylvestris*, which grows to be eighteen inches in height, is very lovely, with large white flowers that are fragrant. Either or all of these should be massed in profusion, fifty plants at least not being too many for a group.

English daisies are particularly suited

to edgings, and seldom are used for anything else; but a large number of them, presenting a sheet of bloom, is sufficient warrant for planting them in masses. Space and circumstance, of course, will determine whether or no they may be planted in this manner. Barrenwort is not grown as much as it ought to be, for it is a particularly interesting and delightful plant. The foliage of most varieties colors beautifully in autumn, and persists. These should not, therefore, be hidden behind other growth, but rather should be prominently placed, even though their bloom is over early in the summer.

Irises and their Selection

THE German irises form a whole garden in themselves, when selected and grouped with care. Almost any color that one may wish to have is to be found among them. "Cherion" is a lovely mauve and violet; "Gazelle" is white, with mauve edging; "Mme. Chereau" is white similarly edged with light blue. Then there is the orris root iris, *Iris Florentina*, which is as delicately lovely in white, with opalescent shadows overlaying it, as any of the most boasted hybrids. A new variety lately offered is a hybrid between the very early-flowering, low-growing *Iris pumila* and *Iris Germanica*; and this

is said to be especially good, though this I cannot vouch for as I have not yet seen the plants. A creamy yellow and a "citron with pearl-colored center" are named, as well as white and a rosy lavender, all sounding as if they were especially suited for such a scheme as the one in hand.

The Cowslip, and Forget-me-not

THE Virginian cowslip and the forget-me-nots are both blue-flowering, the former being an upright growth, not especially conspicuous, yet very charming, while the latter is prostrate or nearly so, and blossoms practically through the entire summer. Partial shade suits this better than full sun, and it rather likes dampness.



Garden Suggestions and Queries

The Vegetable Garden

CONDUCTED BY F. F. ROCKWELL
Author of *Home Vegetable Gardening and Gardening
Indoors and Under Glass*



MAY is the month for spring housecleaning out-of-doors; that is, May as the magazines figure time, though in reality it is still April. And now you may forget the garden for a few afternoons and turn your attention to the cleaning up and repairing of the grounds. It is time to prune late-flowering shrubs. The reason you should so distinguish between the early-flowering and the late-flowering sorts, *i. e.*, those which bloom after mid-summer, is that the former bear their flowers on wood of the previous season's growth, and if you prune anything but dead branches at this time, you will be cutting off buds. The late-flowering shrubs, however, such as hydrangeas, flower on new wood, and no matter how much you cut them now, you will not be sacrificing any blooms, as the flowering growth has not yet been made. Shrubs that are planted in mass will not require much pruning. Where individual specimens are grown, however, you should aim to keep them pruned to a good shape. In all cases any wood which has become broken or winter-killed should be cut away cleanly. The same is true of hardy vines.

Hedges and Trees

REPAIR the hedges. Two or three bad spots in a hedge will make the whole look disreputable and shabby. Do not wait until the later part of the season to do any repairing of this sort, but attend to it at once, in order that your patch-work will not show through the whole summer. Never attempt to fix a hedge by stuffing dead branches, prunings, etc., into a bad spot; this only makes the trouble spread, as these will kill the live growth with which they come in contact. Cut the dead spot out clean, removing dead branches and plants if there are any, and if necessary put in new ones. This may often be avoided, however, by bending a live branch or two from each side of the bad spot across it, and fastening the branches down so that the lateral shoots, which will then be forced into extra growth, will fill the gap.

Put your trees into good condition. Very frequently some of the lower branches will either be dead or almost entirely denuded of foliage, and thus spoil the looks of the tree. Cut them off close to the trunk, and if they are over an inch and a half or two inches in diameter, paint the stumps over carefully with coal-tar.

Also spray your fruit trees and take care to get the spray on the trees at the proper time. The first spray should be given to apples just before the blossoms open, while the new leaves are still coming out. The

the edge down so that the grass comes directly to the path or roadway and does not terminate in a bank several inches high. If you cannot get all the holes out in this way, fill them in with new sod.

Grapevines

LOOK after your grapevines. These should have been carefully pruned early in the spring, and you will now, if you are to reap the full benefit of that care, have to see to it that the buds which start from its many dormant eyes are not allowed to grow and waste the strength which should be going into the fruiting canes that you have planned to secure. If your vines have been troubled with "black rot," which causes serious injury to some varieties, spray with Bordeaux mixture as soon as the third leaf appears on the new shoots, again just after the blossoming and before the fruit sets, and two or three times more at intervals of about twelve days. Apply the spray, if possible, just before a rain.

Starting Tender Vegetables

START tender vegetables in the frame. Everybody sets out some plants of the early vegetables, such as cabbage, lettuce, beets and so forth,

while tomatoes, eggplant and peppers are always started under glass, but comparatively few people as yet start their muskmelons, cucumbers, lima beans and similar things of a tender nature in this way, although the advantage gained is just as great. Secure a number of the cheap paper pots which may now be had; fill these with a suitable soil, very light and very rich, and you can have the things well forwarded by the time it is warm enough to set them out-of-doors, and they will not require transplanting. Simply put pot and all in the soil when you get ready to plant.

Keep ahead of the weeds and get your planting done on schedule time, or as near to it as is humanly possible.



From the time the first seedlings appear, the surface of the soil must be well stirred up to keep the weeds from getting a start

second, which is even more important, just after the petals of the blossoms fall. Use Bordeaux mixture with lead arsenate. More definite instruction in regard to how to mix and use these sprays for both apples and other fruit trees may be found in the spraying article in this number.

"Edge" the drives and walks, but do not make the very common mistake of cutting back the sod for several inches in order to get a good, straight edge. This leaves an earth wall two to four inches high exposed to the drying influences of sun and wind, and ready to be broken down every time anyone steps on the edge of it or attempts to go over it with the wheelbarrow. You should cut back just as little as possible, and then with the back of a spade pound



EDITORIAL



FUTURIST ARCHITECTURE

ON the editorial page of a New York newspaper there recently appeared a casual criticism of the architecture of Manhattan. It was stated that the ensemble of the city was entirely devoid of architectural unity and revealed fickle treatment, a turning from one fad to another. Furthermore, the buildings themselves were described as un-American. Prototypes of the Woolworth Building, the Madison Square Garden tower and the Metropolitan tower were cited in order to prove that the architecture was merely European grafted upon American structures. The conclusion was drawn that, despite our progress in other things, we had evolved nothing distinctively American in architecture, and that it was time for a Futurist school to appear and produce a style peculiarly our own.

Because this periodical plea for a distinctly American architecture is so persistently recurrent, and because it appears with such commonplace regularity, it might well have elicited merely the reply of a yawn. But the case is altered when the old topic reappears again under the cloak of Futurism; having a painful recollection of the example of "Futurist" architecture shown at the recent International Exposition, we must retort. That one model is beyond criticism simply because two individuals cannot argue in two different languages and establish any conclusion without resorting to physical violence. But where there may be some doubt about the function of a painting, there is not about a building. The example in the Sixty-ninth Regiment Armory fails in its function of being a dwelling. It simply wouldn't work.

While this aspect of the distinctively American architecture is before us it might be well to investigate the national styles of any country, limiting our discussion for convenience to the dwelling house. From a rudimentary shelter of sods, or hides, or bark there developed a structure better fitted to keep out the weather—the growth was simply one that showed a gradual improvement in efficiency as a protection. It paralleled the invention of tools or the appearance of primitive manufacturing skill. As with any development, come greater and more diversified wants. The primitive hut became more than a shelter; it contained certain conveniences. Later, with awakening esthetic sense, came decoration and ornament, until the homes of the people became what we find them to-day. The architecture depended upon racial characteristics, on climate, on geologic or geographical conditions. Civilization advanced with the traffic between towns and nations, and architecture was influenced by foreign ideas. Thus it is that Egyptian detail has much that is Assyrian about it; Roman much engrafted from all the states that flourished during her prime. In the domestic styles, however, the traditions of the land strongly prevailed, and there are some nations where it might be conceded that there are characteristic national types—England and Germany, or Switzerland, for instance. Even there, however, an argumentative analyst might show evidence of foreign influence or prove similarities between styles.

In America, national growth shows a marked difference. Following the previously given analogy, an American type should show characteristics of the Indian tepee. But the Indian contributed nothing. There was no development from an elemental type. These United States were settled by different races and different nationalities. Their geography and climate show an immense range of conditions. Throughout this diversified environment the process of amalgamation is going on. The land is a potential Babel, except that there speech only was confused. Here ideals, training, customs, religion—all vary; but instead

of confusion there is combination rather than conglomeration. Not only New York, but the nation is the melting pot of peoples. Can we then expect a representative national architecture, a distinctively American evolutionary type, free from outside influence? It may not come until we are sure of what is American, unless the new school is to be born by partheno-genesis; suddenly, by a miracle.

And now this Futurist architecture, what may that be? According to the article aforementioned we have a right to assume this to mean an architecture built upon the creed of the Modernist school. It is to be individualistic, distinct and original; it must spring like Athena from Jove's head. Really to be Futurist the house could not be a house as we think of it—that would show slavery to tradition. It must be an absolutely new conception and free from the cramping effect of habit or rule or custom.

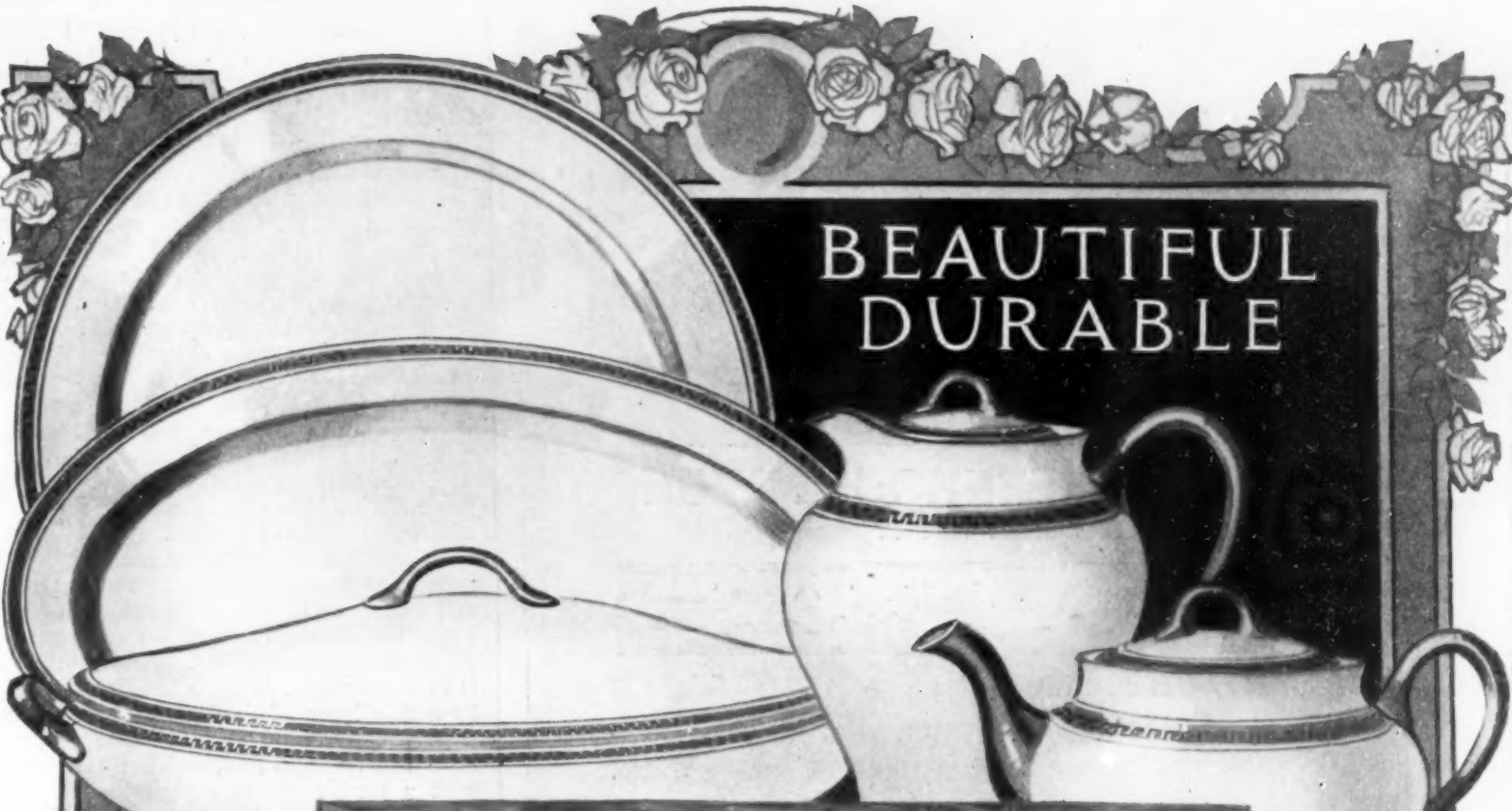
In the case of painting and sculpture, criticism may be turned aside by refusing to accept the terms of the hypothetical question. If one says, "This is a new art; it never existed before; it cannot be judged by the canons of other art; besides it fights canons of all sorts," he steps beyond the range of argument.

The claim, however, may be criticised. This "subjective objectivity" is either divine inspiration or it is taught by one to another, developed by theory and practice; the originator to his pupils. Some one simply assumes the province of time and change and experience; he places himself in the position of tradition. "I am greater than the ages; follow me, not them," must be his exhortation. It is clear, then, that there must be imitation in this new art; moreover that it is only an unnatural process, its machinery working exactly as art developed, except that the artificial is substituted for the real, the unnatural for the natural, a moment for an age. The very claims of Futurism to originality are fatuous. Beyond this it is retrogression to pre-Darwinian methods of thought. It would prefer the doctrine of spontaneous growth to the scientific and modern idea of evolution. It substitutes ratiocination for experimental reasoning.

Thank goodness there is something so very healthy about the business of architecture that it is fairly free from the continual eccentricities of cultists! Combined with the esthetic there is the balancing necessity of utility. The house is to be *lived* in; it has functional requirements.

One cannot conceive of any of the defensive statements made for Modernist painting similarly brought forward for architecture. "My impression of a house" may be unchallenged on canvas, but when wrought in building materials—the idea is too preposterous. Think of Futurist plumbing and heating! Yet they are considerations of the architect's art.

It is so futile to be seduced by a fad, lured by a term. The words of the appeal for a Futurist architecture are thoughtless. If there is a sensational Futurist painting and sculpture, why not architecture? New, American, different—all the picturesque features, but none of the useful ones. It is such flighty criticism that is raised against American work to-day. There is room for just criticism, but the cheap substitute continually appears instead. It is to be hoped that those good workers who are interpreting the constant change and development and new requirements will continue in their typically American work. Our architects have an ear to the ground, not an eye on the magician's crystal. They are not imitators, but constructors who some day will evolve, develop and create. Their work is not from air. Its ideals consider rather the end than the beginning. Let us forget the silly plaint for an American style in the realization that we are achieving it in process.



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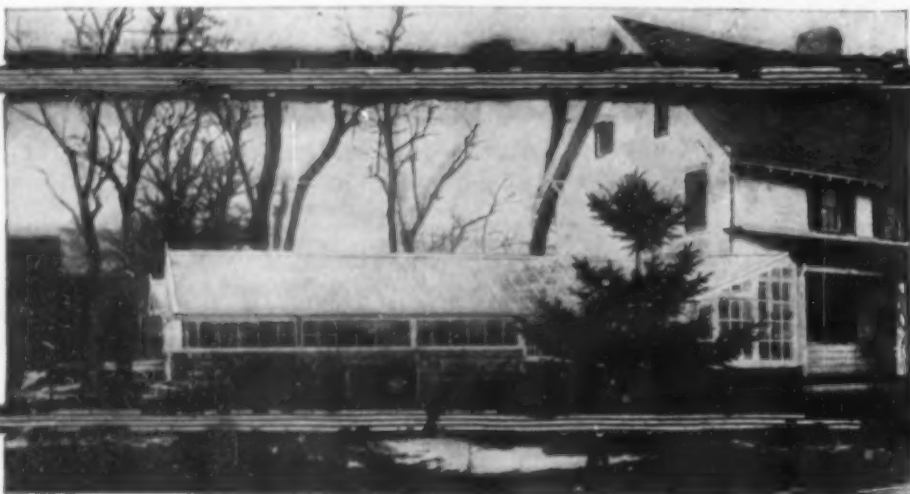
Thus, O. P. Co. "Syracuse" China gives you two kinds of durability, the great sanitary advantage of not absorbing germs, grease or dirt as ordinary ware permits, besides the most exquisite variety of lastingly beautiful patterns you ever saw. Two are suggested here; but be sure to ask your dealer to show you also our remarkable "Canterbury," "Old Haarlem" and other dainty designs, any one of which can be decorated with your monogram if you desire. If he has them, he knows—if he hasn't, don't argue, for

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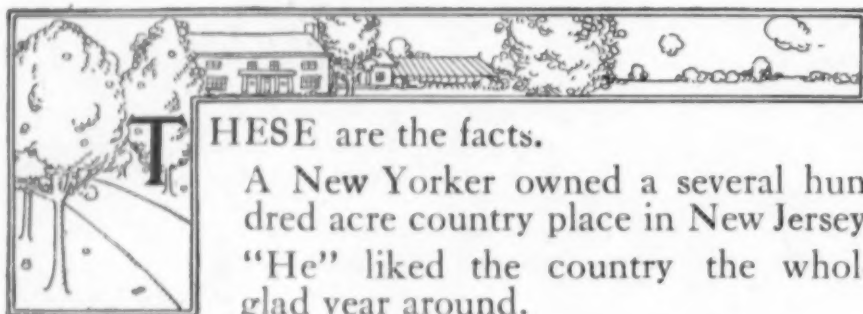
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WM. WARNER HARPER, Proprietor PHILADELPHIA, PA.

Cut Flowers from the Fall Garden

(Continued from page 378)

for the brilliance of color that may be had from white through pink and red almost to black.

There is not very much to say about dahlia culture. They require primarily food and water, but there must be good drainage. Dahlias have no special insect pests to look after, and if the ordinary care of tobacco spray or whale oil soap is used, they will flourish well. There is no great hurry about planting dahlias. Indeed, one prominent grower does not begin until the first of June, and as there is an extensive amount to be done, the planting continues until almost the first of July, and yet the plants flower nearly as early as if planted in the last of April. About the middle of May is a desirable time for this vicinity of New York.

As many of the varieties are rather expensive it is worth while to assure yourself of results by sprouting the tubers for a week or ten days before you put them in their permanent location. After the soil is in proper tilth, if the tubers be covered by a thin layer of earth in about a week they will begin to sprout. The clumps may then be separated, and but one tuber with a sturdy sprout placed in a single hill. The tubers should be placed about three feet apart in a soil enriched with well rotted manure or in some cases bonemeal. The situation should be preferably a sunny one. When the plants begin to come up after the first leaves appear it is well to snip off the top of the sprout and thus form a more branching growth. For dahlias have a tendency to run to leaf or grow tall, spindling stalks that are apt to be blown over or broken down by rain. After the main plant has become well started it is often well to clip off any extra sprouts that may appear. Dahlias require staking and a large, strong stick, at least six feet long, should be provided. After the bloom is over cut down the plants and dig up the tubers and store them in a clean, dry place in the cellar.

Perhaps a few words as to the sorts of dahlias may serve to simplify the purchasing. Show dahlias are like the old-fashioned sort, round, compact and full to the center. Pompon dahlias are similar, merely of smaller size. Cactus dahlias are more loosely arranged and approach the chrysanthemum or aster in form. The petals are long, twisted and often terminate in points. Decorative dahlias have a flattish, broad petal and are quite irregular. The single type has but one row of petals about the center which is daisy-like. The so-called peony flowered type resembles the peony and is half way between the decorative type and the single broad yellow petals. There naturally are too many excellent varieties to name them all, but to-day the great variation in color and form of the cactus types makes them the most popular. The following list contains some that I have found well worth growing: Kriemhilda, a large, pure white

cactus type; Yvonne Cayeux, an ivory white form with narrow petals, starlike; Schwan, another white, beautifully formed cactus; Marathon, yellow center, shading to carmine and tipped with white, very large; Marguerite Bouchon, flowers on long stems, one of the finest pink sorts; Ella Kramer, a rose pink with orange center; H. J. Jones, another pink sort of fine form with long, narrow petals; J. H. Jackson, a favorite, standard type of maroon shading almost to black; Standard Bearer, a fiery scarlet with flamelike rays; Countess of Lonsdale, a deep salmon red; General Buller, deep red with maroon petals; Mrs. Henry R. Wirth, fine scarlet.

Decorative types: Colosse de Bellocour, well formed large flowers of white shaded purplish; Delice, one of the most famous pink decorative types, large flowers of delicate pink; Souvenir de Gustave Douzon, a very large dahlia of an orange red shade.

Among the peony flowered sorts: Geisha is a remarkably good type, large, scarlet and gold with a ring of yellow at the center; Queen Wilhelmina, a large, pure white type, and the Edelweiss, another glistening white of good form.

Among the single forms the Century dahlias are particularly fine and very large. Scarlet Century and Rose Pink Century are excellent.

With the anemones there is some care necessary for protection from cold winds. They require fresh, sandy loam with a tendency to richness. They are not very fastidious of the soil, provided it is well drained. Anemones can be planted from early spring outdoors, and have wonderful foliage and blossoms. From a great mass of dark green foliage the flowers rise on tall, slender stems and are wonderfully attractive when massed in borders. They have the additional value of some being suitable to shady places. When the bloom is over the plants should be cut back and some light mulch protection spread over them and held down with brush as they need some protection to keep from being winter killed.

The wavy petals of the *anemone japonica* are in a wonderful variety of color and shades, especially of reds and pinks; many are mottled and shade to purple. Some of the best varieties are, Queen Charlotte, a large, silvery pink; Alba, a clear white; Whirlwind, semi-double white; Kriemhilda, rose pink; Prince Henry, deep, rich pink; Purpurine, purplish rose.

With these three mainstays of the fall garden one may well combine late planted gladioli, salvias, calendula and cosmos. Cosmos should not be neglected. The new Lady Lenox is a wonderfully attractive flower of much greater size than common heretofore and appearing earlier. With these varieties the householder need look no further for flowers within doors. His needs already have been met completely, for the types that have been mentioned are sufficient even for the most enthusiastic flower grower.

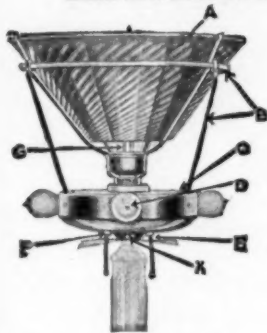


Within art shade of this lamp is concealed reflector shown below.

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This Illustration Explains the Curtis Portable Lamp

Pulling switch F lights the large Mazda Lamp G within the X-Ray Reflector A. The holder B keeps the reflector exactly in the proper position. A little light strikes the surface C, illuminating the shade. This completes the resemblance to the ordinary art lamp. The flood of light, reflected to the ceiling, is diffused to every corner of the room, making reading a pleasure and any social amusement a comfort. The Curtis Portable Adapter may be placed on any floor lamp pedestal and on many table lamp pedestals at small expense. Write for particulars.

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A Garden Enemy and How to Fight It

(Continued from page 373)

disease being the blackening of the outer tissues about the base. Later in the season lesions appear on the stems toward the top where the disease runs in from diseased buds or leaves as described below.

After the leaves have expanded sufficiently to expose tiny buds the next form of the disease to be noted begins to appear. This is the "blasting" of the very young buds. The affected buds, at this time little larger than peas, turn black, cease to develop and wither. Often one or two of the leaflets just below the bud turn brown and wither. It is usually the main bud on the stalk that is thus first affected. Frequently secondary buds on the same stalks are also affected and the disease extending down the stem may involve a number of branches and leaves. There is commonly no external evidence of the fungus on these early affected buds, but if the weather is moist and cloudy or the buds be placed in a moist chamber the spore stalks of the parasite will quickly appear, covering the blackened buds and stems with the characteristic gray-brown felt.

Buds which escape this early infection may succumb later, for they are subject to attack up to the time they open. The larger buds usually show a browning of the outer green covering at some point at the lower side near where they are attached to the stem. This brown lesion spreads rapidly upward and around, involving the entire bud and usually extending down the stem for an inch or more. The parasite penetrates throughout the petals and inner organs of the bud turning them into a moist brown mass interwoven with the brown moldy mats of mycelium. On the surface of these rotted buds the fungus produces a dense growth of spore stalks giving the characteristic gray-brown felt. This form of the disease is commonly known as the "bud rot." Even the flowers when fully expanded may be attacked and destroyed, and it is not uncommon to find the carpels themselves, after the flower has fallen, attacked and rotted by this parasite.

The blight of the leaves, which is another symptom of this malady, usually becomes most pronounced after the blooming period, though not infrequently plants show this symptom before flower buds open. The lesions on the leaves usually appear first at the tip, extending back into the blade in a V-form. The diseased parts first lose their green color and become water-soaked in appearance, rapidly turning to a dark brown, which soon fades to a light yellowish brown. The entire leaflet may become involved, though usually not more than a third of the upper part of the blade is affected. The lesions on the leaves are often strikingly marked by concentric bands of alternating light and dark brown colors. This same character is even more marked on lesions on the stems, especially those extending down



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Brighten up the deep, shady nooks on your lawn, or that dark porch corner—just the places for our hardy wild ferns and wild flower collections. We have been growing them for 25 years and know what varieties are suited to your conditions. Tell us the kind of soil you have—light, sandy, clay—and we will advise you.

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will give the charm of nature to your yard. These include not only hardy wild ferns, but native orchids, and flowers for wet and swampy spots, rocky hillsides and dry woods. We also grow such hardy flowers as primroses, campanulas, digitalis, violets, hepaticas, trilliums, and wild flowers which require open sunlight as well as shade. If you want a bit of an old-time wildwood garden, with flowers just as Nature grows them—send for our new catalogue and let us advise you what to select and how to succeed with them.

EDWARD GILLETT, Box B, Southwick, Mass.

from diseased buds or at the upper part of lesions on the older stems at the base. The lighter bands on the stem lesions may often be nearly white.

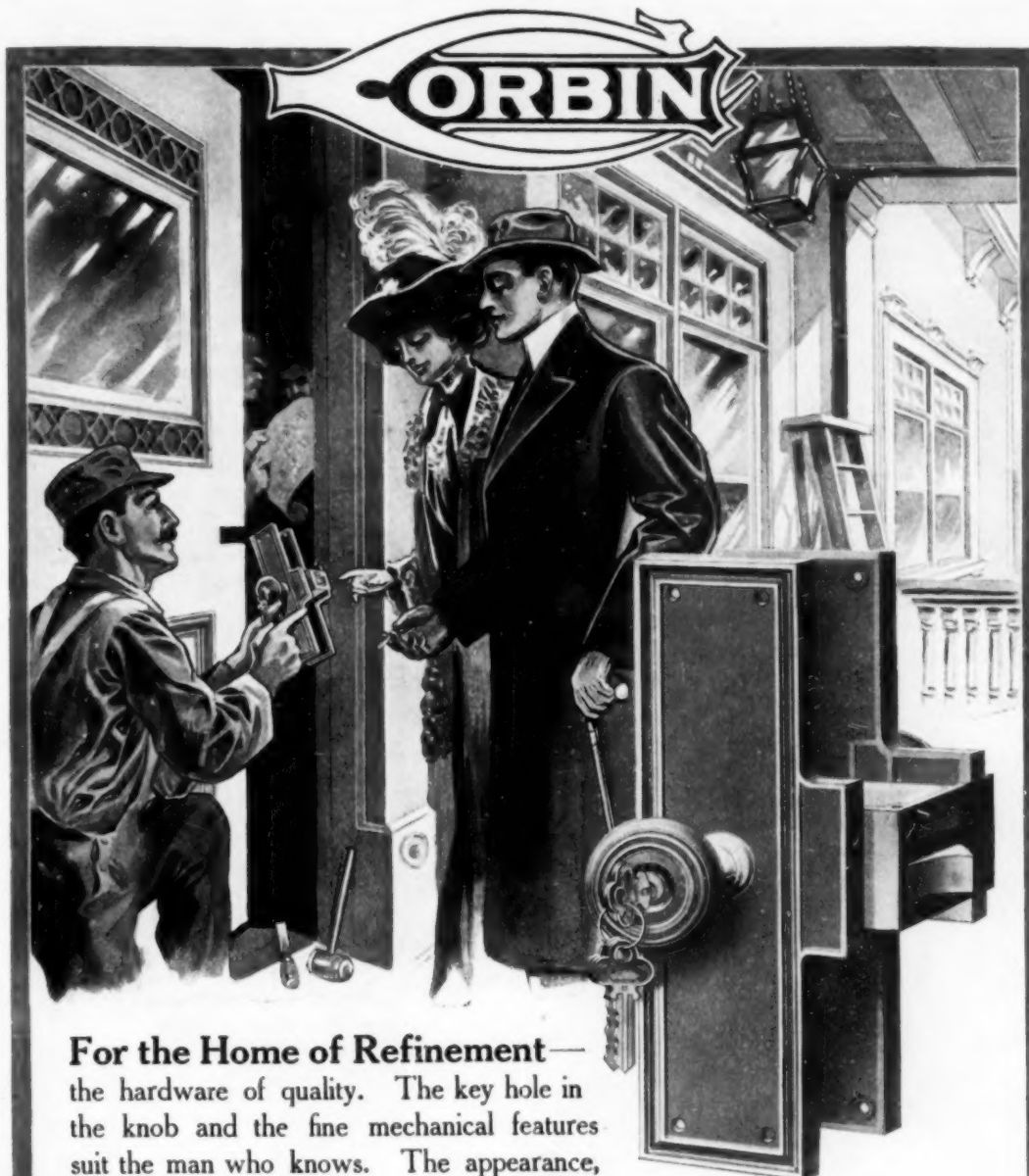
It would appear then that we have on peonies in this country a disease very similar in symptoms to one more or less prevalent in Europe but caused by a different fungus. That the fungus causing the American disease is a botrytis there can be no doubt. That it occurs every year as a parasite on strong, actively-growing peonies we have repeatedly observed. That under especially favorable weather conditions it may become epidemic is a matter of record. We have made many inoculations of isolated healthy plants with pure cultures of this fungus and obtained the characteristic rotting of the buds and stems.

This fungus forms sclerotia, small black, hard masses of interwoven cell threads within the diseased stems. These sclerotia serve to carry the fungus through the winter. In the spring they germinate, sending forth numerous spore stalks which bear heads of conidia or spores. These spores formed on the old stems are in the immediate neighborhood of the young stems as they come up and so are readily borne by wind, splashing raindrops or insects to the young stalks, where in moisture they germinate, sending forth a minute germ tube which penetrates the succulent tissues of the stem. This increases and by the secretion of a violent toxin kills the tissue of the stem, thus making available food for further growth and development. From within the dead, rotted tissues there are now sent forth to the outside, multitudes of tiny branched tree-like stalks on which are borne numerous conidia which are carried to the young buds most probably by ants which frequent these buds for the sweet, sticky secretion which covers them. Climbing up diseased stems the ants become dusted with conidia and leave some behind when walking over the sticky buds. That ants may carry these spores was shown by capturing some on diseased plants and letting them walk over the surface of sterile agar on which we thus obtained pure cultures of the botrytis.

In the secretion on the buds, in rain or dew these spores germinate and infect the bud as they did the stems. In this manner several crops of conidia are produced during the season, spreading the parasite throughout the plantings, and if the weather be moist and cloudy an epidemic of the disease follows.

From what we now know of the life habits of the parasite the following controlling measures are to be suggested:

First, the removal and destruction of all diseased parts as fast as they appear, before spores are formed. The destruction of all tops toward the end of the season is especially desirable, as in this way the sclerotia by which the parasite is carried over winter and which are formed in the dead stems, will be destroyed. Cut the



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the hardware of quality. The key hole in the knob and the fine mechanical features suit the man who knows. The appearance, the security and the little key please the housewife. The ease of application pleases the workman.

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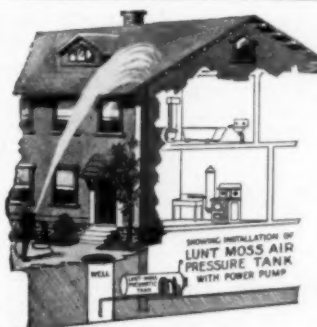
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BEDFORD, MASS.

stems close to the ground or break from the crowns.

Secondly, spray the plants thoroughly as soon as the stems come up and again when buds begin to show; make a third spraying just before the buds begin to open and a fourth after blossoming, to protect the leaves. These sprayings should be made ahead of rain periods and should be thorough. The best fungicide to be used is yet to be determined. One naturally thinks of Bordeaux. This, however, stains the plants and gives them an unsightly appearance.



The Garden for the English Type of House

(Continued from page 383)

border of white phlox back of the sweet old day lily that pours out such a stream of fragrance at night especially, will thrive in almost any garden in our climate, whereas many of the plants for which English gardens are most famous, would not do well enough to make them worth the planting.

It is not therefore *what* is planted; it is the manner in which those things that will grow and thrive are planted, that counts in making the garden about a house of the English type. Of flowers we may almost say there can never be too many; every nook and cranny should be filled, just as these pictures show. Vines and roses and fruits should climb the walls; walks should be direct, and the material of which they are laid should be in itself interesting and beautiful—or so handled that beauty becomes an attribute of it, in its relation with the earth and the grass; boundaries must be real and decided—either walls, fences or hedges, neatly kept and business-like; and exquisite neatness must reign, without a hint of that puritanical stiffness which some confuse with neatness. This last is of all the directions perhaps the least easy to follow. Without trying to go into it too explicitly, I think I may say that the stiffness will not appear if just ordinary care is given the garden. It is when the gardener undertakes to make of it a place that shall accord for spotlessness with the indoors that it grows unendurably prim. All that is ugly or unattractive should be kept out of it—such as faded flower heads and dead leaves or branches; but the character of the flowers must not be interfered with. This is one of those subtleties which it seems so hard to put into words. The English garden is never stiff because the gardener knows flowers and loves them—and knows to what extent he is justified in restraining them, or helping them to stand up in their tracks. He stops short of prim repression, just as an inspired

teacher stops short of the same thing in handling a group of high spirited children; but who shall say how this is done?

All gardening is really from within—within the gardener—out. This more than all else, is the key to successfully reproducing any kind of garden, for any type of house. To secure for the English cottage, or more pretentious dwelling, the garden which suits it exactly is therefore more a matter of individual ideals, after the general characteristics of the common and usual English garden are understood, than of anything else. Flowers, flowers, flowers—these are essential to this type of garden; flowers around the dwelling and on the dwelling and wherever there is space for root hold. Adopt this ideal—then learn to know and love the individual flowers, and the plants whereon they grow. Learn to garden with real cultural skill as well as with an esthetic sense; unite the garden with the house by direct walks, do away with steps into the house wherever possible—and the type of garden which suits the English type of house will grow up a part of your home, almost without your knowing that it has done so.



Success with Asters

(Continued from page 389)

stone lime each in two quarts of water. Stir well when dissolving and while mixing the two half-gallons of liquids. In slaking lime, add but a little water at a time, as it generates great heat, stirring till all lumps are slaked. Slaked lime should be kept covered with water until it is used. Another remedy is equal parts of freshly-slaked lime and flowers of sulphur, mixed and placed in a coarse bag, and shaken thinly upon the foliage. Ammoniacal copper carbonate is also valuable and it does not discolor the leaves as does Bordeaux. Whatever cure is applied, it is important to remove and burn all affected leaves, or other parts of the plant when possible, before using. Destroy plants in which the disease is much advanced, to prevent its spread.

Give a plant good soil and it will better withstand the attacks of its foes, says an authority on horticulture.

Dig a deep hole for compost, throwing into it from early spring till fall all vegetable kitchen refuse, such as potato parings, rhubarb leaves, pea-pods, corn-husks—even tea and coffee-grounds—faded flowers, dead leaves, etc.; sprinkle each layer liberally with lime; and you will soon have a mass of the rich, humus-bearing material that asters crave. Save all the grass-clippings and add them to this stuff, or pile them up alone—mixed with lime or wood-ashes, or not, as you please, and let them decay till like black earth. This is more valuable for asters than any stable manure, whether added to sand or clay. In

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are practically indestructible because made of indestructible minerals. They are moulded into one solid, compact, homogeneous mass under tremendous hydraulic pressure from a composition of Asbestos and Portland Cement. J-M Transite Asbestos Shingles never rot, warp, split, curl or decay. According to engineering authorities the more severe the weather conditions, the harder and stronger these shingles become, because such conditions tend to hasten the setting or crystallizing of the cement or binding material.

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THE LONG-LIFE WHITE ENAMEL

my opinion, horse-manure should never be used if avoidable where asters are to be grown; and then only when so old that its value lies chiefly in the humus it will furnish. Well-rotted cow-manure will serve; but the fresh article is likely to breed aster disease.

Asters seem to do best in the cooler climate of the New England states and Canada. I find that sunshine all day is unfavorable to their most complete development. In seasons of normal heat, exposed to the sun from morning to night, sooner or later, the stems and leaves of my asters become infested with aphides, green, black or bluish. The remedy for these is a spraying with tobacco tea or an application of tobacco dust. But even in the case of aster ills, I regard prevention as better than cure. So now I plant them where they will have the sunshine only half or two-thirds of the day.

Frequent cultivation is of benefit to asters. Keep the ground about them well-stirred. In weather abnormally warm, the soil may be mulched with grass-clippings or like material. This not only keeps down the weeds, but conserves moisture, and while not ornamental, is of value when they must be planted in a very sunny position, or when the weather is dry.

Asters should not be grown in the same place two years in succession.

They are fond of water, and the soil where they grow should be thoroughly soaked and never allowed to dry out. Tiny seedlings must be watered with some discretion. Too much water in their case causes damping off.

The tall varieties of asters will need staking if the season is one of much wind and rain.

As is true of the rose, the aster has an enemy very difficult to combat, and like that foe, it is a beetle, sometimes black, sometimes striped, but always elusive. Nowhere in nature is delay more dangerous. His ravages are as swift as those of the plague. As soon as he is noticed at his unholy work, provide yourself with a pan of water, into which kerosene has been put, and knock or jar him off into it. Coal oil does not agree with his constitution, and he will never eat again after he comes in contact with it. In the early morning, the beetle is comparatively sluggish and his destruction can be more easily compassed; but it won't be safe to wait for morning if he begins his operations on the flowers in the afternoon.

August is the only month when I have had trouble with the aster-beetle. Nowadays I avoid its depredations either by early or by late sowing. Asters may be sown in a hot-bed during the first ten days of April, and they will then bloom in July, if the weather conditions are ordinarily favorable. I have started asters in boxes in the house soon after the first of April with good results. But the aster is a lover of fresh air. In the dry, overheated atmosphere of living-rooms, the plants are liable to damp off. When they



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have shown symptoms of this trouble, I have sprinkled wood-ashes over the soil around them, but sparingly, for they were mere infants, and have checked the mortality, even when I could not save all. Flowers of sulphur is another specific for the minute fungus which causes damping off. It should be dug in around the little plants, using only a small quantity at a time.

Personally I prefer the late sowing.

In open ground, asters may be sown as late as the last week of May or the first of June. The seed germinates easily, usually in from five to seven days, but often in less time. Unless the weather is very warm and dry, asters may be sown up to the first of June; and they will then bloom in September, after the aster-beetle has paid its annual visit. This, at least, is my experience. I am, of course, speaking of varieties whose season of bloom is August. Some Peony Perfection asters sown one year on June the first were in blossom as late as the first week of October, and flowered without molestation.

The late branching sort are, in my opinion, a most desirable kind, not only on account of beauty of form and coloring, but because they bloom in September, when the aster beetle has ceased from troubling, and when most of the flowers have lived out their little day of life.

I have recently seen recommended a solution of arsenate of lead-paste in water—one tablespoonful, slightly rounded, to one gallon of water—to be used as a spray for the combating of this, the aster's most troublesome pest. Lead arsenate may now be bought in comparatively small quantities at a first-class seedsman's. How it affects the digestive apparatus of the aster-beetle, I am not qualified to state; but I can testify that it is deadly to caterpillars.

Although there is almost an infinite variety of form, the classification made by Professor Bailey may simplify the matter of judging varieties, even though to-day some of these divisions are combined:

- I—A flower with flat strap-shaped rays loosely bound—
 - a. Rays incurved or ball shaped,
 - b. Spreading or reflex.
- II—Tubular or quilled asters, in which all but the outer ray of florets have tubular corollas—
 - a. The inner florets short, the outer flat and longer,
 - b. All the florets elongated or quilled.

The Comet type, a variety embraced in Section I, is very popular, and is obtained in great size and various forms. Its rays are flat and curled at the end, and some are twisted beautifully, like the chrysanthemum. The branching type, when used in catalogs, refers to the form of the plant, which grows almost like a wide-spreading bush two to two and a half feet tall. Most of the branching type of asters are late flowering. Both this sort and the Comet are now to be had in a dwarf form

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which is desirable for borders, the others being well suited for massing also. Since various growers have been at work perfecting the varieties, it may be well to mention some of the more common sorts of special merit:

Crego's Giant, a branching sort, is a great, large-flowered, fluffy blossom with the center petals reflexed and curling. It may be had in all colors, and blooms from the middle of August to the end of September.

Victoria, one of the earlier flowering kinds, has reflex petals and bears from ten to twenty well-shaped flowers on a pyramidal bush.

Truffaut's Peony Flowered Perfection has very large double flowers with incurved petals, and in its richer colors resembles a peony. It grows to be two feet tall.

The simple branching type bears double flowers on long stems in the early fall and grows to from two to three feet high.

The sort known as Crimson Rose or Violet King is a popular form of the Comet type, bearing flowers almost four inches in diameter on eighteen-inch stems, a full center blossom with the center petals twisted.

The Daybreak asters are ball-like in shape, stiffly erect on long stems with incurved petals. Flowers are about two and a half inches in diameter, excellent for cutting and come to bloom in August. There are colored forms of this flower. A late improvement is known as the Ostrich Plume or Ostrich Feather variety, and has light feathery petals, long and twisted, gracefully formed and loose.



The Best Use of Annuals

(Continued from page 385)

necessitate or warrant. Whether the hardy scheme be formal or informal, a vast amount of experience in the effect of massing blossoms and foliage, the combination of colors and the meaning of sky-lines and vistas is to be had in this way.

You want to know, perhaps, how small tapering evergreens would define certain garden formality, or would look in an irregular grouping. Experiment with the annual that is well named summer cypress (*Kochia trichophylla*). The color is light green, changing to a reddish tint in autumn, but with the needed form there the imagination can do the rest. Or if you want to get the effect of low shrubs, use the bushy four o'clock, which is a better annual (really a non-hardy perennial) than it appears to be when used separately in any of the self-colored varieties. Put to a practical test, the color value of sheets of low bloom by planting the blood-red Drummond's phlox or the orange eschscholzia, the value of irregular spikes with larkspur, of rayed blossoms with *Brachycome iberidifolia*, of blossoms thrown up on long stems with sweet sul-

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tan, of scattered bloom with cosmos, of clouds of tiny blossoms with schizanthus and of pastel shades with scabiosa. Work out formal effects with such annuals as the China aster, candytuft, stock, godetia, alonsoa, tall and dwarf zinnia, chrysanthemum, lupine and French and African marigold—any that are not of sprawling growth. With a little study it will not be difficult to find comparative material.

A garden all of annuals is also a desirable expedient when a place is rented for a season. Perennials, of course, can be set out temporarily and removed with the rest of the household belongings—this is done every year—but the plan is not always practical. Most would prefer to plant annuals and leave the problem of garden permanence to the next comer. Again, this kind of a garden is a welcome alternative when a new place is in its first season and there is either not the time for permanent planting or else a definite scheme is left to future decision.

Then there is the country home that is occupied only from late June to early September. The garden could still be hardy, out of the abundance of summer-blooming perennials, if there is anyone to give it the necessary spring and autumn care; but annuals, and bedding plants treated as such, are sometimes to be preferred for one reason or another.

Whether it is well to possess a garden of annuals simply to have it all annuals is something that no one can decide for another. Without question, it may be a garden of superlative beauty; on the Riviera are great borders that prove this—borders composed of drifts and other irregular sections of some of the most strikingly effective annuals, the arrangement being as careful as if permanent material were employed. Like proof was offered at the international flower show of 1911 in London, where there were groupings of annuals that could not be surpassed with perennials.

The disadvantage of a garden of annuals is not any limitation of esthetic potentiality; it is its impermanence, necessitating complete making over and repetition of expense every year, and a minimum season. The last is the great, and unconquerable, disadvantage; July is at hand before much bloom can be counted on, and of the few species available after the middle of September not all can stand frost without protection. There are two kinds of annuals, hardy and half hardy. The latter are too tender to put plants in the ground until near the end of May, so that getting them started under glass does not help the matter of May bloom. Hardy annuals are so by comparison with the other class, not in the sense that most of the cultivated perennials are. The few that are really hardy, surviving through late seedlings of the previous, hurry their blooming very little.

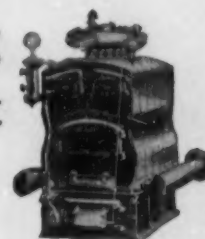
In the circumstances, why not let the garden of annuals belie its name, just as the hardy garden does without compunc-



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tion whenever it chooses? Lavish annuals on it in any measure for summer glory, only do not leave the garden bare before and after. This is easily got around by pardonable inconsistency. In October plant the garden with tulips, hyacinths and other spring bulbs. Edge formal beds or borders with hardy candytuft, for a permanent thing; with pansies, *Bellis perennis*, *Myosotis dissitiflora* or *Arabis albida* for spring bloom or with violas (tufted pansies) for summer flowers. All of these plants can be set out in October, and with the exception of the candytuft any of them are suitable for places between the bulbs, which they follow immediately in bloom when the period is not coincident; the arabis and myosotis are especially good with early tulips, or late ones if care is taken as to the color that goes with the myosotis.

Late in May, when the bulb foliage is turning brown, remove any other plants that are not used for edging and set annuals in all the available spaces. Or the bulbs may be taken up, dried off and reset in the autumn. If this is done throughout, or here and there, the garden may be given a riot of autumn color by massings of hardy chrysanthemums. It is not necessary that the chrysanthemums should be potted ones; they may be plants from cuttings rooted in the spring and grown on in rows, as they will bear moving even when in bloom.

Start the annuals, other than poppies, *eschscholzia* and sweet alyssum, early by sowing seed in a coldframe soon after the first of May. Keep the plants under glass until the end of the month, or later if the garden is not ready for them. Do not let them get spindling; this is the objection to starting the seeds in the house in boxes in April. If started still earlier in a greenhouse, in March, they can be potted and put in the garden as good-sized plants; but they will reach up for the light and are apt to go outdoors in a weakened condition.

Annuals that are a long time reaching maturity—such as *helichrysum*, the finest of all the everlasting, and the old type of *cosmos*—ought never to be sown in the open ground. The fascinating *salpiglossis*, also, is sown early under glass to insure bloom. Then there is the sweet sultan, which likes to get an early start so that it may give of its best before the heat of midsummer.

An effective way of using annuals is as pot plants—not only to fill spaces in the greenhouse but for the porch in summer and for setting among shrubbery or in garden blanks. A great deal of this is done in England, where some potted annuals are superb specimen plants that cause eyes not familiar with them to open wide with wonder. Think of bushes of *Clarkia elegans*, a yard high and through, that are a mass of double pink or salmon blossoms! These are May possibilities if the seed is sown indoors in September and the plants potted and pinched back to

promote bushiness. Cosmos, for autumn; rhodanthe, one of the everlastings; the common double balsam, nemesia, schizanthus, cockscomb and *Dimorphotheca aurantiaca*, the last of which has handsome hybrids now, are among other suitable annuals for pots. The balsam, nemesia and schizanthus, like clarkia, develop better in pots than in the garden.

One of the biennials, the Canterbury bell, is as fine a subject for pot culture as heart could desire. This and other biennials, among them the foxglove, hollyhock and *Myosotis dissitiflora*, are usually thrown in with the annuals as they are regarded as plants of only a year so far as garden usefulness is concerned. Often they spend scarcely more time in the garden than is necessary for blooming, after which they are discarded. The same with sweet-william and columbine, though both of these will persist longer if conditions are favorable.

Of the number of annuals in cultivation few have any idea. Name a dozen or so and the list that the average person can think of offhand is exhausted. The common annuals are such because of a worth that time has shown, but they do not begin to be all that ought to be common. Nor do they begin to be all the easy ones—if any annuals can be called really difficult.

The salpiglossis is one that deserves to be better known; it is very good for massing if the colors are not mixed, but this plant affords the keenest pleasure when it is in less crowded garden conditions or when the blossoms are in a vase. Unappreciated, too, are schizanthus, with its myriads of little butterflies; nemesia, than which no low annual is more charming and which shows blue as well as red, yellow, pink and white, and phacelia, especially *P. campanularia*, with its blue bell-flowers.

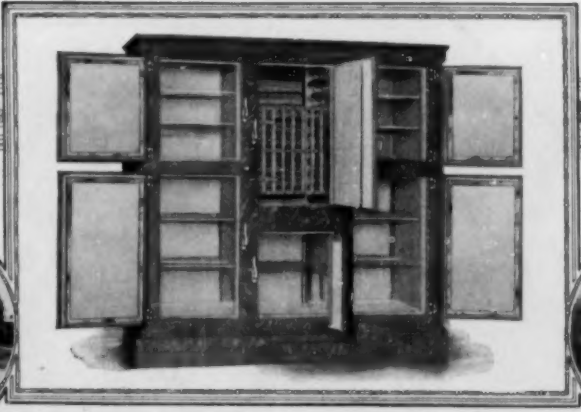
Then there are three rayed annuals that are badly neglected. The swan river daisy (*Brachycome iberidifolia*) from Australia, is among the daintiest of carpeting annuals. The type is light blue, but there are white and pink varieties. Of the others the African daisy (*Arctotis grandis*) is unusual in that the white blossoms have a mauve centre, while the foliage is very downy, and the Namaqualand daisy (*Dimorphotheca aurantiaca*) furnishes rich yellow bloom. This trio is good for all summer.



Simple Instructions for Plotting a Lawn Sun Dial

(Continued from page 380)

line on the portion that rests on the ground and shown in Figure 2 starting at the angle at E and running (extended out dotted) to the angle at F, is in all cases 42 3/4 inches in length, the measurement of the dotted line running from the angle at F to the angle at G should be changed in length, depending on the location further



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north from the equator, according to the table of measurements for the gnomon. The city in it nearest to you in a north or south direction, is selected as in the case of the measurements for the hour lines.

The gnomon should be accurately made, and well painted to prevent warping. The lower side along the line E to F (Fig. 2) up to the point where the line becomes dotted in the drawing, rests on the level of the ground. The gnomon is secured in a vertical position by two square 2" x 2" pointed pegs, eight inches or more long, shown in Figure 2 by dotted lines. These are driven into the ground, and the gnomon is secured to them by nails or screws.

Having selected and prepared the ground in a sunny location, place the gnomon in the general position that it is to occupy, holding it vertically with the pointed end E (Fig. 2) directed to the south, and the side EF level on the ground. When the watch, accurately set to the standard time of the place, reaches exactly the hour of 12:00, turn the gnomon slightly so that a straight shadow with a width of two inches proceeds from it in the direction of the true north.

Quickly and accurately mark the two sides of this shadow for 12:00, with two cords stretched from small pegs driven in the ground. These pegs correspond to the angles at either side of X (Fig. 1), and at BC (Fig. 1). These two cords mark the boundary of the 12:00 line between which the gnomon rests when the dial is completed, and from which the balance of the measurements are made in laying out the hour lines by the aid of the measurements of the table and Figure 1.

The measurements for the hour lines and the lines themselves should be carefully made; the lines, when the points are established, being marked with the aid of a carpenter's chalk line stretched between pegs driven in the ground. When the dial portion is completed, the gnomon is mounted, as previously described, occupying the space between the two 12:00 lines, and with the end E (Fig. 2) resting exactly on the point where the 6:00, 6:00 lines cross and meet the 12:00 lines at X in Figure 1.

The measurements for the hour lines, and the angles of gnomon for the various cities, representing various distances north from the equator, have been calculated with care, and will be found correct. It will be observed that in the drawing (Fig. 1) the hour lines 3 and 9 fall below the upper right- and left-hand corners. It will be found that with changes in the location where the dial is used, those lines, together with the rest of the hour lines, change their positions somewhat, the 3 and 9 o'clock lines sometimes coming below the upper corners, sometimes in the corners and sometimes above the corners. There is a small variation from month to month in all sundials. They run a little slow at certain seasons, and at others somewhat fast; but the variations during the summer months are only a few minutes.

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shape shown in Figure 1, a circle may be drawn after the diagram and hour lines have first been reproduced as in Figure 1. This is shown in Figure 3; notice that the hour figures are placed where the hour lines join the circle. The dial as described in Figure 1 is 6 feet 10 inches by 5 feet 4 inches square, without considering the figures on the sides and top. By multiplying *each and every* measurement shown by 2, the dial may be doubled in size; or working in the same way, other sizes may be constructed.

The sun, rising in the east, first begins to register on the 6:00 a.m. line, and thence around through the hours of the day its shadow creeps, until it passes off the dial at 6:00 p.m.

Various decorative schemes will no doubt suggest themselves to the reader, in connection with this subject. Dials of this sort are comparatively rare, owing ordinarily to absence of data regarding the necessary measurements.

New Orleans, La.....	25 inches
St. Augustine, Fla.....	
Charleston, S. Car.....	28 "
San Diego, Cal.....	
Savannah, Ga.....	26 "
Tombstone, Ariz.....	
Memphis, Tenn.....	30 "
Flagstaff, Ariz.....	
San Francisco, Cal.....	32 "
Springfield, Mo.....	
Washington, D. C.....	35 "
Baltimore, Md.....	
Denver, Colo.....	
New York, N. Y.....	37 "
Philadelphia, Pa.....	
Indianapolis, Ind.....	
Boston, Mass.....	40 "
Chicago, Ill.....	
Buffalo, N. Y.....	41 "
Madison, Wis.....	
Bangor, Maine.....	43 "
St. Paul, Minn.....	
Salem, Ore.....	
Tacoma, Wash.....	46 "
Bismarck, No. Dak.....	
Quebec, Canada.....	

Heights of the gnomon in Fig. 2, varying with the locality.



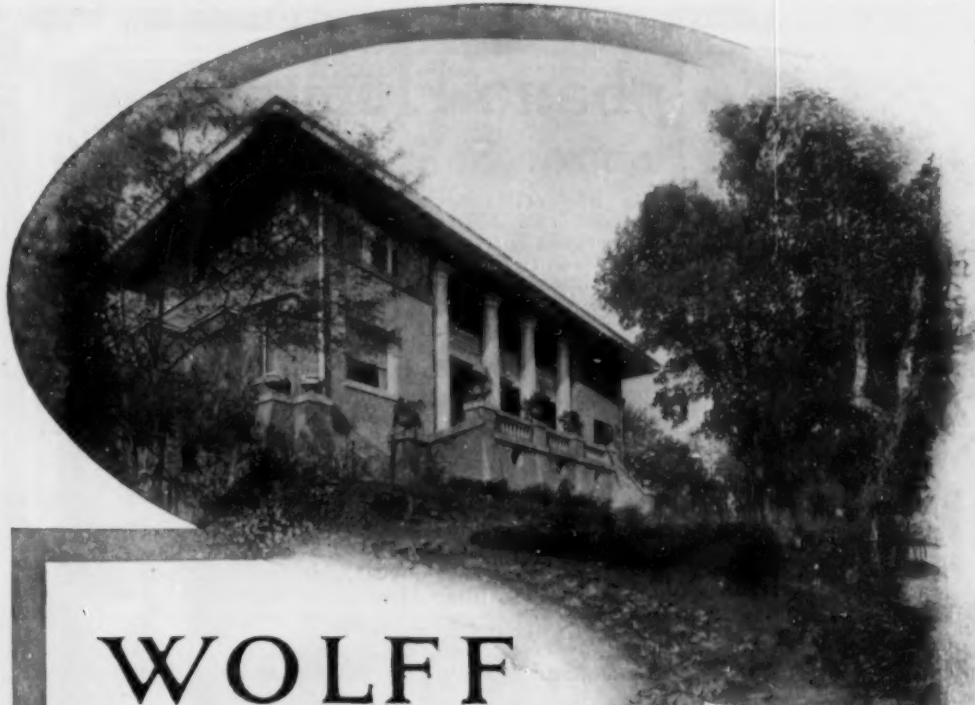
When Fine Feathers Make Fine Birds

(Continued from page 376)

They lay well enough to furnish a considerable number of table eggs but need good care.

The White-Faced Black Spanish breed is very old and very odd. Their chief point of interest is a long white face, which makes the birds of both sexes look as though wearing bibs. Fanciers try to keep these faces free from wrinkles. The plumage of this breed is rich and glossy, so that the Black Spanish fowls are decidedly ornamental. They make a striking appearance on the lawn. They pay for their keep, too, for they lay a large number of white eggs.

Houdans belong to the French class and they, too, have crests, while every fifth feather is tipped with white, which gives them a curious mottled appearance. Being tame and friendly, these birds are found on many estates and are much ad-



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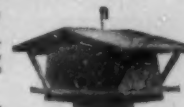
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mired. They lay well and in France are very popular as utility fowls.

Probably the Andalusian came originally from Spain. So the name, at least, would indicate. Its most marked characteristic is its feathered coat of blue, set off by red face and eyes, and white ear lobes. Domestic birds with blue feathers are rare, although blue Leghorns, Orpingtons and Wyandottes are now occasionally being shown. In fact, there seems to be a growth of interest among fanciers in blue fowls. Andalusians are graceful and attractive. Also, they lay a generous number of white eggs and are not hard to raise. They are highly ornamental in flocks of a dozen or more.

When we come to bantams, we find a great number of daintily beautiful little creatures, some of them perfect pocket editions of larger breeds. There are miniature Cochins, Brahmas, Polish and even Plymouth Rocks. These varieties are delightfully attractive, with their pert manners and great show of courage. They may be allowed full liberty and will do little damage even in the vegetable garden. The cost of keeping them is but a trifle, a tiny house will shelter them and they are charming pets for children. They lay eggs, too, which are large enough to be put to use by the cook, and produce a considerable number in spring.

There are other bantams, however, which are even more ornamental, among them the Sebrights in two varieties, golden and silver. Odd as to shape, saucy as to manners, and rarely beautiful in plumage, they are greatly admired. Then there are the Japanese bantams, with their large erect tails, almost touching the backs of their heads. There are white and black and white black-tailed varieties, the latter being especially interesting. Rose Comb Black and Rose Comb White Bantams are likewise ornamental and highly prized by fanciers.

If there be a little water available, it is not necessary to confine the number of one's ornamental birds to land fowl. A pool a dozen feet square will suffice for a small collection of ducks, and such a pool can easily be made of cement. It need not be more than two feet deep. When larger water birds like swans are kept, there should be a pond at least fifty feet wide. Swans are naturally and properly very popular with the owners of large estates, especially if there is a formal lake. The common mute or royal swan is hardy and requires but little protection even in winter. Swans will breed if they can find a secluded spot and are not disturbed. They mate in pairs and are very devoted, but each pair needs to be kept in a separate enclosure if confined to limited quarters, for the males are inclined to quarrel. The mute or royal swan is the most attractive variety. These swans were formerly the pets of royalty in England, to be kept by no one else without a license. Even yet the Royal Swans are to be seen on the Thames, each with a peculiar mark on the



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beak. A pair of mutes cost in this country about \$40.00.

There are several breeds of geese which are considered ornamental and which are often seen. They include the Chinese, Egyptian, Sebastopol and Canadian wild geese. The Chinese geese are found in two varieties, white and brown. They stand as erect as an army colonel and at the base of the beak is a curious knob, which gives this breed a distinctive appearance. It is not necessary to confine these geese closely and when they have been allowed to breed freely the young birds may be served on the table, for the flesh is delicious. Chinese geese are not expensive, costing fifteen or twenty dollars a pair.

Egyptian geese are smaller but are highly ornamental, with rich coloring. They are easy to raise but have one serious fault—they are very pugnacious. If placed in a yard with other birds they are sure to play the bully, sometimes to the extent of birdslaughter, if the offense may be so styled. For that reason they should be made to flock alone and it is a common practice to clip one wing, to prevent their flying into quarters where they are not wanted.

Sebastopol geese are not so often seen, but are curious and beautiful. They are pure white and their feathers are long and silky, falling even to the ground. A small pond will suffice for a few of these birds, and they will prove a constant delight. They cost about \$40.00 a pair.

Less than half the price charged for the breed last named will pay for a pair of Canadian wild geese. Nevertheless, these birds are stylish and handsome. They are easily domesticated but must have a wing clipped if they are to be kept at home. Often they and other water birds are pinioned, which means that one wing is taken off at the outside joint. By this means they are permanently debarred from flying far; if the wing is simply clipped, the feathers will grow again. They will breed in captivity if allowed to choose a quiet spot on the bank. Geese are bold, interesting creatures, but it is well to have them some distance from the house, for their cries are not altogether musical.

Finally there are the ducks, some of which can boast feathers almost as fine as those of the gorgeous pheasant or the vanity-stricken peacock. The wood duck, for example, and the Mandarin are wonderfully beautiful. These are really the bantams of the duck family, but rank first among the ornamental varieties. In fact, they are simply little bunches of brilliant plumage, bedecked as was Joseph in his coat of many colors. The Mandarins, natives of China, as their name indicates, have crests on their heads and fans on their backs which can be raised and lowered at will. They must be given the utmost seclusion at breeding time and never interfered with. If kept in yards, piles of brush may be thrown into corners for hiding places. Mandarins and wood



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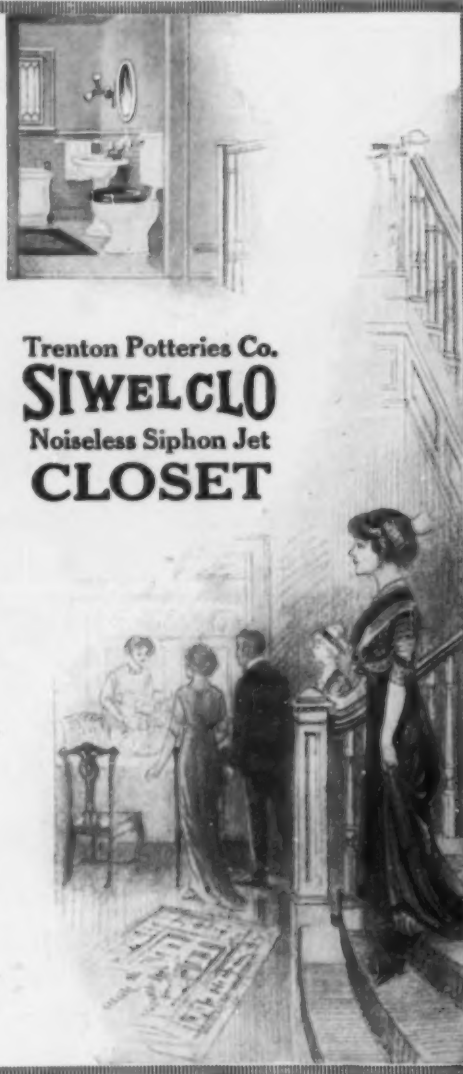
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ducks may be kept in covered yards with a small pool in the middle. A washtub sunk into the ground will answer for a pool, if a drain can be made under it and a plug fitted to a hole in the bottom of the tub. A cement pool looks better, of course, and costs but little.

White Call and Gray Call ducks are also bantams, and while they cannot display the brilliant colors of the Mandarin and the wood duck, are pretty, graceful little birds and well worth keeping. They, too, require only a little water. They are considerably cheaper than their gorgeously arrayed relatives, which cost about \$25.00 a pair.

Mallard ducks, while not especially beautiful, are very easy to raise and are found in most collections. They mate in pairs, breed freely and may be allowed their liberty if pinioned. Not only do they do little damage in the garden, but they actually perform a service by killing many insects and bugs. These ducks are often kept on small ponds to destroy the grass which grows in them. Also, it is well worth mentioning that Mallards are delicious when the cook has prepared them in proper shape for ornamenting the dining table.

A variety of duck which is well adapted to small places is the Muscovy, both white and colored. The latter is very handsome, but both kinds are attractive, easy to keep and especially good for table use, as the flesh does not dress away as in the case of many varieties. Another point which commends them is the fact that they make no noise save a sort of hiss. For that reason they may be kept where other ducks would soon make themselves a nuisance. A good way to begin raising these ducks is to buy a setting of eggs for two or three dollars.

One other duck worthy of a place in the ornamental category is the Rouen, the lineage of which might probably be traced back to the Mallard without serious difficulty. The drake resembles the Mallard, but the duck is much handsomer. These ducks lay well and are excellent for the table.

The list of ornamental birds might easily be extended to take in others which are more rare and yet easily obtainable. There are other varieties of ducks and of swans. There are cranes and storks and pelicans and flamingoes. These sorts, though, are best left until a good start has been made with birds more commonly seen. The raising of ornamental fowls is a hobby almost without limitation so far as stock is concerned, and fascinating even when confined to a few pheasants or a flock of fancy poultry.

Then, too, it is a new hobby and one that is fraught with great possibilities from many viewpoints, for the fowl of brilliant plumage need not be difficult to care for and may aid in the decorative scheme of your grounds and garden fully as much as any other single factor.

Complete Directions for Spraying

(Continued from page 391)

contact, and in a few hours after you apply it will have evaporated and left no trace of itself except in the presence of dead insects. Kerosene emulsion may also be used, but is less convenient and agreeable. Plain hot water, or soap-suds, not boiling, but so hot that you cannot hold your hand in it, may be used as a dip. In this case the plants should be held in such a manner that there is no possibility of its slipping inadvertently from the pot; immerse completely but quickly and immediately withdraw. This will usually cook the bugs without injuring the plant, but when you attempt it for the first time, try it on two or three first, to be sure that you have got conditions just right.

Here is a more detailed description of the insects and diseases you are likely to encounter in the house or in the flower garden.

Aphids—The aphid, or green plant louse, is the most common and troublesome. It is soft-bodied, active, and under proper conditions has the ability to increase with a rapidity which is absolutely inconceivable. These conditions are, crowded plants, shade, poor ventilation and dryness. Where such conditions exist they should be changed at once, as otherwise you will simply be breeding aphids for the fun of coating them with spray.

Mealy-bug—The mealy-bug has a special liking for coleus, salvias, fuchias and other soft-wooded plants. It is easily recognizable, but not at all dangerous-looking, being hidden beneath what appears to be a very small tuft of cotton. If you notice it when the first few appear, it may be got rid of by touching each individual with a drop of kerosene or alcohol at the end of a match-stick.

Scales—The brown scale is protected by a "shell" one-fourth inch or so in diameter, slightly convex, and does not easily succumb; nor is it readily recognizable, as it is usually about the color of the stem to which it attaches itself, and does not move about. The white "scale" is very much smaller, but multiplies much more rapidly, quickly forming dense colonies. Both are very quiet and industrious, apparently doing no harm, but in reality sucking out the life juices of the plant to an injurious extent. Spraying, to be effective, must be done with a solution stronger than that used for aphids or mealy-bug. Dipping, where it is possible, is surer. Where only a few are to be got rid of they may be painted with kerosene emulsion or whale-oil soap.

Beetles—The rose-beetle and aster-beetle are two of the hardest garden pests to control that there are. Some seasons they give very little trouble indeed, and in others destroy practically all the flowers, or even the entire foliage of these two plants. It is best to sacrifice some blossoms, and the looks of the plants temporarily, and spray with a very strong solution of arsenate of lead. Where they are



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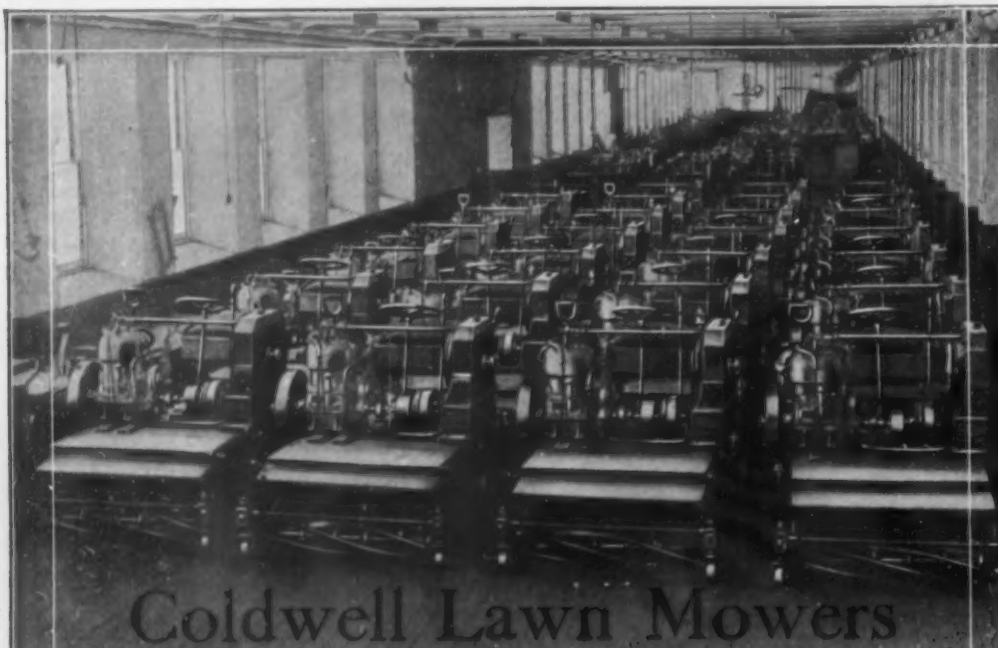
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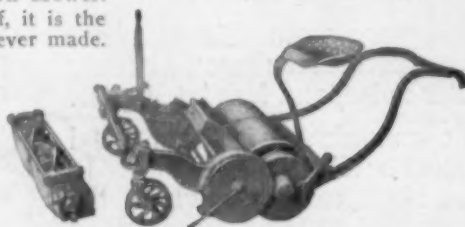
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not encountered in too great numbers they can be quite rapidly dispatched by knocking them with a small paddle made from a shingle into a can of kerosene and water.

Fungus—This appears in several forms, all of which are controlled by thorough spraying with Bordeaux mixture. Where discoloration of the foliage is objectionable, one of the specially-prepared fungicide spray materials upon the market may be used. It should be kept in mind, however, that to be really effective any treatment of this sort must be used as a preventive rather than as a remedy.

Mildew is the result of some sudden check or shock given to the plant, such as a draft of cold air from a window, or, outdoors, a sudden change in the weather. Some plants, such as roses, are very readily affected, and upon others it never appears. It is easily recognized as it causes the tender new leaves to curl up and be discolored, and covered with what seem to be a white powder. Spray the plants until wet with plain water or Bordeaux, and dust thoroughly with flowers of sulphur.

One of the chief reasons why insects are more apt to do damage in the garden than in the house or in the flower garden is because the plants growing there are as a rule not so carefully watched, and when the intruders come they are allowed to get too much of a start before anything is done to combat them. I cannot emphasize too strongly that the first and most important step toward having a garden free from troubles of this sort is to keep a constant and sharp watch for the very first signs of any danger. And when it appears, no matter what else is demanding your attention, attend to it at once.

Aphids—Conditions out-of-doors are not usually favorable for the plant lice, of which there are several sorts and colors, to develop to any great extent. During dry weather or where plants are growing crowded together, a sharp watch should nevertheless be kept, and kerosene emulsion or tobacco dust or both used at the first sight of one.

Asparagus Beetle—Clean cultivation and cutting the stalks below ground will usually prevent these fellows from doing much damage. If they do put in an appearance, however, use strong arsenate of lead very thoroughly.

Caterpillars—The most common and troublesome of these is the medium-sized, green caterpillar which attacks cabbage and other plants of the cabbage group. If possible, capture and kill all the small white and yellow butterflies which may always be seen hovering over these plants early in the spring. If worms do appear, spray them with Paris green or arsenate of lead before the heads begin to form and put a quick stop to them. In later stages of growth hellebore may be used. There is little danger in using these poisons on cabbages because the heads form from the inside and the outer leaves are always discarded in cooking. The light green caterpillars which eat the leaves of carrots,

parsnips, celery, etc., seldom appear in any great numbers and are easily demolished by hand picking. The very large "horn worms" which attack tomatoes and tobacco may be controlled either by hand picking or thorough work with arsenate of lead.

Cucumber Beetles—These lively little black and yellow striped fellows attack cucumbers, muskmelons and other vined plants especially in their early stages of growth, and not only do great damages by their ravages of the foliage but are believed to communicate the disease known as cucumber wilt. Spray with arsenate of lead and keep the vines covered with fine ashes or a generous sprinkling of tobacco dust.

Cutworms—These are probably the most annoying of all garden pests and cannot be controlled by any spray used in the usual manner. The best of methods of prevention is to distribute at points a few feet apart, and a few days before the plants are set out, small pieces of poisoned bran mash; the latter is made by mixing bran with water and a little molasses until the mash is made and working Paris green or arsenate of lead through this thoroughly. The worms are very fond of this sweet bait, and die happy and contented. Where you do find a plant cut off, early in the morning you can almost invariably locate the culprit near the root in the soil by turning it over with the fingers.

Flea Beetle—This is a very minute and hard-shelled little jumping-jack which attacks the foliage of potatoes, tomatoes, young cabbage and turnip plants. Thorough work with kerosene emulsion or strong Bordeaux mixture or arsenate of lead will usually prevent their doing any damage.

Potato Beetle—This intruder which needs no introduction to the gardening public invariably finds the potato patch no matter how small it is and any eggplant which you may set out. Arsenate is the most effective remedy, although Paris green is largely used also. Destroy all clusters of eggs which may be found upon the under sides of the leaves.

Squash Bug—This is the large, flat beetle so very offensive in odor. I have never found anything which was effective in killing the full-grown ones. The young, however, do the real damage, and as these are soft-skinned they may be subdued with strong kerosene emulsion or a heavy dusting of tobacco.

Blight—Among the diseases which one may expect to encounter in the vegetable garden, by far the most serious are the various forms of blight which attack potatoes, causing early yellowing and withering of the vines and in the late crop and the rotting of the tubers; "leaf spots" on tomato plants and blight or withering of the leaves in muskmelon vines and cucumbers.

Mildew—Second in seriousness are the various forms of mildew which attack



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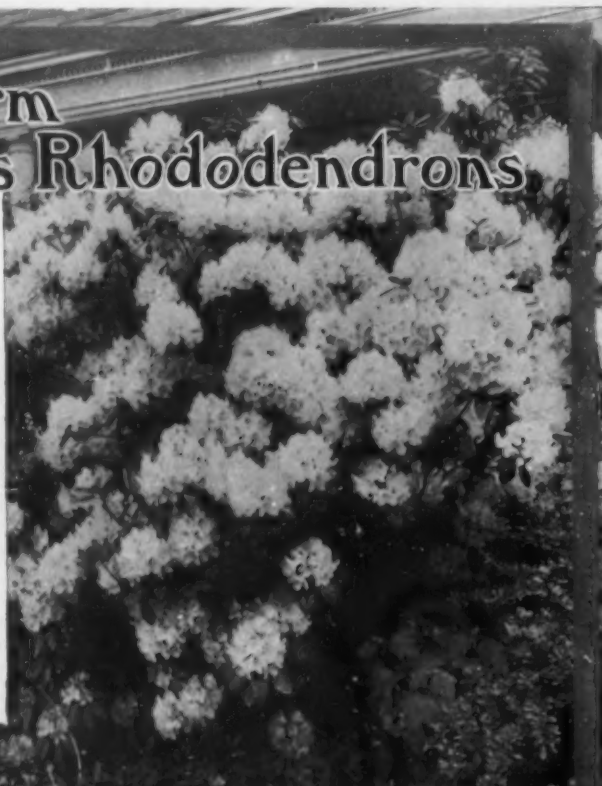
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muskmelons, lima beans, etc. These are all controlled with thorough spraying with Bordeaux mixture, applied frequently enough to keep the foliage covered from the middle of July on. Three to five sprayings will usually be required for effective protection.

FORMULAS

Direct Poison for Chewing Insects
Arsenate of Lead, or *Disparene*—

3 ounces crystallized arsenate of soda,
7 ounces crystallized acetate of lead,
10 gallons water.

Dissolve the crystals separately in a small amount of the water—the lead dissolves more readily in warm water—mix them when dissolved, and add the remainder of the water. The mixture will be milky, but need not be strained if the crystals have been thoroughly dissolved. *Disparene* may be purchased under this name either in dust or paste form, but it is better to get the two ingredients and mix as needed, for it is simple stuff to handle. Whatever the amount used, always keep the proportion of one ounce of the crystals to one gallon of water. For example, if six ounces of the arsenate of soda were used, fourteen ounces of the acetate of lead would be required, which would make twenty ounces for the total, needing twenty gallons of water. This is the safest of all the direct poisons, is effective and satisfactory, and should be used instead of Paris green or any of the other more commonly known remedies.

Hellebore (non-poisonous to man)—

- 1 Ounce of the powder to 1 gallon of water, if used as a spray.
- 1 Part powder to 5 or 10 parts flour, if used as a powder, mixed and allowed to stand for twenty-four hours in a tightly-covered vessel.

Sprinkle this on leaves, underneath and above, while plants are wet, either with dew, rain or by a watering-pot. Usually used on currants and succulent vegetation which is soon to be eaten, to destroy worms.

Contact Poison for Sucking Insects

Kerosene Emulsion—

- ½ pound hard soap (or 1 quart of soft soap),
- 2 gallons kerosene,
- 1 gallon rain water or water "broken" with lye if hard.

Dissolve the soap in the water by boiling. Add to the kerosene while boiling hot, churning the mixture violently by pumping it back upon itself through an open nozzle which throws a strong stream. An emulsion will result in about five minutes, or less, when it will have increased in bulk one-third to one-half, and will be as thick as rich cream. This keeps indefinitely as stock.

Dilute one part of this stock with ten parts of water for apple and pear. Dilute one part of stock with fifteen parts of water for plum, peach, etc., and all other

fruits, trees, etc. Never use stronger than this on growing vegetation; it is a spray that requires extreme care, and directions must be literally followed.

Soap Wash—

2 pounds whale-oil soap,
1 gallon water.

Dissolve the soap in the water by heating; it may be used full strength before growth starts. Dilute with five gallons of water, or in this proportion, and apply hot, after the growth has started. This strength is especially directed against the soft-bodied aphides, or plant lice. Common laundry soap of any kind will make an effective wash to use against these, using one-quarter of a cake to four gallons of hot water.

Fungicide for Mildew, Rust and All Fungous Affections

Bordeaux Mixture—

Make a stock by dissolving one pound Copper Sulphate—blue vitriol—in one gallon of hot water. Keep in a wooden or porcelain vessel, tightly covered. This must be combined as needed with Milk of Lime, made as follows: Slake the quantity of lime required slowly, and after it is slaked add enough water to make a thick paste. The proportions for combining these two ingredients are as follows: One gallon copper sulphate stock to one and one-half pounds lime (dry weight before slaking), reduced with thirteen gallons of water; or, for more delicate plants, one gallon of copper sulphate stock to two pounds lime, dry weight, reduced with seventeen gallons of water. Bordeaux mixture loses strength by standing after being compounded. Do not mix the Copper Sulphate and the Milk of Lime, therefore, except as you require the solution for immediate use. The mixture is offered for sale, but because of the element of uncertainty regarding the length of time it has been compounded, it is usually better to mix it oneself. For use in small quantities, however, the most convenient way of getting this mixture is in the ready-prepared compounds which may be had either in paste or dry powder. To make your own, a convenient proportion is four pounds of copper sulphate, four pounds of fresh lime and eight gallons of water. To make stock solutions dissolve the copper sulphate in half the water, either having the latter very hot, or suspending the former near the surface of the water in coarse sacking. Slack the lime in the rest of the water, adding the latter a little at a time. If this lime solution ever seems in danger of drying out from being kept too long, add more water. For spraying, pour the copper solution into the tank in the proportion of one gallon for every ten gallons of spray required. Add the water, and then pour in one part lime solution, first diluting it and straining it. In spraying, every particle of foliage, stem and bark should be covered, for the pests will be quick to take advantage of any omission.



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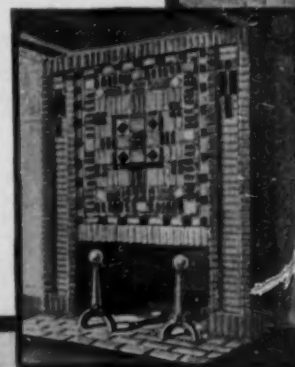
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Inject a few drops of the liquid into holes in stems caused by borers, and plug with putty, wax or mud. A medicine-dropper may be used to drop the fluid into the hole.

Make holes in the soil, where root insects are at work, as deep as the deepest traces of the insects, four holes to the square yard in heavy soil, three to the yard in light; drop two tablespoonfuls of the liquid into each hole, and close up at once by tramping the earth down hard.

Never bring carbon bisulphide too near a light or fire.

Poison Bait—For cutworms, wireworms, grasshoppers, locusts and all insects which travel along the ground and eat. (Never use where there are chickens running in the garden, or where pets are allowed free range.)

Dip small bunches of clover or any juicy green vegetation, into the arsenate of lead solution and spread about with a board or stone placed over each clump to prevent its blowing away. Renew every three days. Slices of apple or potato may be used instead of the green-growing stuff, if more convenient.

A mash to put between the rows of vegetables where cutworms and wireworms are troubling may be made of eight pounds of bran, one pound of white arsenic and two pounds of brown sugar. Moisten with enough water to make it wet but not sloppy. Put a teaspoonful at the base of each plant—but do not let it come near the stem, for it will burn it if it touches it.

Tobacco is used either in the form of an extract, to be diluted with water, or a fine powder which may be dusted on moist foliage. Both forms are quite effective, and especially so as preventives.

Lime Sulphur Wash—Always has been and still is used largely as a winter spray for dormant trees, for San Jose scale, pear psylla, etc. Mix one gallon of commercial lime sulphur with nine of water. Of late years, however, there have come into use quite extensively, to be used in the place of lime sulphur wash, miscible oils, which are very convenient to handle, and mix very readily with cold water. They are more expensive than lime-sulphur, but for using in the home orchard on a small scale, preferable to the latter.

Of the fungicides the most extensively used is *Ammoniacal Solution of Copper Carbonate*. This is used for spraying where discoloration of foliage or flowers left by Bordeaux mixture is objectionable. Otherwise it is inferior to the latter. To prepare this spray, dilute three pints of strong ammonia in two or three quarts of water, and in this dissolve the copper carbonate, six ounces. To use, dilute at the rate of fifty gallons of water to the above mixture.

Lime-sulphur is also used as a fungicide, but should be made very much

weaker than when used for a winter spray, one and one-third gallons commercial lime-sulphur to fifty of water being sufficient where it is to be used on foliage.

SPRAYING CALENDAR

Work for April

Mix arsenate of lead and first strength Bordeaux mixture together and use as one spray, as soon as the leaves are unfolded, on apple and pear. Spray again with the same mixture, same strength, three days after the flower petals fall. This may be around the first of May.

Mix arsenate of lead and second strength Bordeaux mixture together and use as one spray, as soon as the leaves are unfolded, on cherry, plum, peach and apricot. Spray again with arsenate of lead when petals have fallen and every ten days thereafter until three more applications have been made, or five in all. Cultivate the ground to a depth of two inches under trees for five weeks after the full bloom. Curculio larvæ are changing to beetles under ground during this time, and are thus destroyed by the destruction of their earth cells. Bordeaux mixture, second strength, may be used with every other application of the arsenate. This is used always as a preventive against fungous diseases, and it is too late to use it when such disease has made its appearance. Hence the advisability of adding it to nearly all other sprays, and using it constantly.

Use second strength Bordeaux mixture on all small fruits, ornamental trees and shrubbery generally, as soon as leaves unfold.

Spray roses with the full strength soap wash, applied hot, before growth starts, for scale insects. Use second strength of Bordeaux on them by the middle of the month, or as soon as their leaves are unfolded.

Work for May

Use same mixture of arsenate of lead and Bordeaux on apple and pear as soon as the first "worm-hole" is discovered on one of the tiny sets of fruit. The exact time of this application may be determined by careful watching alone, for it should be used when the larvæ of codling moth and Curculio are entering the fruit. Look over the trees daily and as soon as the sign appears, get busy.

Use arsenate of lead and second strength Bordeaux on peach and apricot, as directed under "April."

Use arsenate of lead on cherry and plum, as directed under "April."

Use second strength Bordeaux and arsenate of lead on all small fruits, ornamental trees and shrubbery generally.

Spray roses with the diluted soap wash for aphids and with second strength Bordeaux or with potassium sulphide, for fungi. The latter is preferred for roses. It is made from a stock composed of three pounds of potash, three and one-half pounds of sulphur, ground very fine, three ounces of salt and one gallon of water. Mix the first three together in a metal or

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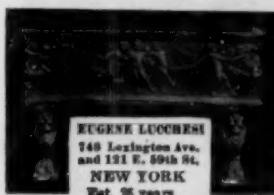
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earthen vessel and add part of the water. This will make a mixture that boils. Add the remainder of the water gradually. To use, dilute one part of this with one hundred parts of water. Where there are many roses to be cared for, such a stock is almost imperative, for roses require spraying at least once a week to keep them in prime condition.

Work for June

Use the arsenate and first strength Bordeaux on apple and pear thirty days from time of last using. Spray with the arsenate promptly if any small caterpillars are seen anywhere on the trees, repeating as may be necessary throughout the season.

Continue use of arsenate of lead on cherry, plum, peach and apricot as directed under treatment for April, unless the requisite number of applications have been made before the beginning of this month.

Spray roses with the Potassium sulphide every week, and with arsenate of lead for slug-worms and rose-bugs as soon as either appear.

Work for July

Spray apple and pear with arsenate of lead about the twenty-fifth of the month, to catch the second brood of the codling moth.

Spray roses with the same, for rose bugs; with the diluted soap wash for aphids; and with the potassium sulphide to prevent fungous disease. Only the latter need be used regularly each week; use the other two only if necessary.

Work for August

Spray apple and pear with arsenate of lead the fifteenth of the month.

Spray roses weekly with Potassium sulphide, throughout the season.

The Hundred Per Cent Garden

(Continued from page 393)

ready-mixed brands for use in a hill or drill is somewhat risky as they frequently contain substances which will injure the tender rootlets of plant and seedlings. We use a mixture which we mix ourselves and which consists of one part each of tankage, cotton-seed and bone flour, which we have found to be very quick-acting, very effective and perfectly safe. If you will take your hoe and open up the hills where you are going to plant for four or five inches down, or run a deep furrow with your wheel-hoe the length of the row you are going to plant, and then use this mixture, about a third of a small handful to a hill, cover it over with soil and set out the plants or sow the seed, you may be assured that you are taking proper measures toward insuring one hundred per cent. results with these particular crops.

The tall-growing peas, pole-beans (both Lima and the ordinary kind) and tomatoes ought all be given adequate support if you expect them to supply you with the best they can produce. I am of the opinion that the tall-growing garden peas will be used less and less as the improved Amer-



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Lacka-tan Leather Furniture is essentially homelike furniture. There is about these softly cushioned easy chairs and sofas an air of comfort touched with dignity and subdued elegance which emphasizes their appropriateness for Library and Living Room.

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contains the germs of a disease peculiar to rats and mice only and is absolutely harmless to birds, human beings and other animals. The rodents always die in the open, because of feverish condition. The disease is also contagious to them. Easily prepared and applied.

How much to use.—A small house, one tube. Ordinary dwelling three tubes (if rats are numerous, not less than 6 tubes). One or two dozen for large stable with hay loft and yard or 5000 sq. ft. floor space in building. Price: One tube, 75c; 3 tubes, \$1.75; 6 tubes, \$3.25; one doz, \$6

INDEPENDENT CHEMICAL CO. 72 Front St., New York

ican substitute dwarf sorts such as Max-tonan, Blue Bantam and British Wonder become more known. Getting and putting in a supply of brush for peas, especially if any quantity at all are planted, is exceedingly troublesome. Getting supports for a few dozen tomato plants or hills of beans is not such a difficult problem. But improved garden methods have not spared even the old-fashioned bean-pole and its shorter brother the tomato-pole. The objection to these is that they keep the vines huddled together so that sun and air do not have the free access they should to all parts of the plants, thus delaying the ripening of the fruit and inviting various diseases. There are a number of patented tomato supports which overcome these objections, but if one does not care to invest in these, it is an easy matter to make some stout garden stakes pointed at one end and nail lathes or some similar narrow light pieces of wood across these at right angles. Bean-poles may be made in a similar way, but these should of course be made taller and the cross-arms need not be so long. These "arms" should be placed twelve to eighteen inches apart. A length allowing four to five feet above ground for the tomato-poles and six to eight for the bean-poles will be about right, and they should be sunk at least eighteen inches into the ground. These will of course cost a little more to provide than the old-fashioned poles, but if properly cared for they will last for years, while the latter are good for only two or three seasons at the most and then go to the woodpile.

It is always better to set these poles before planting, as the job can then be done better and much quicker. A wooden mallet and a crowbar are the only tools you need to put them in with, as they will be much firmer when driven into place, than if placed in a hole and the earth packed around them.

If conditions at the time of planting are not just right, the seeds of the tender vegetables will rot in the soil much more readily than will those of the hardy crops. This is especially true of corn, beans (particularly lima beans), and muskmelons. Therefore the experienced gardener learns to watch the conditions of soil and the weather outlook, as well as the advancement of the season. The ideal time for planting is as soon after a good soaking rain as the soil begins to get crumbly and workable again. If you plant just before a rain the soil may stay wet and cold long enough to cause the seed to rot, or the surface may become packed so hard that the seedlings, and especially those of fine seed, can push up through it only with difficulty.

Where such small amounts of seed as are required for the home garden are used, often the most satisfactory way of making sure of good germination is to soak the seed for a day or more in slightly warmed water until it is swelled and ready to sprout. It may then be rolled in fine dry earth to dry it off, and then sowed in the usual

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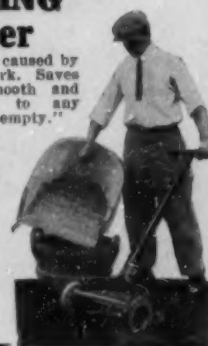
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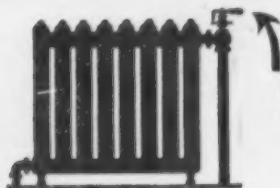
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and keep them free from dampness, use

Chi-Namel Cementone Floor Enamel

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manner. As seeds usually rot, if at all, before they sprout, this frequently saves the gardener very aggravating disappointments—and incidentally his opinion of his seedsman. When seed is soaked in this way, it must, of course, be planted at once after being removed from the water. Even if it has sprouted so that the embryo taproot is visible it will usually come through all right.

Although I have thus gone into detail about early and late planting, which covers a period of eight weeks or more, of course the real garden work—cultivation—will have begun long before the planting is finished.

The planting itself is just play—and this is as it should be. That is, in fact, the spirit which should continue through the whole season's garden activities, and without which neither you nor your table will get one hundred per cent. dividends from it.

The only way to prevent your garden operations from becoming laborious and flat and stale, if not unprofitable, is to keep things from getting ahead of you at any stage of the game. And the only way to prevent this is to start in earnest at the very beginning and to keep things cleaned up in a businesslike, methodical way. By far the best method of doing this is to have a regular time, whether it be fifteen minutes or an hour and a half, or ten minutes before breakfast in the morning and ten minutes before dinner at night, in which to do your gardening. Even with much planning and careful work, for the first season or two you will probably attempt more than you can properly look after. If, however, for any reason at any time you find that the work is beginning to get ahead of you, that something has got to wait over for tomorrow or the next day that ought to be attended to at once—then take my advice and get someone to help you now until you are again fully caught up with the work. A dollar or so spent for extra assistance at such a critical moment will often save you many dollars' worth of vegetables and many hours of what is the most laborious and discouraging work I know of—trying to catch up with a crop that has once got away from you. Most especially should every Saturday night see the garden cleaned up trimly and neatly, for every gardener knows that the weeds will grow as much and insects multiply to as inconceivable an extent during one Sunday as in six long week days. For there is only one way of keeping the weeds from getting at least a little ahead of you, and this is to get ahead of them.

After the earliest crops are put in, such as onions, beets, spinach, oyster plant, parsnips and so forth, the beds will undoubtedly appear so fine and clean and smooth that it does not seem possible that they would ever cause you any trouble. Long before the seeds which you have just put into the ground will have germinated and have pushed above the surface, thou-

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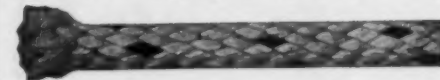
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sands of little weed seedlings will have been finding their way out to the light—if you give them a chance. In the old-fashioned method of planting by hand it was practically impossible to do much in the way of fighting them until the legitimate crops got far enough advanced to mark the rows; where the seed drill is used, however, the rows are plainly marked by the track of the roller so that no such delay is necessary. Just as soon after planting as the first crop of weeds has developed enough to be visible—five to ten days according to conditions—put the disc attachment on your wheel-hoe, using preferably the double-wheel type which will straddle the row, and go over the beds carefully, cutting up all the soil between the broad rows left by the roller of the seed drill. This can be done to perfection with the disc attachment, as they are so adjustable that they shave right up to the desired line without throwing a particle of dirt over it. You cannot do this at a very rapid rate, but it will nevertheless be traveling as with the winged heels of Hermes compared with the tortoise pace of weeding on hands and knees. Then, if you possess, as you should, a "weeder attachment" for the wheel-hoe, you can quickly and lightly stir the upper quarter inch or so of soil in the rows *directly above* where your seeds are planted. But in doing this, of course, you must take great care not to go deep enough to disturb the legitimate seedlings.

The work where plants have been set out can be done more easily, but it is just as important. A few days after the plants have been set, go over the surface both between the rows and between the plants with the "rake" attachments to the wheel-hoe, or with the ordinary, iron garden rake. It is not necessary, for the first couple of times, to go deep—half an inch or so will catch all the sprouting wild turnip and other early intruders; and you can do ten rows in this way in the time it would take you to hoe out one by hand after the weeds have grown even a small size. You must keep in mind that all the pains you have been to to make your one hundred per cent. garden rich and fine has put it in a fine condition to produce a one hundred per cent. crop of weeds if you do not keep the upper hand and maintain that religiously eternal vigilance which is the price of peace.

And this hint to the beginner is a valuable one: When, as is sometimes the case, he will have to choose between going after a crop of weeds just big enough to slaughter by the method mentioned, and doing some planting, he will be usually taking the wisest course by attending to the weeds first.

It is pleasanter, of course, to plant than to grub around uprooting the rank intruders, but the task must be done. The following table for the planting of late vegetables may be of assistance to the average gardener, and its careful reading is recommended to those who would get the most out of their gardens.

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30 Days' Trial—Factory Price—Cash or Credit

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which can be kept free of breeding places for the disease germs that poison food which in turn poisons people. Not cheap "bath-tub" porcelain enamel, but one solid piece of snow-white unbreakable porcelain ware—nothing to crack, craze, chip, break or absorb moisture—but *genuine* porcelain, *over an inch thick*—as easily cleaned as a china bowl—every corner *rounded*—not a single crack, crevice, joint, screw-head or any other lodging place for dirt and the germs of disease and decay. Send at once for

FREE BOOK About Refrigerators

Which explains all this and tells you how to materially reduce the high cost of living—how to have better, more nourishing food—how to keep food longer without spoiling—how to cut down ice bills—how to guard against sickness—doctor's bills.

Refrigerators

of glass, metal or vitrified steel; perfect circulation of dry, cold air, and perfect drainage. We shall be glad to help you select the refrigerator best suited to your particular needs.

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renewing Furniture, Metal, and Glass. Carpet Sweepers, Vacuum Cleaners, etc.

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A striking example of modern return to the classic in outdoor decoration is shown in this Garden Gazing Globe. A crystal ball mounted within easy reach of vision on a pedestal of chaste and artistic design.

The Garden Gazing Globe

is a stately and beautiful garden ornament. It reflects all the shifting charms of the landscape. Here is one of the many letters from delighted owners.

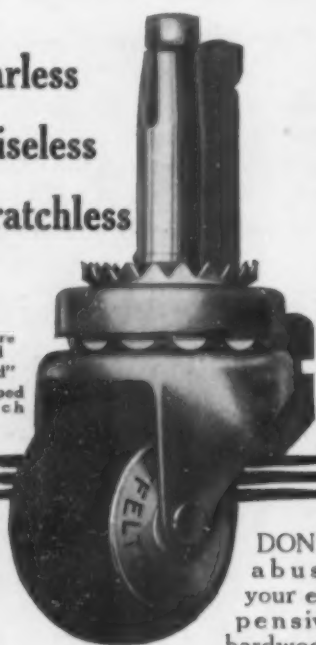
"I am more than pleased with it, and the landscape views developed in it are not only interesting to ourselves, but are enjoyed by all of our friends."

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Planting the Garden—the Late Crops.

Vegetable. Note. Variety. No. Rows, Space, Ft.

SATURDAY, MAY 10TH.				
Corn, Ey.	E	Golden Bantam	1 1/4	2x4
Squash, Sum.	E	Mammoth White Bush	1/2	
Potatoes, late	E	Gold Coin (7), Uncle Sam (3)	10	3x27
Lettuce	A	Wayhead	1/2	
Radish	A	Crimson Globe (3/4), Icicle (3/4)	1/2	1
Bean, Ey.	A	Stringless Greenpod (1/2), Giant Greenpod (1/2)	1	1 1/2
			14	38 1/2

SATURDAY, MAY 17TH.				
Beans, wax	A	Brittle Wax, New Kidney Wax	3	1 1/2 x 1 1/2
Beans, lima		Fordhook	1	3
Beans, pole	W	Burger's Stringless, "Sunshine"	1	4
Beets	W	Dark Stinson	4	3x3 1/2
Carrots	W	Coreless	4	1x3
Peas	E	Blue Bantam, British Wonder	2	2x3
Corn, Ey.		Golden Bantam, Howling Mob	2	2x4
Tomatoes, Ey.		Bonny Best	1/2	
			16 1/2	30 1/2

SATURDAY, MAY 24TH.				
Tomato		Dwarf Giant	1/2	4
Cucumber	X	Davis Perfect	1/2	3
Muskmelon	X	Netted Gem, Spicy	1/2	
Beans, lima	W	Burpee Improved	2	3x2
Beans, pole	E, W	Giant Podded Pole	1	4
Lettuce		Brittle-ice	1/2	3
Okra		Klecky's Favorite	1/2	4
Watermelon	X	Fordhook Early	1/2	4
Squash	X	Fordhook	1/2	
			6 1/2	23

SATURDAY, MAY 31ST.				
Corn	E	White Evergreen	3	4x4
Pepper	E	Ruby King	1/2	3
Egg-plant	E	Black Beauty	1/2	
Turnip		Amber Globe	3	2x1 1/2
Brussels Spts.	D	Danish Prize	1/2	
Cauliflower	D	Dry-weather (Danish Giant)	1/2	1
Peas Cabbage	D	Savoy, Danish Round-head	1/2	
Peas		Blue Bantam, British Wonder	2	3x3
			8	21 1/2

NOTES.

A—Will be removed in time to be followed by some late crop.

B—Planted as a companion crop between rows.

D—Sown in seed-bed, to be transplanted later to permanent position.

E—Good to increase if a surplus for selling is desired.

W—Any surplus may be kept over for winter use.

X—If possible, plant far apart from each other; in rows or hills.

The Part Transplanting Plays in Garden Making

(Continued from page 371)

is possible to come much nearer to it than is commonly the case, if only the real effort is made. As a start, dig a hole a little bit broader than the spread of roots requires, and a little bit deeper than their depth. This is the most important thing, right at the beginning. Then turn the plant down on its side and go around and look directly into the root mass from below. Nine times out of ten you will find yourself looking into the apex of a rudely pyramidal thrust of the roots as they grow out from the trunk. There will be roots in the midst of this, of course, but the general form will be there, quite plain.

Make an earth pyramid on the floor of the hole to fit into this concavity, drawing the earth lightly into a sufficient pile. Then lower the plant upon this, bouncing it up and down gently until it adjusts itself and forms ridges in the earth into which its roots fit. When this is finally done as well as it is possible to do it, determine

(Continued on page 432)



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Before you decide the shade question, go to the Brenlin dealer in your town, and have him show you the

three popular priced grades of these now famous window shades.

For every important window choose the Brenlin Unfilled grade. Made of closely woven cloth, without the "filling" which in ordinary shades so soon cracks and falls out in unsightly streaks and "pin holes," a Brenlin Unfilled shade will last longer and make your window look better than any other shade.

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IT'S surprising what quick results a few of our well-rooted, strongly-grown, hardy plants will produce for you. No garden, for instance is quite complete without Phlox and Iris, now so much in favor. Of both these we have a truly choice lot this year.

By way of further suggestion, why don't you let us send you an assortment of 12 Hardy Chrysanthemums—the rarer kinds that are so welcome in their October bloom, after Jack Frost has played havoc with everything else.

Starting in with Iris and ending with Chrysanthemums, you can, by adding a few other plants, have one perpetual round of bloom the whole glad Summer through.

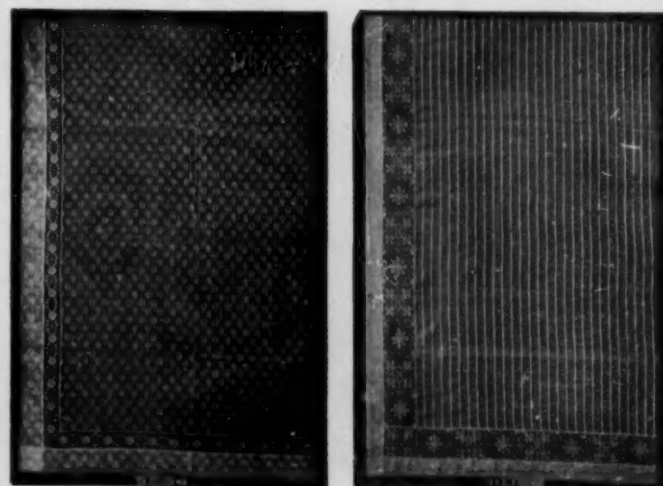
All Moon's hardy plants should bloom the first season.

Send for our catalog. It is rich in planting suggestions of all kinds. The prices are decidedly reasonable for such superior stock. Get your hardy plants and trees now, or you will have to wait till Fall for safe planting.

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(Continued from page 430)

where on the hole the surface of the ground will come, after the hole is filled in, by laying a plank or a straight edge across the hole from side to side, close up to the plant. The earth will, of course, come to the level which this touches. Raise or lower the plant as may be needed, by putting on or taking off earth from the earth cushion. The surface of the ground must come at the old surface mark on trunk or stems.

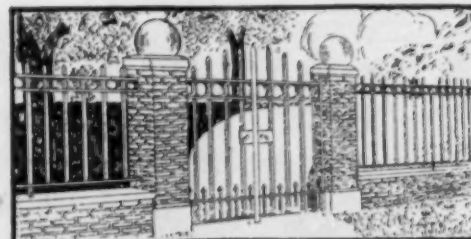
Arrange all long roots in the direction which they very plainly indicate they have been traveling, being particularly careful not to twist them nor bend them sharply, nor to allow their tips to lie turned up against the walls of the hole wherein they are being planted. Root tips naturally turn down, and a root is always deeper in the ground at its tip than anywhere else along its length. Never overlook this point—and never allow a helper to shirk on the breadth of the hole dug, for it is the too narrow hole that means root tips turned skyward, in spite of anything that may be done to avoid this.

Trees and shrubs that arrive in their packing from the nursery have their roots pressed down so close sometimes that it is hard to tell how they naturally would like to rest. But close examination will usually reveal their directions without much doubt; and if this does not, plunge them into a broad tubful of water or liquid mud until they are softened enough to resume their natural positions. Then let them dry sufficiently to prevent the earth from adhering to them in mud clods as they are lowered into it; and plant just as you would plant a freshly-dug specimen.

All that applies to shrubs and trees, and the restoration of their roots to their original positions when transplanting, of course holds good whatever the plant that is to be moved may be. But perennials and flowers generally, not being woody, recover more readily from the shock of transplanting, and most of them suffer less from it than the heavier vegetation. Even some of these plants, however, cannot endure it. Most of them have the same long tap root growth already referred to in trees, but it is not altogether this which affects their transplanting. Some are apparently too sensitive to the handling itself to live after being subjected to it.

Anything which is offered by a greenhouse or nursery, however, is pretty sure to be suitable for handling, and such plants may be set out with a fair degree of certainty that they will live and thrive. Do not undertake to transplant at midday when the sun is high and warm, but rather do the work early in the morning and shade the plants all day, or leave it till late in the afternoon. My own preference is for the time just around sunset, when the transplanted specimens may be watered and left to the cool soothing night to adjust themselves and become accustomed to their new position. Any sort of shade will do, when shade is necessary,

(Continued on page 434)



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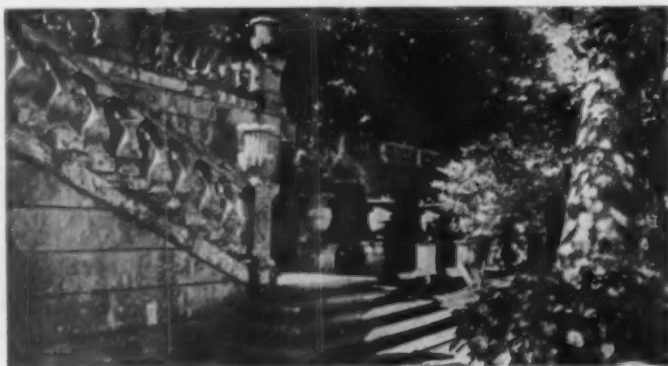
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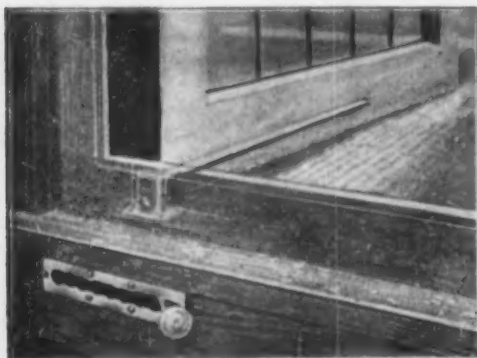
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LIGHTING FIXTURES

(Continued from page 432)

provided it is not a smother. Inverted peach baskets set over a plant are not advisable; whatever you use, let it be up from them so the air can reach them.

Usually the soil is in the best condition for transplanting on the day after a rain; but it is not necessary to wait for this, in order successfully to transplant. Dry soil is preferable to too much moisture, and the time just before a shower is usually ideal, both as to soil and overhead conditions. It is not possible to time the work quite as exactly as this, ordinarily, however; so a good general rule is to choose fairly dry soil and water freely at the time, after the holes are filled, just as with trees or shrubs.

The transplanting of cone bearing trees, otherwise evergreens, is not seasonable at this time of year, these being more generally moved late in August or September. Whatever may be planned in connection with them, therefore, should be planned for these months.

TREES MOST EASILY TRANSPLANTED

Tilia (linden) in variety,
Catalpa (catalpa),
Betulia (birch),
Aesculus (horse chestnut),
Robinia (locust),
Acer (maple),
Platanus (plane tree),
Populus (poplar),
Salix (willow).

TREES DIFFICULT TO TRANSPLANT

Fagus (beech)—Only nursery trees can be transplanted, and these must be cut back severely at the top when transplanted.

Hicoria (hickory)—Can only be transplanted when small and nursery-grown.

Liquidambar styraciflua (sweet gum)—Transplant only when small, and in the spring.

Quercus (oak)—Must be closely pruned when transplanted, so that no more than a quarter of its buds remain; let some of these be at the ends of the branches, removing principally side shoots.

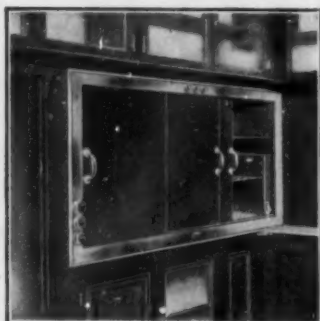
Liriodendron tulipifera (tulip tree)—Transplant in spring only, and prune severely.

Homes that Architects Have Built for Themselves

(Continued from page 369)

of Portland cement and sand or pulverized stone when mixed with water can be applied to any surface. The outside walls of the house may be in stone, brick, tile, concrete or wood, any of which may be covered with stucco. When properly made and applied it is durable, and affords a warm covering in winter and a cool one in summer. It lends itself to interesting color schemes of creamy or soft gray tones. Even white walls can have a pleasing variation in tone, for they improve with age as the weather softens the too-clean appearance of a newly-stuccoed house.

(Continued on page 436)



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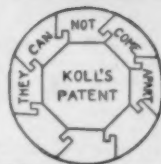
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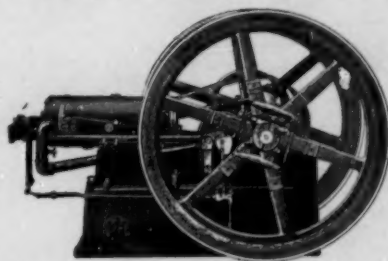


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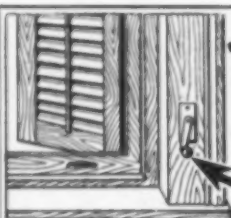


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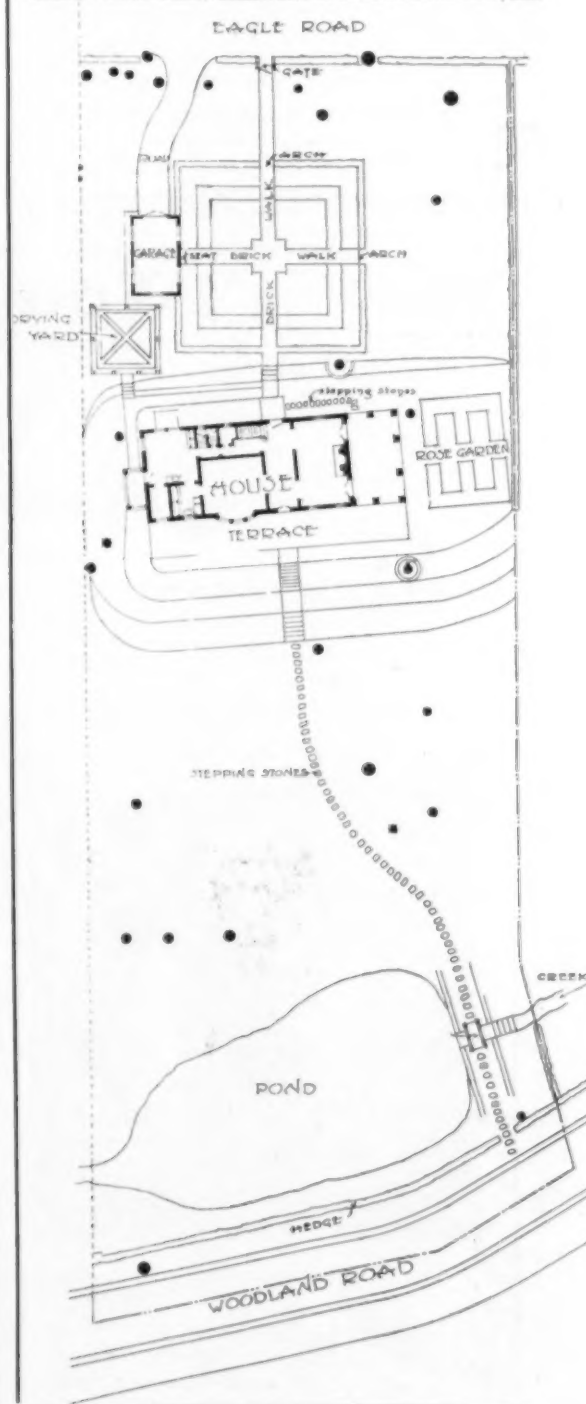
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(Continued from page 434)

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(Continued on page 438)





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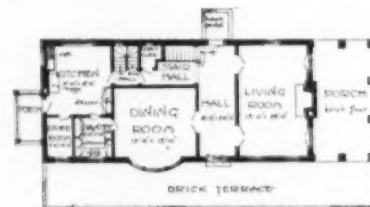
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(Continued from page 436)

tunity is given for dampness to get behind it, for the action of frost is very injurious.

The white surface of the architect's house reminds one of the farmhouses in the south of England, with their roofs mellowed to a warm and glowing red by action of the sun and rain of more than two hundred years. The house is in accord with its surroundings, and shows intelligence in planning and the effects of time in bringing to completeness, harmony between dwelling and environment.

There is evidenced the knack of introducing some little detail that gives the individual finishing touches. Whether it be in the pergola-hood over a door or the setting of shrubs against the wall of the house, he strikes a distinctive note while still keeping safe within the bounds of suitability. Often a note of interest is introduced by a metal T-bar in the rugged chimney built at one end of the farmhouse. The heavy wide eaves sheltering the upper windows are another noteworthy, distinctive feature of Mr. Keen's own home. The contrasts of color, too, are very delightful. The red brick terrace overlooking an old-world garden contrasts with the vine-covered white walls. The white trims of doors and windows are brought into relief by the careful placing of shrubs, while the green and white striped awnings give a cool and restful appearance to this charming home.

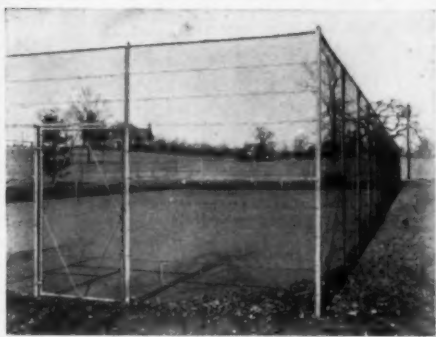


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There is a special joy taken in the possession of the terrace porch, which he speaks of as "a place where we enjoy the"

(Continued on page 440)



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(Continued from page 438)

best outlook of sloping lawn, trees, pond and running brook. A place to sit when the sun is down in the cool of the evening. A place to exercise when the grounds and walks are too wet or unfit to walk upon. A place for the children to play; with all those advantages there is no loss of light or sunshine in the first-floor rooms."

In studying the general layout of the grounds one cannot help being impressed by the completeness of the layout of the garden with its many delightful accessories that make for beauty in a country home, and the convenience of the planning of the house itself. When discussing the front and rear elevations, Mr. Keen remarked, "I much prefer the English method of describing the several fronts or elevations of a house, 'south-front,' 'north-front,' 'east-front,' etc. In our case north-east or entrance front with simple doorway and fewer windows and its lattice to form a vine-clad background for the garden at some later day, and the southwest or living front, with its broad terrace and many windows, gives one of the best outlooks and exposures."

In looking at the photographs of the interiors one realizes at once the home-like atmosphere of Mr. Keen's home. A few questions as to his reasons for providing certain simple furnishings elicited the following remarks:

"As in the architecture, we love the simple Colonial furnishings, they appeal most to us as most appropriate for a country house. We love rag carpets and use them for bedroom floor coverings throughout the year. The interior photographs were taken of the house in its summer garb, when we replace our regular rugs in the living rooms with rag carpet as well. The hall paper is a reproduction of an old Colonial one, and most appropriate for the kind of house and furnishings. It is also most suitable for a hall paper, as it looks equally well on a plain wall without pictures as it does with them. It is not a varnished paper, nor a tile effect. It is much like blocks of stone with enough ornament to relieve the stiffness."

The sun-room is one of the features of this attractive home, and is a delightful lounging place, reading-room, or play-room for the children; there are no tiresome little things around that the children must be cautioned not to break, but comfortable, serviceable chairs, a pleasant distribution of growing and hanging plants and cool-looking awnings.

The living-room is dignified with its walls of grasscloth relieved by the white painted woodwork. The detail of the mantelpiece is perhaps too perfect to be termed a "farmhouse type of room," but for the living-room of a country gentleman it leaves nothing to be desired. The paneling above the mantel is also worthy of note. Some heirlooms in the way of furniture, old china and brass made a good beginning, and the Colonial lamp is an interesting piece.

(Continued on page 442)

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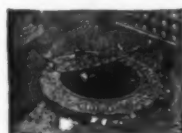
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(Continued from page 440)

The dining-room, with its ladder-back Chippendale chairs, has some perfect specimens of Georgian furniture. It has an old-world flavor with its portraits of ancestors in their soft gold frames. The use of an old wash-hand stand for a serving table is suggested by the narrowness of it, but possibly it is part of an old sideboard cut down to fit the spot where it now stands. Old silver appeals to all of us, especially when it is so perfect in design as here.

The bedroom with its dainty white striped paper is charming. A dainty flowered border reproduces the colors in the curtains, and the ladder-back Colonial chairs are just right in a bedroom of a house built in farmhouse type.



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My first birdhouse was built to attract the purple martins. This was erected on my place at Kenmore Avenue, Chicago, which is in the heart of a district called "Flatville." I had never seen martins in Chicago, but as a boy I had won them to a little house I built in the country.

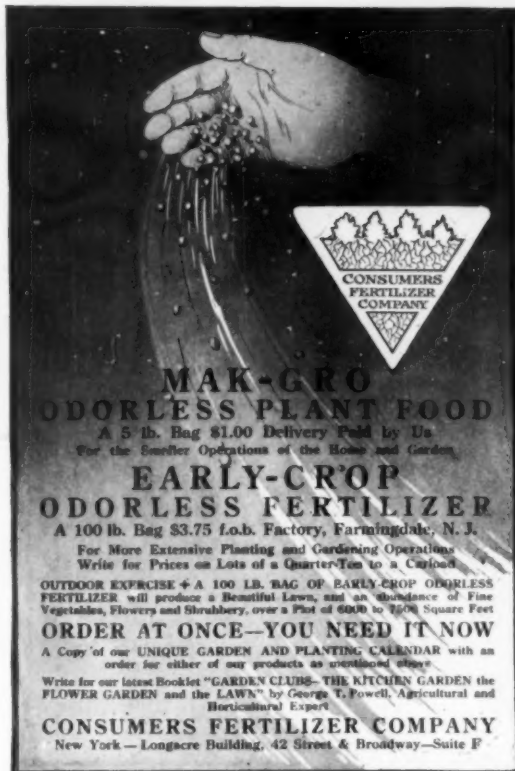
Two days after the new house went up in Flatville two martins came around and investigated it. They flew about the house all day, but evidently their requirements were not met, for they left and never returned. Something about the house made them timid. Several days later three more martins came, circled about, and finally went into the house. They also betrayed evidence of fear—and flew away. I climbed up to the house and tried to guess what it was that excited the birds' distrust, but could not. Next day two more martins came and perched on the roof. English sparrows drove them away; the sparrows found the house attractive and occupied it. No more martins that year.

During the next winter I designed a house which the birds could enter on either side and go straight through. When the first martins came I saw that I had hit upon the right plan. They took up a lease. When a sparrow pursued them they dove into the house and immediately came out on the other side. The sparrow waited at the front door with the patience of stupidity. It was amusing to watch the little pirate's face. JOSEPH H. DODSON.

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The Forests of New York Threatened By the Brown-Tail and Gipsy Moth

FOR several years Massachusetts has been spending large sums of money in fighting the Brown-tail and Gipsy Moths. These insects have spread westward in their devastating course and are now reported from a point not far distant from the eastern boundary of New York. In February a Conference was called in Boston by the State Forester of Massachusetts for the purpose of bringing together not only those actually engaged in the fight with the Gipsy and Brown-tail Moths, but those who are sure to be concerned in the near future. The New York State College of Forestry at Syracuse University is investigating the work of these insects and Dr. M. W. Blackman, Forest Entomologist of the College, was its representative in the Conference in Boston and is ready to take up the fight against these insects when they appear in this State.

Interesting facts were brought out at this Conference as to the spread of the Gipsy Moth. It is very certain that New York and other States about Massachusetts will soon be reached by these destructive insects and that unless more effective means are taken they will destroy not only forest trees but shade and ornamental trees over large sections of the State. As shade tree pests these insects can be controlled by spraying and destroying egg clusters but these methods are used only at considerable expense and must be continued indefinitely. It seems probable that as soon as the parasites and diseases introduced from abroad which work upon and destroy these insects have become fairly established that they will aid man greatly against future serious outbreaks.

The Gipsy Moth problem of the future in the State of New York is a Forestry problem as the insect cannot be fought in the forest by spraying but must be controlled and eventually eliminated by proper methods of forest management. Certain trees such as the oak, willow and birch are apparently more favorable and often seem necessary for the development of the caterpillars of the moths. Methods of forest management can be used which will remove these trees from the forest and thus destroy the most favored food of the pests. With these methods of proper forest management must go strict quarantine against lumber, cordwood and nursery products shipped in from infested areas. Some effort has been made to establish a "dead line" to prevent further spread of the insect. A zone of timber consisting largely of white pine and other evergreens is selected and all hardwoods or broadleaf growth removed. As the insects are unable to complete their life history on the pines, they are checked and it may be possible to prevent their spreading northward into the Adirondacks, or into the Catskills, through the maintenance of such zones of

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We wish to assist those living far away from the great shopping centers to get ideas of the new and interesting things that are constantly appearing in the beautiful shops of this city. All the artisans of the world pour their products into this metropolis, perhaps HOUSE & GARDEN can show you the way through the maze of good things to the very one article your imagination has been seeking.

We hope in this way to give auxiliary information to that contained in the magazine — and to help practically those whom we have directed through our columns.

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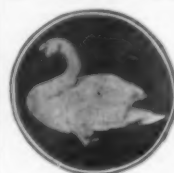
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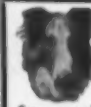
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coniferous growth. In the caterpillar stage the two moths do the greatest damage and the greatest spread of the insect occurs at this time. They are often blown long distances by the wind or carried by automobiles and other vehicles and much can be done in preventing this kind of distribution by keeping the road-side districts free of the caterpillars through spraying and the removal of their favored food plants.

The outbreak of the Gipsy Moth in this State in the summer of 1912 was not extensive and by prompt measures such as the removal of infested trees, spraying, etc., the colony was destroyed. It is entirely possible, however, that there may be other well established colonies in outlying districts near the Catskills or Adirondacks.



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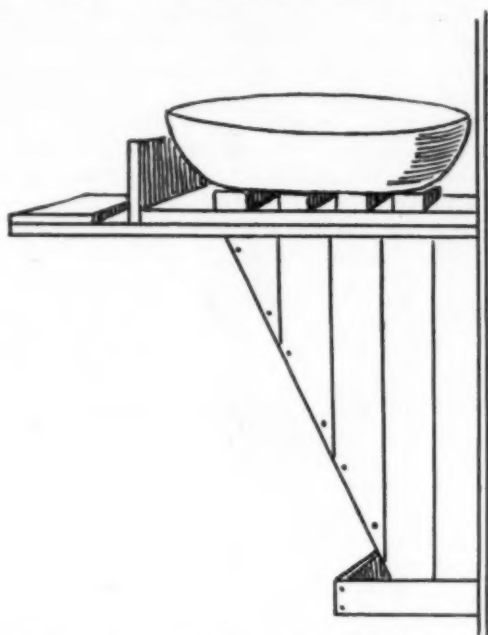
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Book Reviews

Poultry Foods and Feeding. By Duncan Forbes Laurie. Cassell & Co., Ltd., \$1 net.

This book on poultry feeding, which aims to be a practical guide for the average reader, while comprehensive enough to include all important points, ought to prove itself valuable to the beginner in poultry raising, and contains many suggestions that might be adopted by anybody who is interested in this occupation. The author, who is poultry expert and lecturer to the South Australian Government, has written several other books on poultry, but none on the important matter of food selection, which is here consid-



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ered thoroughly. Not only are directions given for feeding so as to win the best immediate results, but feeding for the future is considered and for an ultimate development that will require several generations of poultry to complete. The second part of the book, which is more scientific than the first part and intended for those who intend to go more deeply into the subject, discusses the chemical problems and more technical matters concerning poultry foods.



"What is a Dry-fly?" These are the opening words of Mr. Emlyn M. Gill's book entitled "Practical Dry-fly Fishing" (Charles Scribner's Sons, \$1.25), in which the author gives a very thorough answer to the question.

Dry-fly fishing was developed in England for use on slow, clear, placid streams, so that it is not surprising that until recently only a few Americans had used these methods, which in brief are designed to deceive the fish by artificial flies made in such a way that when cast they will float on the surface like the real insect.

Mr. Gill shows that this method can be used with equal success on the more turbulent streams of America. He contrasts the difference between English and American methods, which is largely due to the different characters of the streams. Many instances are quoted in which the dry-fly proved successful where the wet-fly had failed.

The choice of tackle is very thoroughly dealt with; and a chapter is devoted to the artificial fly and the living ephemerae. An appendix is given showing the equipment for a dry-fly angler.



Royal Gardens. By Cyril Ward, B. A.
London: Longmans, Green & Co.,
\$5 net.

We look to England as the origin of our gardening knowledge, and it is interesting historically to know of the old gardens that existed centuries previous to the Declaration of Independence.

"Royal Gardens" is a large work, carefully illustrated in water color by its author, showing what has been accomplished in the royal houses of England. It takes up nine such places, including the Norman Tower Garden at Windsor Castle, Hampton Court, Holyrood Palace and others equally interesting. An historical description is given of each place and of the garden, which is accompanied by illuminating remarks by the head gardener on the gardens in his charge. The colored illustrations are arranged after an interesting scheme, in that the gardens were painted at different seasons of the year, and now are placed so as to show a sequence of English bloom from spring to

fall. The book concludes with a chapter of notes on garden design.



Spices and How To Know Them. By W. M. Gibbs.

This book is devoted to a detailed description of spices and how they grow. The chapter on Adulteration is very thorough, giving illustrations of adulterated and unadulterated spices as seen under the microscope, which should enable the dealer to detect adulteration.

Numerous illustrations and colored plates, together with two maps, accompany the text.



Be Prepared. By A. W. Dimock. Illustrated. New York: Frederick A. Stokes Company.

Any book that adds interest to the boy scout movement is a factor for good today, and Mr. Dimock's book is excellent in many other respects also. His boys are unlike the brawny and invincible type that has become so common and wearisome—they are just true boys whose love of adventure leads them through some thrilling experiences in the Florida swamps, of which Mr. Dimock writes so easily. To be sure, they exhibit a remarkable amount of skill and information—they can kindle fires without matches, shoot game with the bow and arrow and find their way through the wilderness by a combination of sagacity and boy scout training, but what would a boy's book be if it did not contain something for the youngsters to live up to? Mr. Dimock has not carried his glorification too far, but has portrayed a couple of human boys with whom it would be a pleasure to go scouting—even in Florida swamps.



How To Grow 100 BUSHELS OF CORN PER ACRE ON WORN SOIL. By William C. Smith. 8 vo. Illustrated. 188 pp. Second edition. Cincinnati: Stewart & Kidd Co. \$1.25 net.

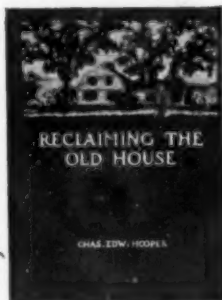
The subjects of soils, their weaknesses and their strengths are carefully treated in this excellent little book. Mistaken ideas in regard to fertilization, cultivation and harvesting are exposed and corrected in a manner at once concise and thorough.

It will open the eyes of the average farmer and home gardener to read Mr. Smith's experiences with various soil-covering crops and other methods of increasing the productiveness of the land. While evidently intended primarily for the professional farmer, there is much information in the book which may be adapted to the needs of the owner of a small country place.

BOOKS FOR THE HOME BUILDER

Reclaiming the Old House

By Chas. Edw. Hooper



All through this country—especially the New England States—there are scores of rambling old houses which, abandoned by the unknowing, are merely waiting for you to come along and turn them into great cheerful homes; homes that hold something of the atmosphere of other days. Mr. Hooper not only tells you how to find and choose your old house, but how to reclaim it and retain that age-old feeling of cheer and comfort.

His suggestions are supported by an abundance of splendid photographs, plans and diagrams. It is a remarkable book, beautifully made and decorated by Mr. Hooper himself.

Illustrated, \$2.50 net; postage 20 cents.

The Dutch Colonial House

By Aymer Embury, II

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Mr. Hopkins is known throughout this country and abroad as an architect who has specialized in stables and farm buildings of all kinds. In his many years of active practice he has developed a knowledge of methods, materials and design that is unrivaled; and best of all, Mr. Hopkins has put most of this knowledge into a book. Photographs and diagrams illustrate practically every detail, and it is astonishing to find to what extent modern scientific methods have revolutionized the art of building the hay barn, stable, sheep fold, ice house, dairy, garage and all the rest.

Illustrated, \$3.00 net; postage 20 cents.

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By Oswald C. Hering. Illustrated, \$2.00 net; postage 20 cents.

Architectural Styles for Country Houses

By Henry H. Saylor. Illustrated, \$2.00 net; postage 20 cents.

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The Furniture Designs of Chippendale, Hoppelwhite and Sheraton. Illustrated. Royal 4to, \$15.00 net; postage 50 cents.

Royal Copenhagen Porcelain

By Arthur Hayden. Illustrated in color and half-tone, \$15.00 net; expressage 50 cents.

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By H. S. Adams

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By Lucy H. Yates

Wishing to keep a constant supply of fresh vegetables upon the table and to grow those that were the most tasty, the author of this book enlisted the co-operation of a clever cook and a capable gardener and gives the reader the fruit of her experience. The book tells what vegetables and fruits are profitable to grow, and tells how to transform them into delicious courses, tempting salads, preserves and jellies. Illustrated. \$1.25 net; postage 15c.

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By Grace Tabor

The old gardens of Virginia, the prim New England dooryards, the Dutch housewives' gardens of New Amsterdam, Spanish influences in the Southwest—these are among the subjects treated. Besides, the book tells how to make gardens to-day that will be in keeping with the houses that have come down from the past. Illustrated. \$2.00 net; postage 16c.

The Book of Annuals

By H. H. Saylor

Fifty of the most dependable annual flowering plants are in full-page photographic reproductions, and opposite each are all the details a gardener wants to know about the plants and their culture. Illustrated. \$1.20 net; postage 10c.

Let's Make a Flower Garden

By Hanna Rion

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