

JUNE
1911

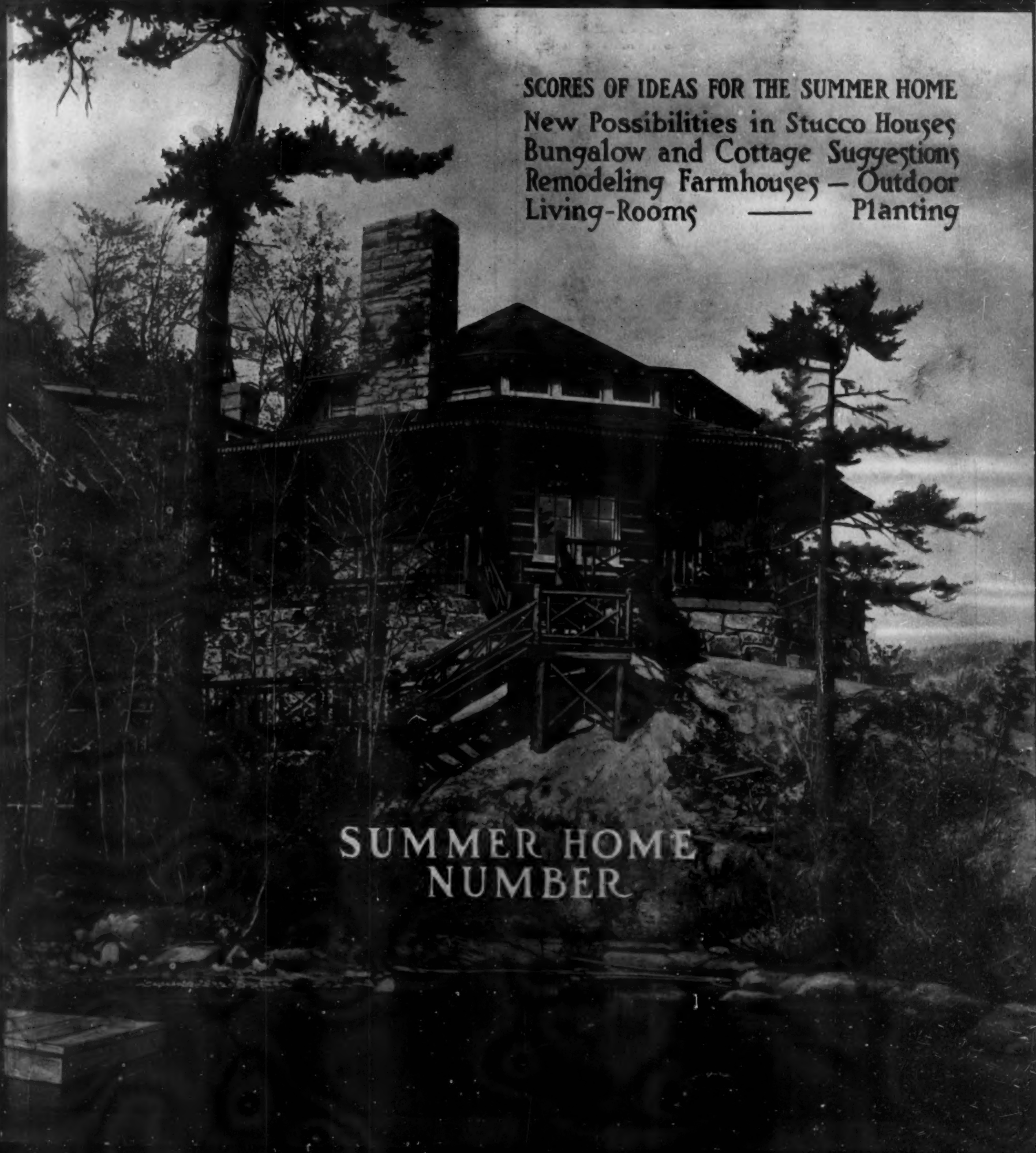
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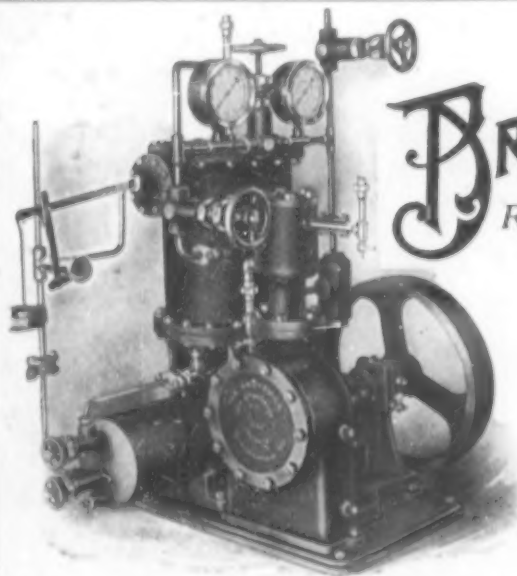
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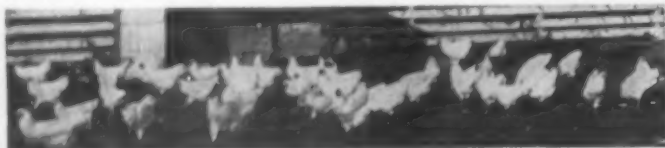
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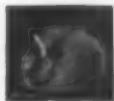
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THERE are many new ideas in feeding poultry. For years we have been taught that it was necessary to feed our biddies at least three times a day. It got to be a moss-grown habit with us all. But the other day I visited a poultry plant where the chickens, since they were eight weeks old, had only been fed once a week. Such pullets and cockerels I never saw: large, mature, full-feathered; a healthy, vigorous lot. It was a sort of revelation to me.

When these chickens were eight weeks old they were put into colony houses in flocks of twenty-five. A sufficient supply of dry mash and a supply of wheat and cracked corn were provided in feeders to last a week or more. A fresh supply of water was provided daily. The youngsters were allowed free range and to forage at will. When hungry they would know where to find their food.

The chickens have done so well under this method that it is to be recommended to poultry keepers who have free range for their flocks.

A. G. S.

Treating Roup Fowls

ONE of the most severe diseases which visits the poultry yard is that virulent affection called roup.

The disease becomes visible in the throat, nostrils and head of the fowl. If the throat is affected the bird shows great difficulty in breathing, and if the mouth be opened, an accumulation of hardened matter may be seen at the base of the tongue. This must be removed with a slender stick or feather quill, or the bird will suffocate in a few hours.

When it attacks the head or face, the parts often swell, closing the eyes and nostrils and discharging offensive matter—its most contagious form. Large warty excrescences may appear near the nostrils, ears or above the eyes. The various forms of this disease are usually present in a roup-infected flock and seem to be determined by the individual susceptibility of the birds.

Roup is induced by unclean quarters, impure water and association with ailing birds. The disease becomes apparent in infected birds when they are exposed to dampness or draft.

When a roup fowl is discovered, remove it from the flock, also removing all known causes. Use disinfectants freely—carbolic-acid in the drinking water; about five drops to four quarts of water. Saturate a cloth or sponge with water, sprinkle it liberally with the acid and hang it in the hen-house. A teaspoonful of spirits of camphor may be used in the drinking water instead of carbolic-acid, and is equally effective, if not better. If, as is usually the case when roup breaks out, the buildings cannot be fumigated by burning sulphur, dust the scratching floor, roosts and nests with flowers of sulphur.

Give plenty of sunlight and attend to the diet. Corn seems to aggravate the

disease. If possible, it is better to abandon its use until the disease is subdued. If it must be fed, put the usual allowance in a brisk oven and roast it for half an hour. Wheat and oats make the best feed during a siege of roup, supplying the nourishment so essential to the bird in resisting the disease without aggravating its fever.

Now as to individual treatment: From my observation, the disease has to run its course from four to six weeks, its effect upon the fowl being mitigated by treatment. Where a bird is very sick and one has not the time to treat it, it is better to kill it and burn the carcass. If the bird has sufficient strength, the disease is curable, however. Place the fowl in a warm, sunny place, protected from drafts and dampness. Use disinfectants and give local treatment.

If the disease attacks the head, apply an ointment daily, using a feather. Be careful not to touch unaffected parts after treating those affected, as the inflammation spreads very readily. The ointment is made as follows: One tablespoonful of vaseline melted and mixed with a quarter of a teaspoonful of sulphur and two drops of carbolic-acid. If the disease is in the throat, use three drops of spirits of camphor in the vaseline, omitting the sulphur and carbolic-acid. Remove any hardened mucous visible and insert a quantity of the camphorated vaseline into the throat.

Feed milk thickened with bran, oatmeal or whole wheat, and do not liberate the bird until all inflammation and matterly discharge have disappeared.

M. R. CONOVER

The Dog's Toilet

WITH these first days of warm weather, dog owners begin to relax that watchfulness which they have kept over their pets. Perhaps a few words of advice in regard to washing the dog would not be amiss.

If you have a show dog or one of the more delicate house dogs, or still one whose coat is his pride, you should refrain from washing as much as possible, as water and strong soap injure the quality of the coat. A regular brushing with one of the various dog brushes on the market really accomplishes the same purpose as the bath. After you have vigorously brushed the dog in the direction of his coat, reaching the base of the hairs, follow with the soft leather-backed brush. There are various styles of brushes which your dealer probably keeps—different length and stiffness of bristles for the different breeds.

When it comes to that often disagreeable task of bathing the dog, a little system will take a good deal of the labor from the operation. As a good lather is the first essential, the best way to obtain it is to scrape some good quality of soap into the tub and mix it thoroughly with the water. When you put the dog into this sud-mixture it will be small difficulty to get his



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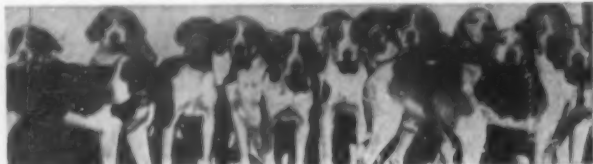
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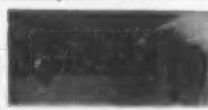
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warm, a strong dog will receive no ill
effects if allowed to run about on clean
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any flower, for white, as we all know,
never clashes with any color.

The flowers are so small, so numerous
and so well held apart, showing their in-
dividuality, and on almost invisible stems,
that they produce a misty effect, and seem
to be floating over, and in among their
more heavily formed companions.

While not advisable to use it with the
larger flowers, such as the African mari-
gold, or the large asters, because the con-
trast in size is too great, it produces a most
charming effect with sweet peas, snap-
dragon or flowers of similar size. One of
the daintiest bouquets I ever saw, was
composed of a clear pink snap-dragon, and
this flower, the snap-dragon being seen
through the veil of the star-like *Gypsophila*.

This flower is an easily grown hardy an-
nual from the Caucasus, requiring an open,
sunny situation, and frequent sowing for a
succession of bloom. The flowering stems
are slender, upright and repeatedly forked,
producing numerous terminals, each bear-
ing a diminutive, pure white, five petaled
flower,—there is a pink form in the trade
which I do not consider worth growing. I
sow a row ten feet long out doors as soon
as the ground is warm enough, generally

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the latter part of May, and again ten days later, and once more two weeks afterwards. In cutting them I generally pull up a whole plant of the first two sowings, and select the best part of it, but with the last sowing I cut the flowering stems well down towards the base, and often the new growth gives me some late flowers.

One of the soapworts bearing the homely name of "cow-herb" first brought into notice in 1596, is a good companion to the Baby's Breath. It is the *Saponaria Vaccaria* of the cyclopedias, a cousin of the well known Bouncing Bet, having a rather small tubular pink flower set on numerous branching stems. It blooms at the same time as the other, and like it, should be sown in succession. If one is growing a row of narcissus, tulips for cutting, or any spring blooming, upright plant, where the rows run east and west, both of these annuals may be sown close up to the bulbs on the south side, where the sun will reach them and they can have head room.

As this article has something to do with bouquets, I am reminded of seeing ladies on several occasions bring over salvia to the golf club to decorate their table for some dinner they were giving. Sometimes they used it with the rich orange African marigold, "Orange Prince," which, if well arranged, and in a proper place, makes a striking bouquet. In every instance, however, the foliage of the salvias wilted badly. This is generally the case. The proper thing to do is to strip off all the foliage, place the stems deeply into water, and then hunt around the garden for some foliage of other plant that is in good condition and placing it in water for a while, eventually use it. Foliage of the gas plant, or *Fraxinella (Dictamnus albus)* or the crown vetch *Coronilla varia*, is generally in good form late in the season when the salvia is more apt to be used. When gathering foliage from the gas plant, hunt for the younger shoots that have not bloomed. If compelled to use stems having borne flowers, cut the stubs on the upper ends back to a leaf-stem joint. Some of the ladies cut the flowers in the heat of the day and carried them over to the club in their hands, fully exposed to sun and wind and then wondered why they wilted so soon, as "they were picked only an hour ago." The flowers were partially limp before cut, on account of the heat and sun of the day, but would have recuperated during the night. The proper way is to cut them a few hours before wanted, and place them up to their necks in water, standing them in a shady situation, and away from the wind, and if they are to be carried some distance, let them be shielded from sun and wind.

W. C. EGAN.

A North Exposure

MANY people having only north windows in their living-rooms think they cannot have plants or flowers. In such a room I have had beautiful begonias and primroses in bloom through the winter months, as well as lantanas and calla lilies. Ivies and ferns also do excellently.



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Aymar Embury II, Architect, Englewood, N. Y.

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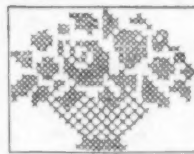
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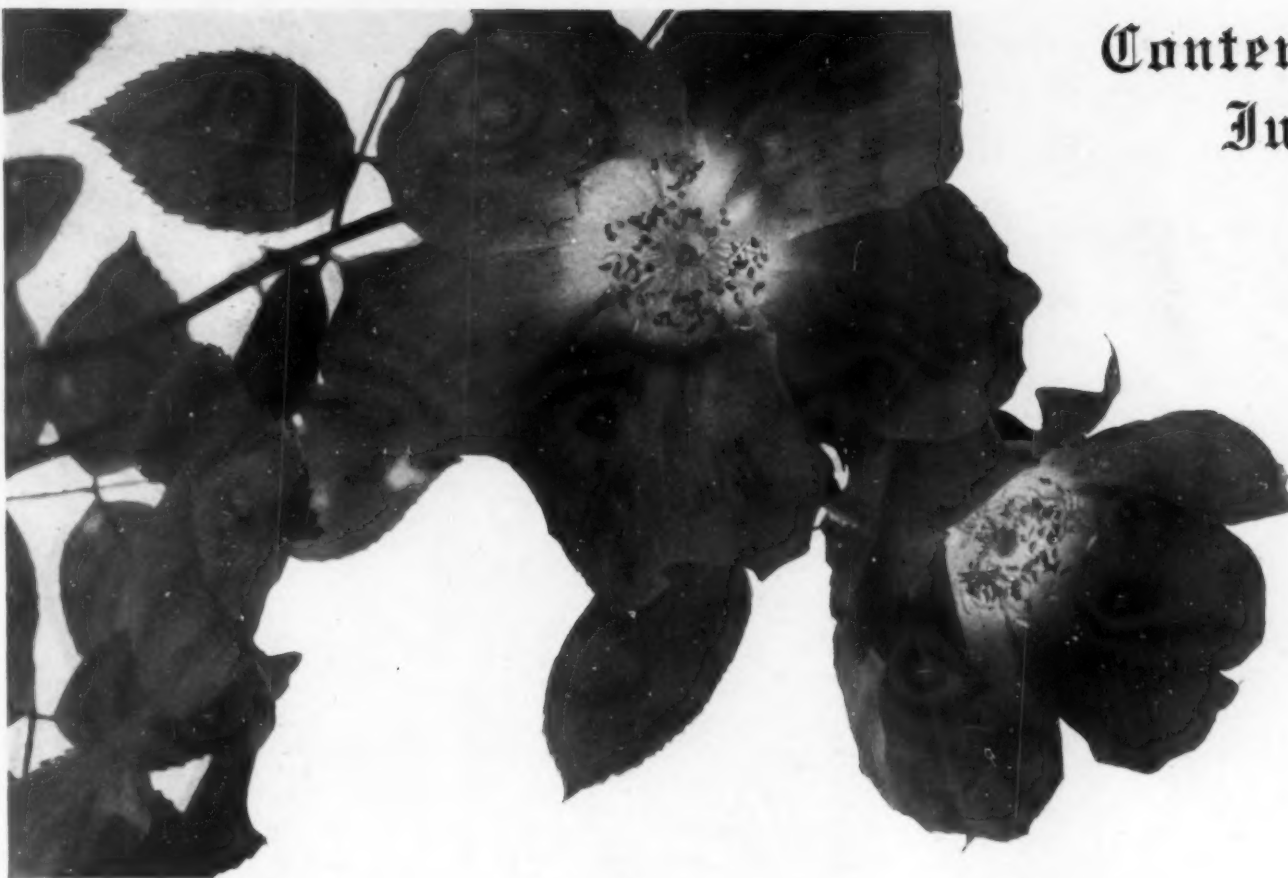
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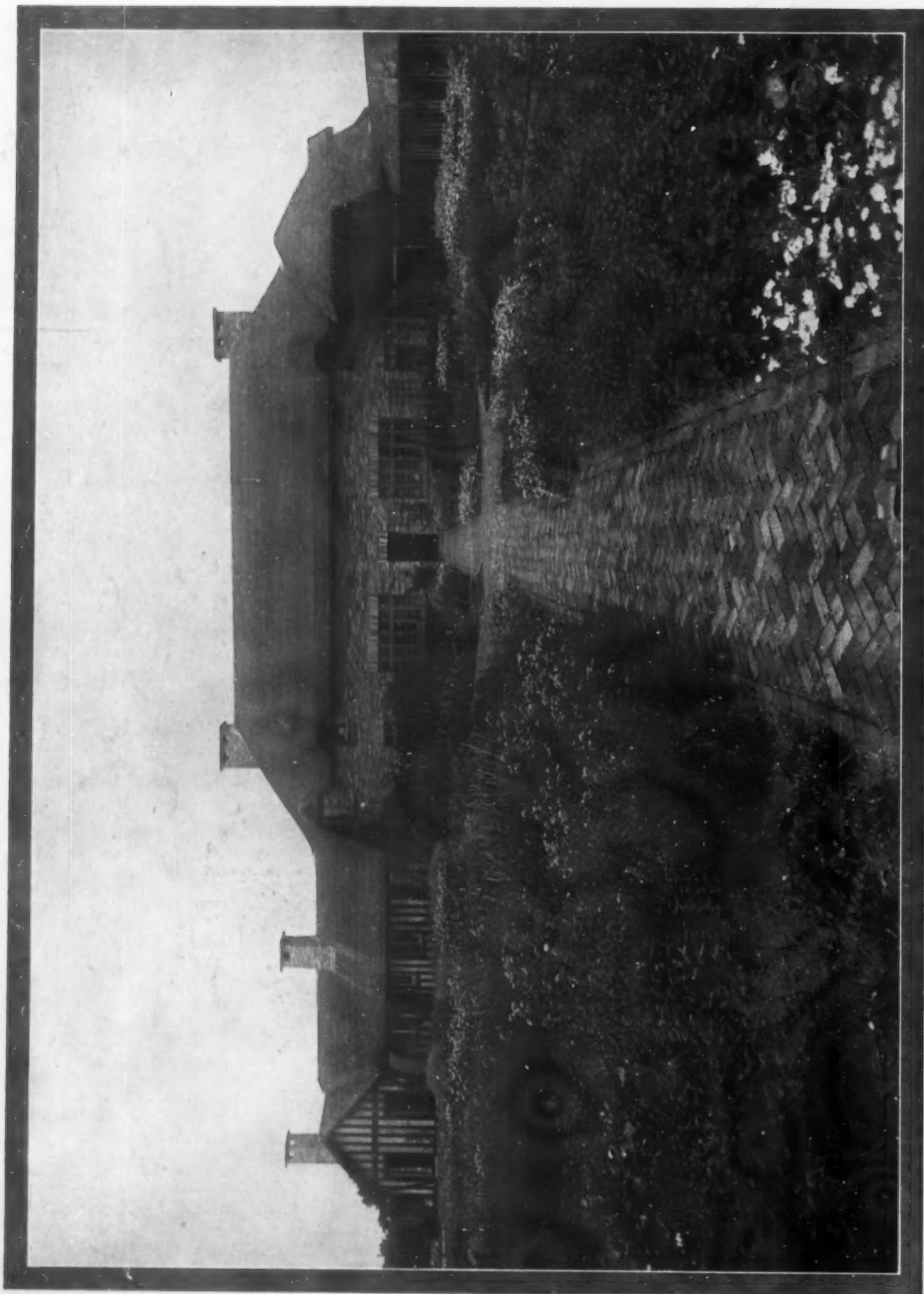
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THE SUMMER HOME OF MR. JAMES STILLMAN, JR., POCANTICO HILLS, N. Y. Albro & Lindeberg, architects

The charge has frequently been made that Americans will not make the sacrifices to convenience necessary to obtain the picturesque exterior appearance of some of the best English homes. Mr. Stillman's home is a convincing answer—undoubtedly one of the most charmingly roofed country homes in this country. It is interesting to note the entire absence of straight edges in ridges, hips and gables



Building the Summer Home

HOW A GRADUAL CHANGE IN OUR MODE OF LIVING IS AFFECTING OUR ARCHITECTURE—LESSONS FROM THE LARGER SUMMER HOMES APPLIED TO THE SMALLER

BY AYMAR EMBURY, II

Photographs by Julian Buckly, L. H. Dreyer and others

THE social life of England presents points of considerable variance from that of America; the leisure class there is large, especially as compared with that of the United States, where for all practical intents and purposes none exists, and in England the members of wealthy or even well-to-do families who claim the city as their residence are few and far between. They go to the city for their vacation, much as we are in the habit of going to the seashore, and the so-called "season" in London is limited to the few short months in the late spring and early summer. Their real homes are in the country, often-times in places inaccessible to the city, and the commuters' life as known to us here plays there but a small part. Their country houses are distinctly homes; places where families go to live for from seven to ten months of the year, keeping when possible their town house or apartments for the "season." This life in England is by no means a tendency of modern development, but is rather the outgrowth of the old feudal times when the barons and their retainers came yearly to the court of London to pay homage, to consult regarding the laws, and to indulge for a little while in the brutal pleasures of the day, while the balance of their time was spent on their estates.

In this country the problem has from the beginning been different, except for that portion of the population whose living was

made directly from the soil. The farmers and planters of the Colonial period occupied in the social life of the nation a place which since the Civil War has been denied to them. With the industrial development

has grown up the city life; people make their money in the cities and, knowing no better, live in them; but within the past decade a great change has taken place. First the very wealthy, then the intelligent members of the artisan and mechanic class, and last the well-to-do, as opposed to either of the other classes, have been moving to the country, and moving as far in the country as they could go and still get to and from their several businesses. The enormous growth of the suburbs, not alone around New York but around all cities of the East, many of the West and even a few of the South, is sufficient



There is no reason why the smallest house should not be designed with all the care of the larger country places. This is the gate lodge of William K. Vanderbilt, Jr.'s, place at Deepdale, L. I. John Russell Pope, architect

proof that this has been a fact. Taking my own city for an example: where the suburbs of New York fifty years ago were almost exclusively the residences of very few of the wealthier men engaged in business in New York, they are now increasing faster in population than New York itself. The neighboring counties, King's and Queen's and Suffolk in Long Island, Richmond County in the City of New York, Westchester County north of it and Bergen, Hudson, Passaic and Union counties in New Jersey, are now practically one vast suburban city. The majority of American houses not in the city are, then, suburban



A superintendent's cottage at Stowe, Pa., Aymar Embury, II., architect—another example of what can be done with the very small house



The summer home of Mr. E. S. W. Griswold, Greenwich, Conn., Ewing & Chappell, architects. There is an abundance of examples in this larger type of country home from which lessons for the smaller place may be learned



A summer home on Nassau Boulevard, L. I., Kirby, Pettit & Green, architects. A type of summer home that is based largely on the inspiration of Mt. Vernon. There is a provision for an outdoor sleeping porch on the roof of the high-column portico

houses intended for all the-year-round use, but there is a certain minority—most of them homes of the wealthy—intended to be for summer use only; but the effort is always being made, even in these, to place them not so far from the cities but that the male portion of the family can reach them easily for over Sunday and where possible once or twice during the week. While the many miles of beautiful water front around New York are either inaccessible, or already tenanted by shops and factories, the con-

venient and quick transportation to more distant points has made a hundred miles no very great distance to go, and this range includes all of Long Island and a good part of Connecticut and the hill country of lower New York and New Jersey. Of course the direct commuting district is within thirty or forty miles of the city and unfortunately, and perhaps necessarily, because of an increase in cottage building operations greater than that of architects fitted to handle them, the bulk of this work has been done either by carpenters without taste or training for design, or copying directly by the owners from the plans in some one of the many commercial books sold for a dollar or two—a design fitted to catch the eye of only the man untrained in art. This condition is I think in process of amelioration; the real estate promoting com-

panies have perceived the commercial value of good design and have endeavored, according to their several degrees of taste to employ architects and procure designs for buildings more attractive than heretofore has been the case. Yet it still remains a fact that it is the few and not the many who are building beautiful houses, whereas, before our countryside can



A summer home at Lawrence Park, Bronxville, N. Y., William A. Bates, architect—a splendid adaptation to modern needs of the Connecticut farmhouse type

ever take on the exquisite charm of the English landscape, all or a vast majority of the houses must be built with some taste.

I should like to present with this article a number of country houses ranging in cost from four to seven thousand dollars, to illustrate the fact that these can be quite as good in their way as the more expensive houses, but unfortunately such a group would be almost impossible to find, since the average man building a house of this size prefers to go to a carpenter and let him prepare the plans and build his house, than to go to an architect and have him design one. Speaking plainly, the envious criticism directed so constantly by the public and the popular magazines of this country at the lack of taste, lack of education and vulgar ostentation of the wealthy, is misdirected if the comparative taste displayed by the wealthy and the merely well-to-do in their homes can be taken as a criterion. While it is true that many of our largest and most expensive houses cannot be described as our best and most beautiful

houses, it is still more true that only an almost unrecognizable minority of the smaller houses can be so described.

I am therefore compelled to present for your consideration as illustrating the possibilities of design in country houses, buildings—which in most cases, are put, on the score of expense, outside the range of possibilities for me, and perhaps for most of you; but they will illustrate the trend of the current American thought on the subject, and the group does include three houses, the sizes of which are small and the cost hardly outside the range of the mechanic.

Let us take up these three houses, the first of which is Hawthorne Lodge, the summer home of Miss Maria Grey at Fox Point, Wisconsin, which is as inexpensive as it is simple; the materials are only those common to all classes of cheap houses, and less expensive than many. There is not a cent wasted in elaborate cornices, brackets or details of any sort—much as was the case with the delightful farmhouses of Colonial times, whose simplicity displayed the elegance of quiet good taste. The shape of the house as a whole leaves nothing to be desired, and it is frankly upon its shape, or mass, as we call it technically, that the



A summer home in Wisconsin, Myron, Hunt & Elmer Grey, architects. The simplest materials have been used throughout the interior as well as on the exterior



A country home at Pleasantville, N. Y., William A. Bates, architect. There is an interesting and unusual use of stonework in the circular columns supporting the wide overhang

design depends. A simple straight roof line is broken only by a single chimney, and the piazza at one end is balanced by a low extension at the other. There remains nothing more to be said about the house; it is an ideal country home for people of refinement whether they be wealthy or poor.

The second house was a gate lodge designed for the country estate of one of our families most prominent in the business and social life of the nation. Here was a case of a man who, because of the possibilities for travel and education, appreciated that good design was as much a necessity in small work as in large, and he accordingly built his gate house with the same care he gave to his dwelling. No better proof is needed that art can be obtained as well in small work as in large, than the fact that his gate lodge is much superior in design to his house itself. It is designed along familiar English lines, in half-timber and stucco with a tile roof, and while the building was not a cheap one, its



The home of Mr. Frederick Swift, Pelham Manor, N. Y., Ewing & Chappell, architects—an informal adaptation of the Colonial to an irregular site. The porch extension secures a cool breeze from any direction that the wind may blow



The summer home of Mr. George Davidson at Madison, N. J., Albro & Lindeberg, architects. An interesting variety in plan and also better lighting for the important rooms of the first floor have been obtained by swinging off at an angle the end wings

price by no means put it out of the range of everyone. If Mr. Jones and Mr. Smith could have this house as well as Mr. Vanderbilt, I think that criticism of Mr. Vanderbilt's taste is ill taken when we consider the house that Mr. Jones or Mr. Smith lives in, stained in gaudy colors, replete with unmeaning and ridiculous ornament, and about as expressive of Mr. Jones' or Mr. Smith's own quiet temperament as would be a business suit of purple and scarlet.

The third example of the smaller houses illustrated is a superintendent's house for Mr. Stanley G. Flagg at Stowe, Pennsylvania. Mr. Flagg is a Philadelphian with a big factory at Stowe; desiring to erect a house for his superintendent, instead of simply handing out the order to some carpenter he took a little thought as to convenience of arrangement and excellence of exterior. It cost no more than the cottages owned by his workmen which surround it, but there is a difference in their quality due not to the comparative wealth of their owners, but to the fact that Mr. Flagg wanted and knew how to get something that was not commonplace.

Most of the other houses illustrated in the article are the summer homes of wealthy city residents; play-houses if you like, built for temporary housing, and yet evidently for temporary housing of people who regarded beauty as an essential to their dwellings as much as to their clothes.

The tendency of life to-day is to spend more and more of it in the country, following the English idea spoken of in the beginning of this article, but our country places are as a rule so situated that they are possible of access to the city, so we can attend to our daily business whether we live in the city apartment or in the country house.

The houses illustrated show the wide range of types used in America to-day, the basic motive of some of them being the American Colonial, others are of the English domestic type, and one is a sort of mixture of Italian and Colonial; yet each seems particularly suitable to its situation, and I think that no incongruity would be noticeable were they placed side by side. Whether this would be because we have grown accustomed to seeing every sort of house on a single block, the exotic beside the native, and the well designed beside the house of no design at all, or whether it is because the overwhelming force of modern design compels the introduction of a certain characteristic modern



The summer home of Mrs. John C. Clark, Lawrence Park, Bronxville, N. Y., William A. Bates, architect. An avoidance of all symmetry in the disposition of the openings is in harmony with the rough character of the woodland site



A sharp contrast is this summer home of Dr. Hollister at Easthampton, L. I., Albro & Lindeberg, architects, where the long horizontal lines of the building are accented in every way to harmonize with the lines of beach and horizon



The country home of Mr. J. A. Lafore at Cynwyd, Pa., Baker & Dallett, architects. The use of stone and the more permanent building materials is no longer a dependable indication that a building is for all-year-round use

note, I am hardly qualified to say, although I believe the latter to be the case. They are all essentially homelike in quality and one can admire them alike without reserve.

Two of the Colonial houses are the work of Messrs. Ewing and Chappell, well suited for the Connecticut hillside on which they are placed. Another of the Colonial group, a house at Nassau Boulevard, Long Island, designed by Messrs. Kirby, Pettit & Green, resembles the others in its coloring and the fact that it is surrounded with trees. These white and green houses, beautiful as they are, are much enhanced in appearance by trees higher than the houses themselves, and these

trees should be of the deciduous type—lindens, elms, maples and the like.

On the other hand a house of English derivation such as the Davidson house, Albro & Lindeberg, architects, seems most fitly placed with the trees so fortunately growing around it. Some kinship evidently exists between the stucco walls and soft roof

lines of this house and the quiet somber forms and dull green of the cedars. Trees do unquestionably improve any house in appearance, and delightful as the house at Cynwyd is, it will be still more attractive when the small trees around it have grown to large size. The combination of stone and half-timber of this house is particularly well done. Around Philadelphia they certainly know how to do stonework better than we do in New York, and this is an example which should at once recur to any prospective home-builder whose fancy pictures

a stone house. Contrast this with any of the many houses built by a cheap real estate company, in which the so-called rubble, or fieldstone walls, each stone of which is round and seems to be rolling out of its place, so that one questions very strongly the stability of a wall built of such materials. Of course the splendid cement mortar which has nowadays taken the place of lime, makes

(Continued on page 482)



The dogtooth violet (*Erythronium Americanum*) may be found in the woods from the latter part of April to the middle of May



A walking trip on the mountainside will probably make you acquainted with the purple azalia, which is in reality pink and white



And who can come upon a colony of the showy orchid (*Orchis spectabilis*) with their slender pink-purple flowers without the real thrill of a discoverer?

A Botanist's Vacation

SOMETHING OF THE FASCINATION AND CONTINUED VARIETY OF INTEREST THAT IS TO BE FOUND IN RAMBLES THROUGH THE WOODS AND MEADOWS WITH A CAMERA AND A TROWEL

BY FLORA LEWIS MARBLE

Photographs by the Author

IT lasted from the time when the first dogtooth violet bloomed in the dell, until the last stalk of beech drops turned brown and dry. All that time I was on familiar terms with the flowers. It is impossible, when you are down on your knees on the soft, dry beech leaves before a nodding blossom, perfect in every part, to call it to its face "*Erythronium Americanum*"; nor in God's open air, does it sound well to say to the modest little parasitic beech drop growing later under the same trees,— "You are *Epiphegus Virginiana*, an *Orobanchaceæ*." So I dropped all formality with the flowers then, and shall now in thinking of that summer, and I believe I can prove to you that a botanist can have the most enjoyable of vacations.

There are several essentials to a botanist's va-

cation. You should be a good walker. The places where grow the flowers you want most are often far from even a bridle-path, so you must climb arduously, oftentimes over rough ground.

If you are a woman you must have a companion. A dog is the best possible chum. He will put up with any eccentricity of yours and think it is part of the game; what is best, he won't go home and tell of it.

You must have a notebook with a pencil tied to it, and it in turn tied to your belt. If you paint, water colors are convenient, but in this day and age of the world you must have a camera, and know how to use it.

A botanist's camera has to go through many exploits that are unknown to the experience of an ordinary machine, for the botanical value of a photograph is doubled if the



Fortunate indeed is he who finds in his July rambles the rare, showy, pink lady's-slipper rising gracefully above the green leaves in the most secluded and deeply shaded corners of the pine woods



And there is always the added zest given a walk in the wild by the knowledge that one may bring home and colonize some of the native flowers—as this pitcher plant that now dwells in the home water-garden

plant is photographed as it grows, before it is even touched by your hand. This is so small a task as sometimes to assume tremendous difficulties. The dogtooth violet is an example. Here a layer of beech leaves made a fairly dry carpet over the moist earth. Down on my knees I went, adjusted the camera on two flat stones, leveled it with a piece of bark, focused on the plant I wanted, literally standing on my head the while, let the dark, wavy bark of an old beech tree form the natural background, and waited

on my knees until the air was perfectly still—for the least breath of wind will sway the slender flower stalk—then, when even Nature was ready, I pressed the bulb, and the picture was taken.

After the plate is carefully packed away the notebook comes into use. Each page is ruled down its length several times, making columns in which records of the flowers photographed can be kept. My columns for data were as follows for a left-hand page: Date; Locality; Botanical Name; Common

breast" takes hold of you, and you learn a lesson then and there that can never be gotten from books, or towns, or people; it is better than botany. It is better than flowers even, for it is a glimpse into God's world of reality.

May is always a busy month in the woods. I had all the common flowers to photograph. A walking trip up the Armenia mountain gave a day spent under the flowering branches of the purple azalea, which is not purple at all, but pink and white. It grows along the edge of the forest. Following an old wood road down the side of the mountain, we came to a shady dell hung thick with the dainty baneberry blossoms. Right in the path grew a colony of showy orchids in full bloom. Every day when a botanist finds an orchid is a red letter day, even if it is an old friend and not a new find. I put a coat behind two sprays of the blossoms as they grew, took their photograph, admired their slender pink-purple flowers, and went on my way with heart

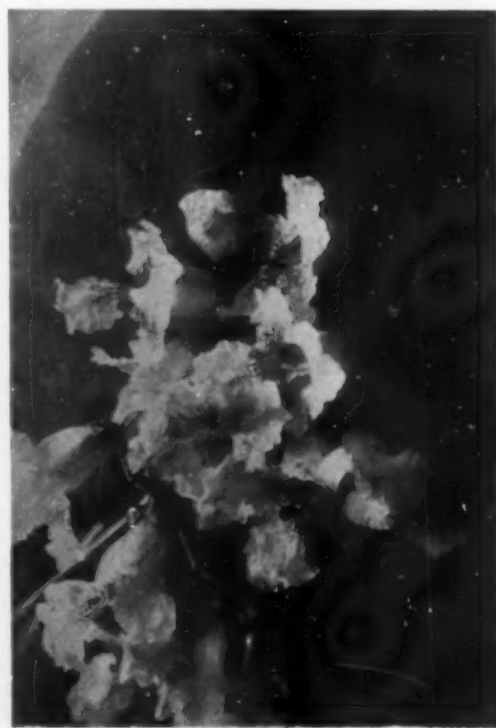
Name. On the page opposite, so that one could read right across, I made columns for the following: Plate Used; Lens Stop; Length of Exposure; Botanical Remarks (such as "lily family," "perennial," etc.

When this was done sketches of the parts of the flower were made, and it was carefully analyzed. If there is no time for that, and a microscope of size is needed, put a few of the flowers in a tin botany case to take home.

Now the pleasantest part of the work begins. Sit down quietly close to the blossom and get acquainted. Waiting alone in the quiet woods, where even the approach of an insect to the honey cup of a dogtooth violet is a noisy happening; one awakes to "a world full of wonder." This "wonderful secret of peace that abides in Nature's



Photographing one of the lilies, for example, at close range, will show the wonderful detail of the pollen on its perianth



Or you may secure with your camera an enduring record and reminder of the delicate beauty of the catalpa blossom

beating a little faster.

The next pulse-moving experience occurred in June. On a bright day, the seventh of the month, I went hunting pitcher plants in a peat bog on the mountainside. The water is clear and blue in the center of the pond. They say there is good fishing there, but there are no boats. Planks are laid across the roots of trees so one can get to the water's edge. Once there, I saw to the right of the plank on which I was standing, a large pitcher plant in full bloom, and beyond pitcher plants stretching away and away. Now I wanted to take a pitcher plant home because I had a water garden in which to let it grow while I watched its maneuvers with insects, so, armed with a trowel, I walked out on the oozy ground. It swayed and I was up to my knees in mire at every step. When

it came to digging I could not drown, for I was in the bog up to my knees and elbows and balanced perfectly. Even Teddy, the dog, laughed at me from the plank from which he was too wise to venture, but I brought the pitcher plant home and it is growing lustily now in the water garden. I have raised seed enough from it to plant an acre.

Just here let me say that a botanist should have a garden of his own to put things in from time to time for further acquaintance.

Many haughty remarks are made about what are called "Botanist's Gardens" because they contain little patches of this and that with no general effects that can properly be called gardening. This need not be so, for what is called "wild gardening" can be botanically valuable and artistically effective. My garden is a notebook in which I read every summer the life history of succeeding generations coming from wild stock.

The latter part of this same month gave me another

addition to the water garden. Here let me say that I do not believe in digging wild plants, because soon the beauty of our woods would be destroyed, but I always believe in saving wild plants. In this way several treasures have come to me from the plough of a farmer turning over a new field, or the axe of a woodman clearing a woodlot. It was in the last furrow of a newly ploughed field that I discovered a fine root of purple-fringed orchid. Why they wanted to plough the field I never could guess. It was too boggy to plant successfully with much besides orchids and cat-tails. This new specimen found its way to the water garden with plenty of its own earth to fill a pot, and there it grew, among the water-lilies.

The other orchids that gave lustre to the season were the yellow lady's-slipper that grows in the garden in a thrifty patch, three plants having been transplanted many years ago from the mountainside and colonized; the showy pink-purple lady's-slipper that

(Continued on page 456)



Three plants of the yellow lady's-slipper were brought in from the mountainside many years ago and they have taken up their new abode in a corner of the house with every indication of contentment



In the last furrow of a newly plowed boggy field was found and rescued a fine root of the purple-fringed orchid



And in the garden itself there are such interesting things as the hollyhock's pollen-covered pistil and crinkled petals

Modern Warfare on Garden Pests

DESCRIPTION AND CHARACTERISTICS OF THE ENEMY IN DETAIL—WHEN AND WHERE TO EXPECT ATTACK—TACTICS AND AMMUNITION FOR DEFENSE

BY F. F. ROCKWELL.

Photographs by Profs. Lowe and Britton and others



A plum twig infested with San José scale

THERE is one section of modern warfare in which no peace conferences are to be held; in which there are no advocates of disarmament; in which the fighting must be without quarters and to the death—the war on plant enemies.

And it must be a guerilla warfare—each planter fighting his own skirmishes by himself. It may be that our national and state governments will be able some day to take suitable and adequate steps toward the extermination of the several insects and disease pests that annually cause the loss of millions of dollars worth of crops. But until that happy day, each gardener must fight for himself, and in order to be successful, he must take advantage of every new engine of destruction or means of protection, of every more effective ammunition that invention and science places

at his disposal, and fight it out with vigor and persistency.

Nor is this all. In order to utilize these agencies in the most effectual ways, he must make himself master of the strategies of the situation; he must analyze the conditions and comprehend the individual factors in the campaign he will have to carry out. Only by so doing will he be able to apply the proper method of fighting to the particular battle to be fought.

I use the term "method of fighting" rather than the more usual one, "remedies," because both by experience and study I am convinced that so long as the commercial fields of horticulture remain in the present absolutely unorganized condition, and so long as the gardener, big or little, who is neglectful, and thus becomes rather a stockman than a gardener, breeding all kinds of plant pests—just so long as this is permitted we can achieve no remedy worth the name. When speaking of a remedy in this connection, we very frequently are putting the cart before the horse, and refer to some means of prevention. Prevention is not only the best, but often the only, cure.

The whole problem of plant enemies and methods of combatting them is at present in a somewhat complicated state. It has not received the attention from scientific investigators which other branches of horticulture have. Many experiments and discoveries have been made, but we have reached not nearly so definite a line of action as we have, for instance, in enriching the soil.

Before taking up the individual insects and diseases, it will repay the gardener to try to fix in his mind the several classes of these, in order that he may make himself familiar with a few general principles, rather than get lost in a tangle of detail.

To make the matter plain, then, the following analysis and list will enable the reader to get a general comprehension of the whole matter.

Plant enemies we have to fight may be put under four heads, as follows:—

- Insects { Eating and chewing
- { Sucking
- Diseases { Fungous or germ
- { Constitutional

From the above it is seen that plant enemies are of two kinds—insects and diseases. Of the former there are two sorts; (1) those which chew or eat the leaves, stems or fruit, and are usually hard-shelled; and (2) those which suck the plant juices and are usually soft-bodied. It will at once be seen that the first class can best be reached by internal poisons, and the latter by external ones, as it has never been found possible to get effective poisons into the sap or juices of the plant.

Of the diseases also there are two sorts, fungous or germ diseases, resulting directly or indirectly from the attack of parasitical fungus or germ; and constitutional diseases, which attack the organism of the plant as a whole. Of these latter very little is known. Sometimes they may be caused by imperfect nutrition, or again by an oversupply; often there is no apparent cause. Failing to discover a fungous or bacterial origin, and finding the disease attacking the whole plant, experts place the ailment in this general class and seek different remedies.

It thus becomes evident that the remedy to be used must depend upon the enemy to be fought. We can therefore reduce the matter to a simple classification, as follows:—

PLANT ENEMIES

		CLASS
Insects	{ Eating	A
	{ Sucking	B
Diseases	{ Parasitical	C
	{ Constitutional	D

REMEDIES

		NUMBER
Mechanical	{ Covered Boxes	1
	{ Collars	2
	{ Cards	3
	{ Hand-picking	4
Destructive	{ Kerosene emulsion ..	5
	{ Whale-oil soap	6
	{ Miscible oils	7
	{ Tobacco dust	8
	{ Carbolic acid emulsion	9
	{ Corrosive sublimate ..	10
	{ Bordeaux mixture ...	11
Poisonous	{ Paris green	12
	{ Arsenate of lead....	13
	{ Hellebore	14



A twig bearing the egg mass of the tent-caterpillar



A powder gun that distributes a fine cloud of the insecticide

With this knowledge before us, the problems of the war on plant enemies are greatly reduced. When a strange bug appears in the garden, or something seems to be going wrong with the cucumber patch, first try to ascertain correctly what the trouble is; then in what class it belongs. Knowing this, we will know how to proceed against it, using just the weapons which experience and experiment have proven most effective.

The accompanying table includes all of the garden pests ordinarily to be encountered. In the more extended comment on each which follows will be found a description sufficiently detailed to assure the identification of any intruder.

Let the beginner not be disheartened by such a formidable looking list of enemies. In actual work many of these pests will not put in an appearance at all. While some fourteen remedies have been mentioned, as a rule most of these insects and diseases can be successfully fought off with the assistance of the following half-dozen, if used in time:

Covered boxes, hand-picking, kerosene emulsion, tobacco dust, Bordeaux mixture, arsenate of lead.

Supplies for all these should be kept on hand at all times, ready to be mixed and applied at a moment's notice, for upon quick action, as much as upon anything else, will the result of the battle depend.

To enable the gardener to recognize on sight his various foes, the following more detailed information is given:

APHIS. This is the small, soft, green plant-louse, sometimes found on the under side of cabbages and other succulent-leaved plants. They seldom attack healthy growing plants in the field, but if plants set out are even slightly infested, and dry weather follows, they are apt to multiply very rapidly. Kerosene emulsion, whale-oil soap and tobacco dust, are all used for them. In applying, be sure to reach the under sides of the leaves, which must be done before the leaves are so badly infested as to curl up and thus afford protection to the insects. Remember that they are all contact poisons, and must touch the insects in order to be effective. In addition to the remedies mentioned there are several trade-marked preparations that are good.

ASPARAGUS-BEETLE. This pest, which usually does not appear until after the asparagus season is over, sometimes strips the foliage off clean and seriously injures the crop for the succeeding year. In cleanly cultivated patches it is not likely to give much trouble. Thorough spraying with arsenate of lead will take care of it.

BLACK-ROT. Sometimes cabbage and

cauliflower, when well along, are attacked by a disease which causes the leaves to fall off, and thus prevents heading. In clean, limed soil, with the proper attention given to rotation, it is not likely to appear. In cases where the disease has been encountered previously, soak the seed for fifteen minutes in a pint of water in which a corrosive sublimate tablet (sold at druggists) has been dissolved.

BORER (Squash). The borer which attacks squash and pumpkin

vines, is a flattish, white grub, which penetrates the main stem near the ground and seems to sap the strength of the plant, even when the vines have attained a length of ten or more feet. Be on the lookout for this hidden enemy. When the leaves wilt down suspiciously during the noontime heat of the sun, examine the base of the stalk; or pull a vine up, and slit the stem in two. Coal ashes, mixed with manure in the hill, is claimed to be a preventive. Another is to plant

some early squash between the hills prepared for the winter squash, and not plant the latter until as late as possible. The vines of early squash, which serve as a trap, are pulled and burned. Last season, in one of my fields, almost half the vines were attacked after many of the squashes were large enough to eat. With a little practice, I was able to locate the borer's exact position, indicated by a spot in the stalk where the flesh was soft, and of a slightly different color. With a thin sharp knife-blade, I carefully slit the vines lengthways at this spot, and killed the undesirable intruder. The vines, in almost every instance, recovered and matured their

crops. Another method of overcoming this destructive work of the borer is to heap moist earth over several of the leaf joints on each vine, when they are sufficiently long, thus inducing a secondary root system.

CABBAGE-WORM. This common green cabbage-worm is frequently hatched out in sufficient numbers to make it a very disagreeable pest. It is the caterpillar of the small white or yellow garden butterfly of early spring, and where a garden is isolated, or neighbors can be induced to act in unison, catching the butterfly as soon as seen, with sugar, gin and water bait, or nets, will repay the trouble. When the worms appear, pick off all that are visible and spray the plants with kerosene emulsion if the heads have not begun to form. If the leaves have begun to close up, use hellebore instead.

CLUB-ROOT. In ground that is planted several seasons in succession to cabbage or allied crops, such as cauliflower or turnips, club-root is practically certain to appear. It is a

(Continued on page 456)

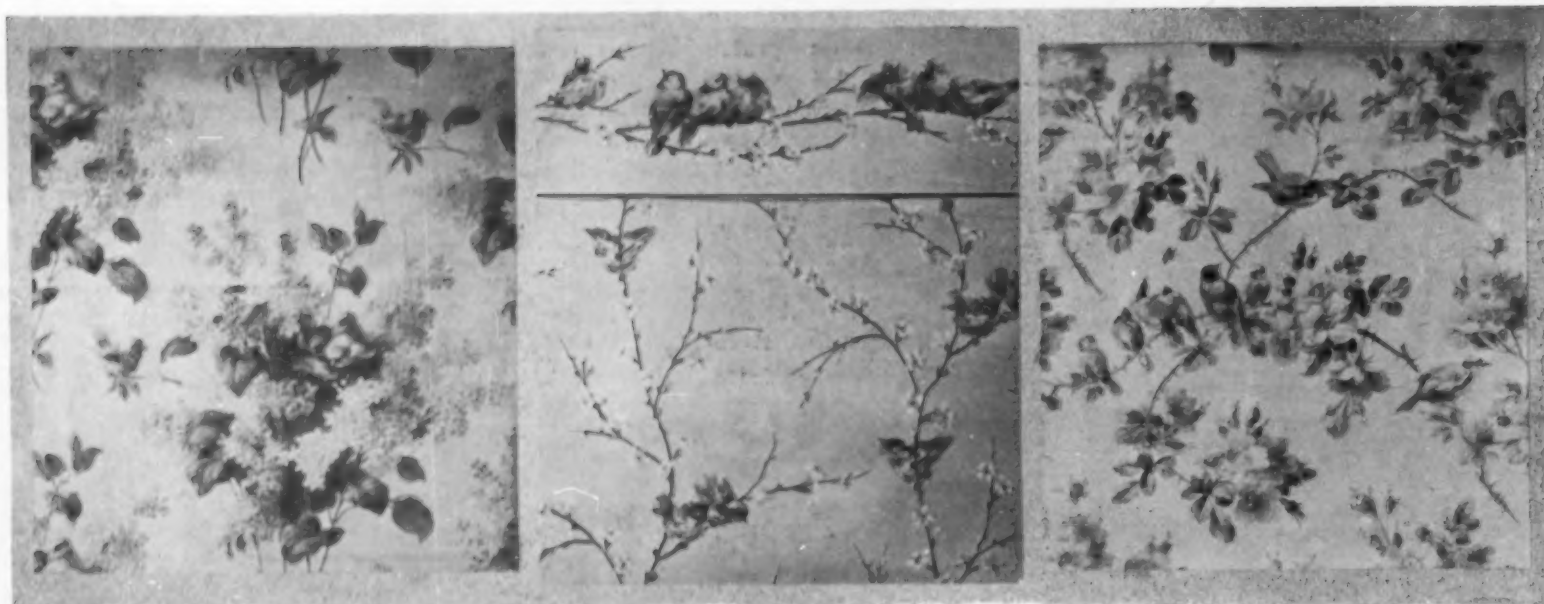
Garden Pests and Remedies

The letters and numbers given in the table refer to detail descriptions in the article.

ENEMY.	ATTACKING.	CLASS.	REMEDY.
Aphis (Plant louse).....	Plants inside and occasionally outdoors. Especially the cabbage group.....	B	5, 6, 8
Asparagus-beetle	Asparagus foliage.....	A	13, 12
Aster-beetle	Asters and other flowers.....	A	4, 13, 12
Black-rot	Cabbage, cauliflower, etc.....	C	10
Borer	Squash and pumpkin.....	B	4
Cabbage-worm	Cabbage group.....	A	12, 5, 4
Club-root	Cabbage group.....	C	Rotation
Cucumber-beetle	Cucumbers and vines.....	A	1, 8, 11, 13
Cucumber-wilt	Cucumbers and melons.....	C	4
Cucumber-blight or mildew.....	Cucumbers, melons.....	C	11
Cutworm	Seedlings and newly set plants.....	A	2, 4, 12, 13
Flea-beetle	Potato, young cabbage, radish, turnip.....	A	5, 11
Potato-beetle	Potato, egg-plant.....	A	4, 12, 13
Potato-blight	Potato	C-D	11
Potato-scab	Potato	C	10
Root-maggot	Cabbage group, turnip, onions.....	A	3, 4, 9
Rose-bug	Roses, grapes, etc.....	A	4, 13
Squash-bug	Squash, pumpkin, vines.....	B	1, 4, 5, 8
Tomato-worm	Tomato vines.....	A	4
White-fly	Inside plants, vines outside.....	B	5, 6
White-grub (Muckworm).....	Lawns, strawberries, plants.....	A	4



A compressed-air sprayer is a great convenience for applying the liquid insecticides; for the orchard an extension rod may be used to reach the higher branches



It is possible now to obtain not only wall papers with suitable friezes in the blue bird motif, but also cretonnes for the summer hangings, bedcovers, etc., of similar patterns

A Blue Bird Bedroom

BY LYDIA LEBARON WALKER

THE latest impulse in the decorative treatment of rooms comes from what we may call the idea of character. This is something of an advance beyond former concepts. For example, we have had period rooms, color rooms and rooms which have been developed from the point of view of their particular functions, such as dining-rooms and nurseries. But to consider a room somewhat as a painter might regard his canvas, as something to afford a vehicle for the expression of definite and mature ideas, in a word to give a room a newer and intenser touch of naturalness, individuality and even personality—this is the promise of the recent development of the character room.

It is not easy to convey the precise conception of such a room in a single sentence or paragraph; but the outlines which follow, together with the illustrations, will probably suffice to make the meaning clear.

The best way to explain the genesis of a new room of the nature indicated, will be to take up a concrete example from which it will be seen how it is possible for rooms to reflect the contem-

porary thought of the people. For some months the younger and older generations alike have been fascinated by the picturesque aspects of Maeterlinck's "Blue Bird," while they have been touched by the deeper meaning of the sweet allegory. Now commerce is becoming intimate. It seeks to divine prevailing sentiment, and to appeal to it by reflecting it. And so we have various blue bird creations such as blue bird cretonnes, blue bird draperies, blue bird vases, blue bird bureau fittings and other accessories,

and complete blue bird furnishings, including wall papers. These have followed naturally upon blue bird jewelry, millinery, stationery and similar fashionable innovations. Let us hope that this interesting flock of blue birds may succeed in distributing a very large measure of happiness everywhere. If it should chance that the reader is not familiar with the thought of the drama we may explain that its symbolism calls the bird the "Blue Bird for Happiness."

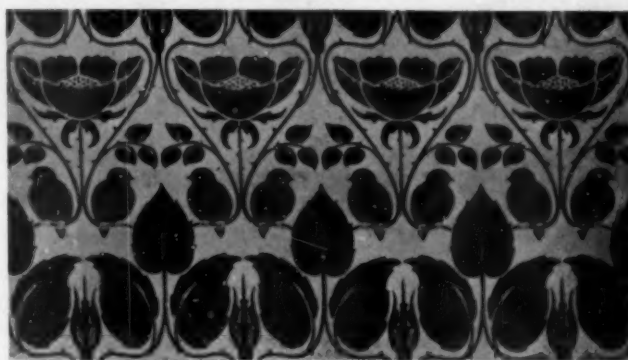
The specific purpose of these paragraphs is to present some essential characteristics of a blue bird room. At the



The wall paper used here is a satin stripe in cerulean blue and it is treated with what is known as the "crown" effect—a silhouetted pattern from the paper on page 428

outset two observations may be made: first, this is the most recent of all rooms to be developed, and consequently it possesses the element of novelty so dear to us Americans; and second, it is one of the most felicitous of all ideas for summer decoration, and should enthusiastically be appropriated for the treatment of rooms in summer residences, though not necessarily confined thereto. In this connection we may also add that blue is the coldest of all colors, an additional argument for summer use. Psychologically indoors and outdoors become merged and linked together, so to speak, by this bird motif, birds on the swaying branches and birds in the quiet room, birds when you go out and birds when you come in. The transition is not great, whether one sleeps on the veranda or sleeps in the room. There is a certain unity about the environment in either case.

Let us leave the out-of-door birds behind as they are very well able to take care of themselves, and enter the blue bird room, which is more dependent upon our helpful ministrations. Some one has said that comparisons are odious; whether that is true or not, it is certain that they are elusive. To what shall we compare the walls of a blue bird room? Here let us remark that there are different blue bird rooms, because there are different blue bird papers and furnishings. This allows for further individuality and shades of expression even in a blue bird room. The walls of one room for example will suggest the effect of a blossoming garden in the early morning, or at



One of the severely conventionalized papers that would be at its best only where it does not appear in large masses



Nor is there any lack of opportunity to carry out in the bureau fittings—hatpin holder, pin-tray, etc.—the blue bird motif in color and form



White enameled furniture, of wood, willow or wicker, is best for furnishing the blue bird room; for the floor covering a blue-and-white rag rug with a blue bird end border is available

twilight, or on a dull and misty day when the body of the paper suggests an atmospheric haze against which the slender branches stand in relief, bearing their fluttering blue birds which are the chief motif of the design. A very charming frieze in the same general tones carries the slender stems about the room. And on these twigs are perched cosy groups of blue birds as if nesting time were approaching, and one might almost fancy he could hear them billing and cooing. Lest the above outlines might convey an impression of som-

breness, with the birds against the haze, it should be explained that the yellow blossoms impart the necessary touch of brightness and warmth.

It will be noted that the paper above described is not unduly conventional. It has something of the irregularity and freedom of the garden. One might fancy he could separate the branches and walk through. Another paper, however, is more conventional. It is what is known as a stencil paper. It has stereotyped, regularly recurring rows of leaves, flowers and blue birds. The birds are perched in pairs

one on each side of a conventional leaf. The horizontal lines of birds are a foot apart. The birds and flowers are in a decided blue, while the leaves are in a dark neutral green. The strength and comparative severity of this design might render it oppressive if presented in too great a mass, though it is found effective when employed with appropriate restrictions. When used above a wainscoting the effect is rather rich. The lower wall should be white. In a small room in an apartment, the

paper gives an impression of openness. It is not out of place in dens or nurseries.

Speaking of the upper walls of rooms, there is one interesting blue bird paper which comes only as a border. It is as if the wall above the molding were open and one looked through it and saw the birds against the sky. It would seem as if one could draw a deeper breath with this effect of birds and atmosphere above one's head. The border is extremely simple, we have practically described it already—just blue birds poised in different attitudes upon a neutral band which forms a sort of skyline, and behind them nothing but immensity.

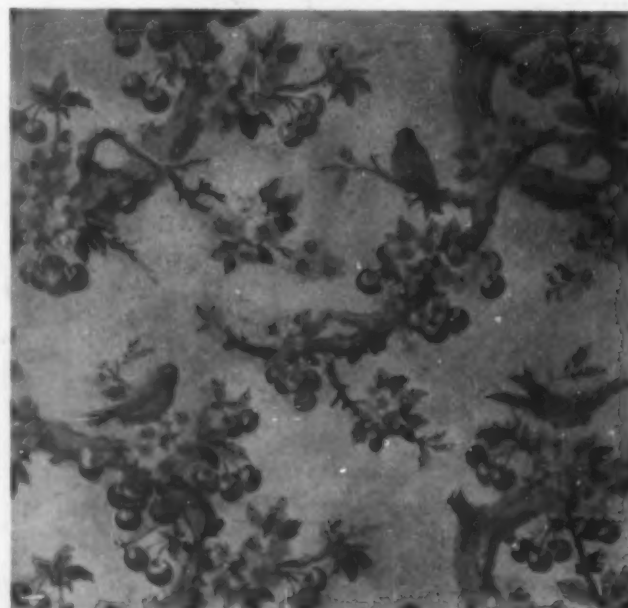
A moment ago we were in a garden; let us now enter an orchard. That is the true home of birds. Fruit and feathers seem to have an affinity. Blossoms and wings go together. The songs seem to make the fruit taste better. The paper we are now contemplating has something of exquisite delicacy of cherry blossoms and humming birds. One might hesitate to open a door for fear the blossoms might detach themselves and the birds fly away. In describing such a paper one is disposed to search his thesaurus for all the synonyms of daintiness and delicacy. It has the shimmer of a Corot painting. As generalities, however, can hardly be very enlightening to the reader, it will be necessary to come down to earth and endeavor in set terms to give more definite specifications. The background is a creamy white. In deciding upon this ground of the paper the artist probably had in mind nothing more nor less than daylight. The sun may be assumed to be in front rather than behind the decorative objects, as everything is illuminated and, so to speak, bathed in a wash of light. Substantial branches in pallid shades of brown are gnarled and twisted. They are aglow with cherries and cherry blossoms, while here and there are to be seen the birds either perched or hovering. A way of treating this paper to add to the naturalness and



While a brass bedstead may be used in the blue bird room, a white enameled one will be better



One of the simplest and most effective examples of the blue bird friezes



Brown gnarled limbs, aglow with cherry blossoms, and the blue birds, on a background of creamy white

beauty of the effect is to silhouette, or cut out along certain lines of the design. This gives what is known as the "crown effect" and appears in the illustration. This treatment is followed when the paper is used only as a frieze without being broken by a molding. If the latter is used it must be placed along the ceiling angle and must be white or cream. Below the serrated edges of the crown extends an exquisite satin-striped paper in cerulean blue. This blue gives an absolutely open effect. It is like an Italian sky. And what adds the finishing touch of artistic perfection is that the birds, branches, fruit and flowers are as it were, swaying over one's head. Blossoms and leaves trail down the corners of the room and about the doors, giving the desired panel effect. These notes relate particularly to the paper as photographed. This treatment is regarded as nothing short of ideal. This blue bird paper is produced with such variations of color as afford some opportunity for selection. It may also cover the entire side walls instead of being silhouetted as described. The bower effect is intensified and the cost materially lessened by the latter plan.

If the attempt were made to describe all of the interesting bird papers that are now available, it would very much exceed the limits of the present article. There are bird papers in which are representations of peacocks and birds of paradise, so diminished however that they cease to be salient features of the design. In many of the papers the birds are of sufficient size if not indeed exaggerated. Whatever the kind of bird the tone may be blue. It may be well to note at this point that a secondary bird motif was imparted by chancier so that the bird type is not necessarily or exclusively the blue bird. Indeed, in the play of that name the real blue bird was not employed, owing to its diminutive size. A blue pigeon was substituted because it could be seen all over the house. In blue bird jewelry a blue swallow has

(Continued on page 463)

The Seventeen-Year Locust Appears

AN INTERESTING NATURAL PHENOMENON THAT HAS
CICADA THAT SPENDS SEVENTEEN YEARS IN PREP

BY D. EVERETT LYON, PH.D.

THE Periodical Cicada, popularly but erroneously called the seventeen-year Locust is due to appear in great numbers during this summer, and no insect presents a more interesting phenomena for study than this, nor is the subject of more groundless fears on the part of our rural population.

This insect, peculiar to the American continent, is remarkable in its adolescent period, spending seventeen years in obscurity in a subterranean state, during all of which time its presence is unsuspected by the majority of people. It makes its presence known only when in unlimited numbers it marches forth, all members of the species attaining their maturity in almost the same moment.

Many people unacquainted with its habits are needlessly alarmed at its appearance, and have visions of vast devastation to be wrought by its activities, when, in fact, the damage done is infinitesimal.

The period of its aerial existence is very brief, yet during this time it leaves unmistakable evidences of its activity, as seen in the many eggs deposited in slits made in twigs and branches of surrounding shrubbery, a work accomplished accompanied by an incessant humming on the part of the males.

The damage done is, however, very slight, and a little pruning of the branches containing the eggs will forestall any ill effects that might occur.

More or less of these insects appear every year, due to the fact that there are several broods scattered over various sections of the United States, but careful observation shows that the recurrence of the main group is regular, every seventeen years in the northern states and every thirteen years in the southern states.

This variation in time has opened the question as to whether the thirteen-year locust of the southern states is a separate variety, or whether the difference in climate hastens its growth, but since the two varieties overlap in the same county along the boundary of the northern and southern states, it would seem

AROUSING MANY GROUNDLESS FEARS—THE
ARATION FOR SIX WEEKS ABOVE GROUND

Photographs by Robert A. Kemp

to prove that the variation is not due so much to a difference in climate, as to a decided difference in species.

The reason for the seventeen-year larval life of the Cicada cannot be satisfactorily explained, though it seems like a provision of Nature to protect it from its many enemies in the form of parasites and insectivorous birds.

The danger from birds, however, is very slight as their appearance is of such rare occurrence that birds do not come to know them as a steady article of diet.

While many reports concerning the Cicada are untrustworthy, yet we have authentic records that as far back as 1634 the swarm at Plymouth, Mass., was observed and noted by the Puritans, and a record of the recent swarm there in 1906 shows them as abundant as ever.

In 1666 The Royal Society of London published the following concerning them:

"A great observer who hath lived long in New England, did, upon occasion, relate to a friend of his in London where he lately was, that some few years since, there was such a swarm of a certain kind of insects in the English Colony that for the space of 200 miles, they poyson'd and destroyed all the trees of the country, there being found innumerable holes in the ground, out of which those insects broke forth in the form of maggots, which turned into flies, that had a kind of tail or sting, which they stuck into the tree, and thereby envenomed, and killed it."

We can see by the above that these insects were at least in the country when the early settlers arrived, and for centuries prior to this.

Another writer has said:

"Still more remotely one can picture its song, causing wonderment to the savage Indians who attributed to it baleful influences, and yet, less dainty than their white followers, used the soft, newly-emerged Cicadas as food; or further back in time, when it had only wild animals as auditors. With these long-time measures, our brief periods of days, weeks, months and



Even the foliage will be covered this month with the cast-off shells



A flashlight photograph taken shortly after the emerging of the Cicada. The newly-born creamy-white insects are seen beside their discarded skins

years, seem trivial enough."

Dr. G. B. Smith, referring to their song, writes:

"The music or song produced by the myriads of these insects is wonderful, to some people it becomes monotonous, to me it is otherwise, and when I heard the last note on June 25 the melancholy reflection occurred—'Shall I live to hear it again?'"

Many broods that formerly occupied vast areas have almost entirely disappeared due to the clearing up of forests that constituted their breeding grounds; nevertheless they have succeeded in so distributing themselves that they are as abundant as ever and due to appear this summer in unlimited numbers.

No insect presents in its life history so much that is anomalous and interesting as the Cicada, and the nature student will find it a wide field for interesting research. There is no doubt but that the many broods scattered all over the United States were comprehended in a single brood in the past ages, and with the geographic, climatic and topographic changes that have occurred, they have become widely scattered, forming distinct broods that have been recorded from time to time.

It would be uninteresting to the reader to give a description of the different broods scattered over the country, as the phenomena is practically the same with all broods, so that, leaving their classification to those inclined, we will rather give a description of the life and habits of these insects that are sure to command our attention the present summer.

These insects, generally speaking, emerge from the ground during the last week in May, though there may be a slight variation in this, due to local conditions, but this is approximately the time, and usually by the first week in July they have disappeared



Particularly in damp localities will the Cicadas erect these curious mounds in which they await the hour of emergence

almost entirely. The males disappear several days before the females, and we frequently see myriads of females ovipositing their eggs after the song of the males has been hushed for several days.

A remarkable thing about the Cicadas is that though they emerge in countless numbers and mature at almost the same moment, yet in their underground life they are not in con-

tact with each other, but each in its individual cave in the earth and apparently oblivious to the presence of others; and yet with the precision of a clock they all emerge at the end of the appointed time as if by some communicable impulse.

As the pupa burrows upward it leaves a small hole in the surface of the earth about the size of a little finger, and thousands of these holes will show just where the brood had been.

If we had dug down into the ground during the early part of April last we would have found them very near the surface of the earth, all ready for their emergence later on.

One remarkable phase of the life of the Cicada is seen in the fact that under certain conditions they will construct little huts and cones of earth that will project above the surface of the ground as high as five inches. Millions of these little cones will be spread over the surrounding territory. If these cones are approached cautiously, and broken off near the top, the pupa will be found waiting for the time of emergence. There have been many reasons advanced for the building of these little huts, but the most plausible theory seems to be that they are built as an abode to avoid unusual dampness, and when we find that in the majority of cases they are built where the soil is unusually moist, this would seem to confirm this view. Whether from



A remarkable picture showing the Cicada leaving his skin. This happens soon after the insects leave the ground, usually between nine and midnight.

these huts, or from the ground proper, the period of emergence is a sight never to be forgotten.

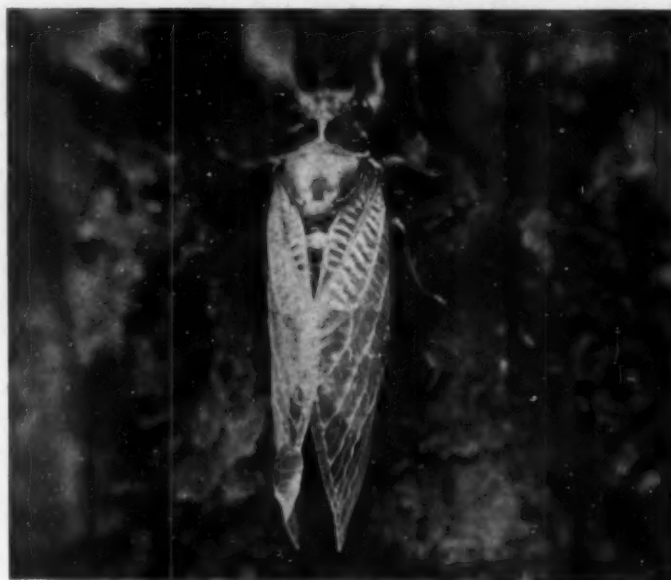
The pupae begin to emerge as soon as the sun has set, and like a mighty army they rush forth, the procession usually continuing until 9 P.M., by which time the bulk of them will have come forth, though some stragglers will continue to come until midnight. As they rush forward they quickly ascend the nearest bushes, weeds and trees, seemingly bent upon reaching an elevation above the ground, and here again we have a remarkable manifestation of instinct, for the same instinct that led them to burrow down in the earth seventeen years before, now impels them in the opposite direction, to enjoy for a season a brief aerial existence, reproduce their species, and then die.

We have read of certain forms of insect life that are born, reach maturity, mate, reproduce, and die all in a few minutes; but here we have an insect that spends seventeen years underground for a matured existence above ground for about six weeks.

In about an hour after they have risen to some elevation, the skin splits down the middle of the thorax, and the forming Cicada comes forth. With the exception of its red eyes, the newly born Cicada is a creamy white, with a dash of black here and there on the prothorax, the coxae, and on the front of the femora, while a slightly orange hue adorns the base of the wings. Soon the wings begin to enlarge and expand, and in a little while they are beautifully transparent with the characteristic veins running through them. The time required for this transformation, from the splitting of the shell of the pupa to the perfect development of the wings, will vary from twenty minutes to two hours.

Though possessed with wings, the Cicada is slow in its movements, and this accounts for a particular brood being confined within certain well defined areas.

The adult Cicada seldom feeds, as food is not essential to its existence, but when it does, it shows a decided preference for the black birch and the sweet gum. This proves that the adult Cicada is really not to be feared, and any damage that is done to bushes and trees is accomplished by the female in her ovipositing the eggs. At any rate, the slight occasional feeding on the part of the adult Cicada seldom does the trees any permanent injury as, for in-



The newly-emerged Cicada with its gauze-like wings folded close against its body, never having been spread

stance, in the case of the San José scale louse.

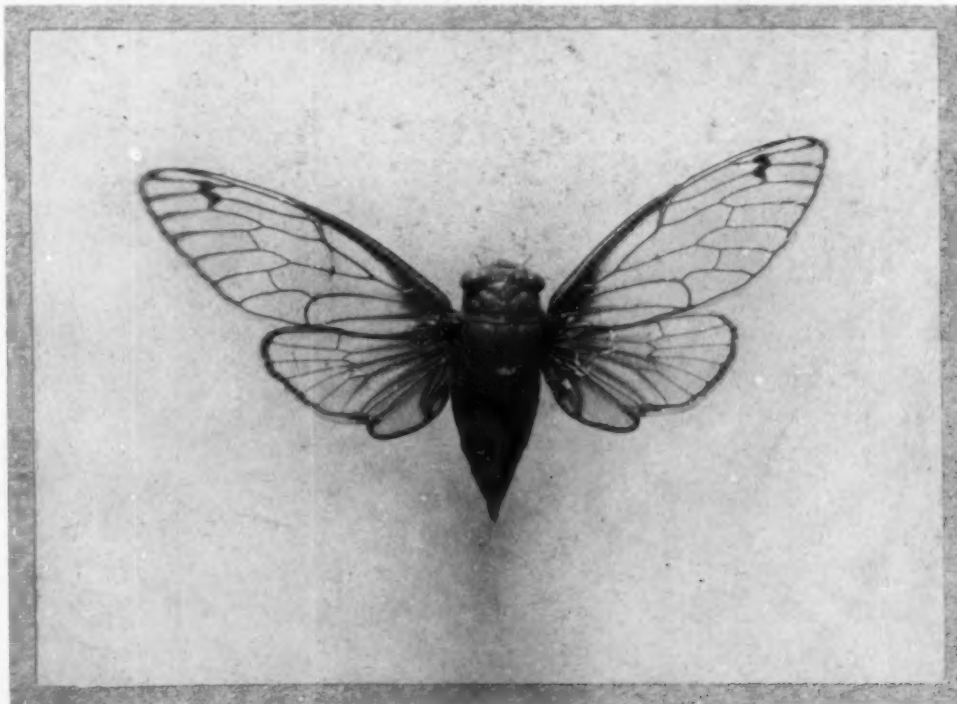
The Cicada matures and becomes perfectly hardened during the first twenty-four hours of its aerial life, and the female does not lose much time in beginning her work of depositing her eggs to provide for another brood. Mating usually occurs within a week from emergence, and within two weeks the egg punctures will begin to appear on the trees and bushes, and often several thousand insects will be seen laying on a single tree at the same time. The eggs will be deposited in almost any of the trees and bushes at hand, though the insects show a decided aversion to pines. Twigs and branches of the previous year's growth are invariably selected for deposit of eggs, and

where the insect uses the larger limbs, the eggs, instead of being placed in a long series of slits, are placed in nests of twos.

The damage from egg depositing is more likely to occur to oak, hickory, and young orchards, but in the case of large shade trees, the damage is slight and not worth bothering about. The old idea that the eggs of the Cicada caused limbs to break and fall away is due to confusing the work of the Cicada with the pruning-beetle, which cuts away the branches to provide dead wood in which its larvae may develop.

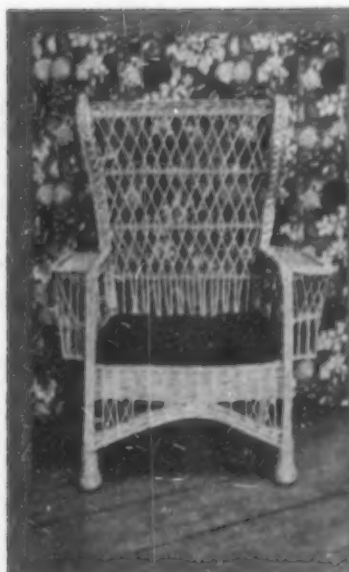
The work of the female Cicada in depositing her eggs is decidedly interesting, and may be observed without alarming her in the least. She usually selects a branch of such size as will permit her to clasp it firmly with her legs, and enable her at the same time to force her ovipositor into the tissue of the wood. She passes from limb to limb until she has completely exhausted her supply of eggs, which usually number about five hundred. The eggs are about one-twelfth of an inch long, nearly white, and

covered with a thin transparent shell; they remain on the branch for about seven weeks, at the end of which the larval Cicada by muscular effort ruptures this shell and wiggles out upon the branch. Running about with the quick movements characteristic of the ant, it soon seeks the edge of the branch, when it deliberately throws itself to the ground, and though it is not injured by this, we have here a wonderful phenomenon of a helpless insect deliberately throwing itself out into space with no apparent



The Cicada in flight. It reaches this stage of maturity during the first twenty-four hours of its aerial life, after which no time is lost in preparation for another brood

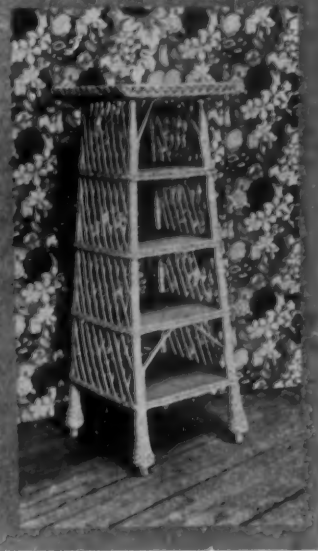
(Continued on page 464)



One of the new patterns of willow chairs with arm-pockets open at the inside



For the garden room there are many new patterns in white-painted cypress furniture, a type that has long been popular in England



In addition to chairs and settees there are willow stands for magazines and books

Creating Outdoor Living-rooms

SOME OF THE NEW THINGS IN FURNITURE FOR THE PORCH AND GARDEN, TO MAKE MORE INVITING AND ENJOYABLE THE OPEN-AIR ROOMS OF THE COUNTRY HOME

BY SARAH LEYBURN COE

TIME was when the furniture for the front porch consisted of two, possibly three, hickory splint chairs of uncomfortable shape, and a long bench, painted sometimes red, sometimes green, according to the individual taste of the owner, while a few rustic boxes for vines and a funereal-looking urn or two ornamented the lawn.

The demand for outdoor life has naturally increased the supply of things that go to make for its enjoyment, and with the furniture especially designed for it an out-of-doors room bounded by the four sides of a piazza can be fitted up almost as completely as an apartment inside the house would be. One significant advantage of this furnished porch arrangement is that it can be made to do duty for any and all of the rooms in the house, serving in turn as living-room, dining-room, sewing-room, library, and even bedroom if necessary.

Willow furniture for the piazza is on the whole one of the most satisfactory kind, not only on account of its light weight but because it is impervious to dampness, being in fact waterproof, so that if left out in an unexpected shower it is not permanently damaged. A number of new pieces that add to the attractions of the outdoor room are shown this season. There is a metal-lined stand for growing plants, made of willow with open-work sides, that is decidedly orna-

mental and practical as well. A willow sewing-table, so light in weight that it is easily moved about, has two under-shelves and a deep pocket on either side, making it quite as useful for books and papers as for sewing-things.

An unusually comfortable porch chair is of light wood with high willow back and wooden arms, and another chair of new design that would also be an attractive piece of furniture for the hall or living-room has a wide cushioned seat, wing back and broad arms, underneath which are pockets that open inward and are really an extension of the chair seat. For books and papers there is a tall stand, square in shape, with four wooden shelves and a broad willow top that is also as serviceable for indoor as outdoor use.

Circular tables in willow may be had as large as six feet in diameter, furnishing accommodations for breakfast or luncheon parties of good size, and there is a large variety of tea tables and muffin-stands for serving afternoon tea on the piazza or in the garden. The tables are both oval and circular in shape, the newer ones having glass tops with willow frames and handles that form separate trays and are most attractive when the glass has a lining of gay-colored cretonne. Either as an accessory to the tea table or for general use on the piazza, is a folding willow screen with three leaves, only about three feet in height. It is one of the newest



Whether your home be large or small you will never regret some provision for a garden shelter



Rustic furniture continues to hold its own in popular favor, but the wood is now freed from all excrescences



With a background of a hedge or vine-covered wall, the white painted garden benches are seen at their best



That one can now buy such attractive rose-arbors as this is cause for rejoicing among garden enthusiasts

piazzas there are any number of rugs of cocoa fibre and prairie grass made for rough outdoor use. They come in sizes from three by six to nine by twelve feet, and in colors especially suitable—browns, greens, tans and reds, either in solid tones with contrasting borders or combinations of color in plain conventional patterns. Rather more ornate are some of the new rugs that show designs suggestive of Oriental carpets, the figures being on a much enlarged scale, while a rug that is decidedly Eastern in effect has a wide green border with tan center in which figures of elephants are woven in the same green as that of the border. A novelty this year is a hand-woven grass rug that is said to be wonderfully durable. It is half an inch thick and so heavy that it will

designs and makes an effective piece of porch furniture.

In the way of floor covering for

tion for persons whose summer homes are at the seashore. The colors are solid green or tan with

a narrow conventional design in black that forms a border, and the rugs may be had either round or rectangular in shape. Small hassocks that are always useful on a porch are made with coverings to match the rugs.

Unless a house is wired for electricity the question of lighting the piazza is a more or less serious one, and lamps, or more probably candles, must be depended on to furnish the necessary illumination. There are of course lanterns in all sizes and shapes, from the old ship's lantern of heavy glass in a brass frame, picked up at the nearest curiosity shop, to elaborate affairs in wrought iron or bronze, but pleasing and picturesque as they may be, lanterns as a usual thing throw only a feeble light on their surroundings.

For real service there is a candle-lamp, purporting to be



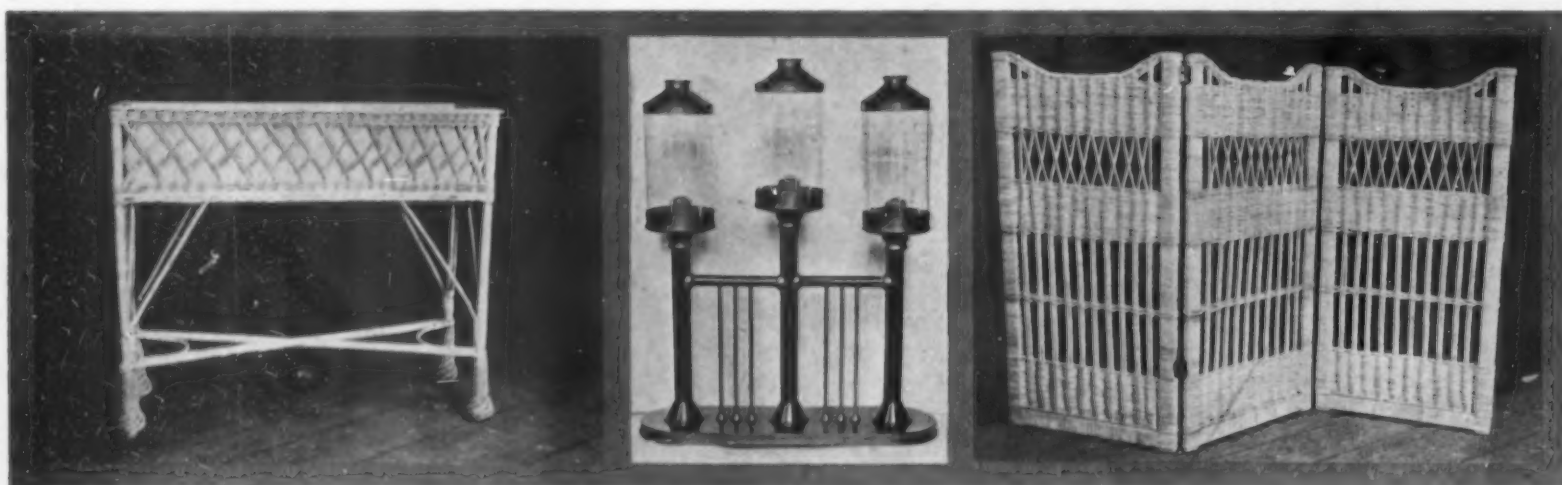
One type of porch chair is made in a combination of unstained wood and willow



The porch sewing-table is another of the season's offerings in outdoor furnishing



A large umbrella of brown cotton with a stencil design shelters this garden table



In harmony with the other willow porch furniture is this zinc-lined plant box

White or red candle-lamps come with glass shields

Another one of the newest things for the porch is this three-panel screen of willow

English in its origin, that seems to be particularly adapted to outdoor use. The stand is of heavy tin, painted either white or red; there is glass wind-shield with a perforated top of tin, and the candle fits into the holder with a spring just like those used in candlesticks for the dining-table. The candle burns steadily without being affected by the wind, and gives just light enough for comfort without making the piazza too bright. The lamps are made in several different styles, with holder for a single candle, for two candles, or for three as in the illustration. These are all for use on the piazza table, but there is a much larger size on a tall standard that rests directly on the floor, with holders for three candles, the whole arrangement being about five feet high.

As a sort of companion piece for this tall lamp there is a clock for use on the piazza or lawn. It is about the same height as the lamp and like it is painted a bright red. On top of the tall standard is a hollow metal ball that contains the works of the clock, and on one side of the ball which is slightly flattened, is the clock's face in white, with heavy black figures that are visible at a considerable distance, making it quite useful even on extensive grounds.

The lure of garden and lawn furniture is even stronger, when one begins to investigate the possibilities, than that of porch furniture. The one in a way is merely a reproduction of the familiar household things that are necessities; the other opens up a fascinating array of objects that are real luxuries. From the single box for an ornamental tree, or a garden seat or chair, up to the elaborate rustic summer-house, substantially built and complete with roof and floor, each one makes an irresistible appeal to the person who has a bit of ground large enough to accommodate it.

Rustic furniture, stained green or brown is always attractive in out-of-door surroundings of any sort, although the chairs and tables and seats of planed wood are doubtless more suitable for the formal garden, and can be used for porch furnishings as well. There is of necessity little variety

in the shape and design of the rustic pieces, and all are built on substantial lines with frames of bark-covered wood and seats made of smooth boards. The lawn tennis bench with sides but no back is rather a novelty; so is the double rustic bench which has seats placed back to back, and also the rustic seat that has a roof covered with cedar bark. This design is reproduced in the more formal furniture which is made of cypress, and there are, besides, many different styles in cypress seats for garden and lawn, some straight, some curved, and others built to fit corners, as well as the circular seats made in sections to go around trees.

Many of the seats are copies of old English pieces; others are modern and of quite recent design, but equally picturesque. Tables and chairs are made in models that harmonize well with the different seats, and all of this furniture is painted white or green, in either a light or dark shade. More elaborate are the rose-arbors and arches built to span paths, some of them with a seat at either side. These too can be had in practically the same designs and in colors to match the other pieces of lawn furniture.

Few householders are so fortunate as the owner of a lovely place in Southern California who utilized a palm tree as a summer-house in which to serve afternoon tea. A table was built around the trunk of the tree and masses of vines trained from the ground to meet the lower branches, so that in a short while he had a completely enclosed arbor, protected from the sun by the thick growth of palm branches overhead. A rather good substitute may be had however, in the big lawn umbrella with a table underneath it. One style shows a willow table shaped like an hour-glass, with a hole through the center for the handle of the umbrella, which is made of heavy brown cotton material and decorated with a stenciled border in light tan. Another is much larger and better adapted to all sorts of weather. The table has an iron standard with a circular top of heavy tin, painted white, and the umbrella is a huge affair

(Continued on page 465)



A particular graceful curved seat of cypress to place in front of a shrubbery group



These cypress seats are made also for corners, in semi-circular form or to encircle a tree trunk

The Sewage Disposal Problem on the Country Place

THE SEPTIC TANK AND HOW IT ACCOMPLISHES THE COMPLETE AUTOMATIC DESTRUCTION OF SEWAGE WITHOUT ANY ATTENTION WHATEVER AFTER THE INSTALLATION

BY RICHARD MAXWELL WINANS.

ANY argument to prove the need of proper sewage disposal is superfluous, or should be. Every suburban or country home not having connection with a common sewer ought to be provided with some arrangement to dispose of its sewage in a sanitary manner; and every intelligent person should recognize the necessity, not only as a matter of simple sanitation, but in the vastly more important matter of health, which last in this connection depends largely upon the first.

In this day of advancement and improvements there is no excuse for the old-fashioned privy vault, or even the common type of earth closet, for even this last, which is admittedly an improvement on the ordinary vault, is a germ-breeding trap to a great extent, and full of the possibilities of disease at the best.

While the delights and many of the advantages of living in the suburbs and the open country are beyond a mere matter of comparison with city dwelling, yet statistics show that there is a greater percentage of sickness and a much higher death rate in the country than in the most congested cities. It has been shown, too, that the number of contagious diseases is greatly increased in the suburban and rural districts by a gross lack of sanitary arrangements about the homes, and that much of the general sickness is caused directly or semi-directly by such neglect.

It is declared that if unsanitary conditions were tolerated in the city such as are too generally found about many of the suburban and country homes, the general health of the city dweller would be so far depleted and destroyed that a plague might quickly result, while the death rate would increase to a most alarming degree.

The methods of sanitation in the cities are scientific and practical and their efficiency is enforced by the board of health. In many of the outlying suburbs and in the rural districts the methods, or, too frequently, the lack of methods, are altogether governed by the individual inclination, or his knowledge of methods, to secure more or less perfect sanitation.

On an extensive and pretentious country estate in the East with which the writer is acquainted, having a splendid large mansion, fitted with an artificial cooling plant, mechanical refrigeration, exhaust ventilation, the finest of plumbing and the most elaborate of everything in ultra-modern equipment and conveniences, with a five-hundred-barrel water supply tank kept constantly filled by an automatic cut-off-and-on electric motor, horse and cattle barns representing the last word in construction, with over-head carrier arrangements to dump all stable wastes directly into wagons for removal daily, and cement gutters automatically flushed to prevent stable odors in the dairy—and yet—the sewage from the kitchen sinks and the sanitary closets in the house empty from a line of tile at the foot of the hill on which the house stands, not more than fifty yards distant from the kitchen door. The sewage was supposed to be distributed in surface irrigation through an orchard and garden, although the sewage flume was generally clogged and overflowing at the house end.

That was their method of sanitary sewage disposal, or, rather, the remarkable lack of it.

In the West, on the other hand, the writer visited a modest little country home where a wind-wheel furnished a water supply to the house as well as stables, and not far from the house, covered with a sodded mound of earth, partially hidden by a group of shrubs and rose bushes, was a sunken septic sewage disposal tank similar to the one shown in the accompanying drawing, that converted the

kitchen wastes and the sewage from the sanitary closets into a liquid stream of water carried through tile to a nearby brooklet.

It is not an open question as to which home owner manifested the most intelligent judgment in his methods of sanitation.

One of the first material essentials connected with the installation of the sys-

tem of sewage disposal known as the septic tank, is a supply of running water, either from an elevated tank or forced through the house by the pressure system.

Nearly all suburban homes are, or may be, provided with a running water supply, as are the majority of modern country homes with which the writer is familiar. On many of the ordinary farms in out-of-the-way places there is an elevated water supply for the use of the live-stock and dairy, and in not a few instances it is provided for the house also—and in every instance could be.

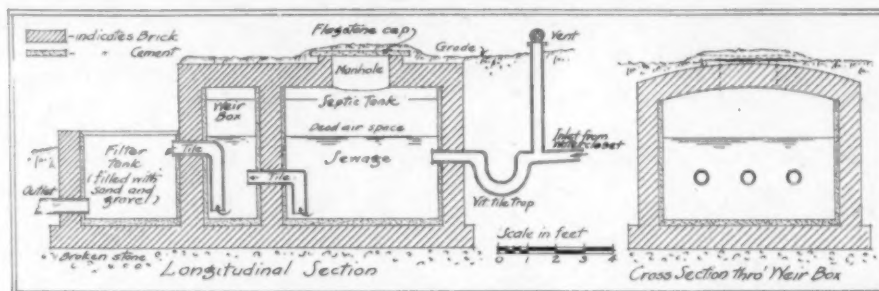
Should the elevated tank system of supply appear too unsightly for the suburban home, there is the more desirable pressure system, with the supply tank placed in the cellar of the house, or in a covered pit built for its accommodation.

For pumping water up into the elevated tank or forcing it into the air-pressure tank there are several powers that may be economically employed, the wind-wheel probably being the cheapest form, and one that requires the least attention, since automatic devices are now in use to stop the wheel pumping when the water in the tank reaches a designated point or the pressure-gauge indicates the necessary number of pounds in the air-pressure tank, and starts it again vice versa.

Where electric current is available, as it is quite generally through most suburban sections, a light-capacity motor will do the work. A small gasoline engine is at once practical and economical, while in several known instances the automobile is hitched up for this work while it is resting. The principal expense in the installation of a private water works system is generally in the plumbing and fixtures rather than in the original cost of the supply equipment, which, once properly established, is good for an indefinite service.

Having a water supply, the best method of sewage disposal for the suburban or country home is the septic tank. There are a number of differing styles of this tank, but in its simplest form the type is as shown by the diagram. The tank has for its purpose the accomplishment of one object, the conversion of sewage, both solids and liquids, into practically pure water through self destruc-

(Continued on page 466)



The whole septic tank as shown by the two sections is underground, with the exception of the filter bed; to this the air has access at the top. The size of the septic tank proper will be governed by the size of the household

A Vegetable Garden That Will Survive the Fall Frosts

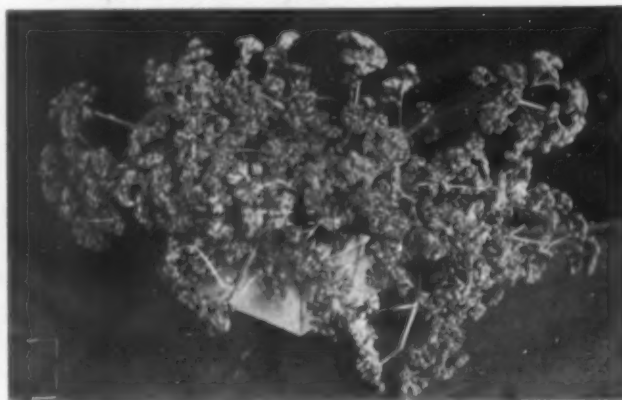
WHY NOT SOW A PATCH THAT WILL MAKE THE GARDEN AS PROFITABLE AND ATTRACTIVE IN THE FALL AS IT IS IN THE SUMMER?

IF the amateur gardener wants a vegetable patch that will be fresh and flourishing long after his neighbor's garden is a desolate heap, he must sow the frost-defying kinds. The right sorts, sowed at the right time, will give him a garden that will be a thing of beauty after tender vegetables have passed their usefulness and become an eyesore. More than a dozen hardy vegetables may be selected, with the certainty of having a frost-proof vegetable garden.

BEETS, sowed in June, will be in good shape to pull, for winter storing, soon after the first frost. The conditions demanded by all root crops will meet the requirements of beets; such as fresh loose soil that is clean and light, with well rotted manure that has passed the fermenting stage, or a potash fertilizer.

Long before frost this June planting will be yielding greens and tender young roots. In order to preserve the appearance of the row right up to the end of the season, it is a good plan to thin gradually, beginning when the plants are three inches high, to an inch apart, and continuing to two, four, and eight inches, as they become larger. These gradual thinnings will give many a good "mess" of greens and sweet young beets that would otherwise be wasted, if removed in a wholesale thinning that is done once for all.

CARROTS, both young and mature roots, should have a place in the frost-proof garden. For a crop that will reach full size and be suitable to store for winter, sowings should be made in June, but for young roots, for table use, July sowings, or even an



Here is a single plant of parsley, pulled a week after a killing frost

BY I. M. ANGELL

Photographs by the Author

August 1st sowing, will give satisfactory returns, although August would be late to risk it if the season proved to be unfavorable. For a supply of carrots throughout the season, to be pulled while still small, for their sweet and tender qualities, there is no better variety than Early Scarlet Horn. Warm, friable soil and the same general conditions as are required by beets will give good results. Dry weather is a drawback.

CABBAGE, BRUSSELS SPROUTS AND KOHLRABI are all related and need similar treatment. Sown purposely for the frost-resisting patch, seed may be put in about the middle of

June. As conditions are not so favorable at this season as during the spring months, it will pay to be a little more free with the seed, to allow for the loss of some of the seedlings. Soil that still retains richness

from an earlier planting of vegetables will answer, or if there is any doubt about sufficient richness, well decayed manure should be used. The soil must be kept loose, and wood ashes sprinkled as a precaution against the attacks of insects. At the end of July the young plants ought to be ready to set in their permanent place, in moist earth, with the soil pressed around the stems. Short stocky plants will produce better results than spindling ones. Kohlrabi is sometimes sown in hills, a few inches apart, a small pinch of seed to each hill, and all but the best plant pulled out when they reach a suitable size. Kohlrabi is often gathered too large and so fails to be appreciated at its real worth. Bulbs two or three inches in diameter are very sweet and tender, a great improvement on larger roots that

have been allowed to become tough and fibrous. This vegetable is one of the old reliables, as it will stand both frost and dry weather. There need be no hesitation in adding Brussels sprouts to the cold weather garden, as frost improves the flavor. June-sown seed will produce plants that will be in bearing in November.

CHIVES, ONIONS AND LEEKS are relatives and all useful for the frost-defying gardens, as they are among the hardiest. An early September sowing of ball onions may be made, for the purpose of wintering over; they will start into growth again in the spring. To ensure success the patch must be well drained and no weeds should be allowed to get ahead of the onions. The best seed, thickly sowed, and thinned out, will pay in the end. The soil should be old and mellow, well enriched with cow ma-



The garden that bore in abundance after frost had killed the tender vegetables. The picture was taken four days after a severe frost

nure and wood ashes. Chives are as ornamental as they are useful. Being perennials that make a thick growth of leaves, and produce a quality of decorative blossoms in June, they can well be used for an edging in the vegetable garden where they will be handy to cut freely for use in soups, stews and salads. They require the same treatment as onions; it is best not to sow the seed too deep. Leeks, for fall and winter eating, may be sowed in June. As soon as they reach the proper size they should be thinned to four inches apart and later earthed up to blanch the stems. When cold weather comes they may be left to pull as needed, being very hardy, but it is probably better to dig them up and store in a coldframe, on account of the difficulty of pulling when the ground freezes.

LETTUCE, sowed for late use and properly treated, rewards the gardener with some of the choicest heads of the season. A piece of ground must be carefully prepared with rich old manure, at the rate of a bushel to a square yard. If there should be no location available where the soil is moist and partially shaded, artificial shading will produce good results. Seed should be sowed a half-inch deep. When a couple of inches high the seedlings should be thinned to an inch apart, and kept thinned, just as fast as they grow to touch each other. These thinnings need not be despised for table use. Light doses of nitrate of soda will encourage rapid growth. In order to give a late sowing every chance of success,



There is no need whatever of allowing the garden to be unproductive late in the autumn. This bunch of varied products was gathered several days after frost had laid low the tender plants

a six-inch trench can be prepared and filled with water; as this is absorbed it should be refilled several times, until the soil is soaked. Then the trench should be filled with soil that is merely moist and the seed sowed. A board, raised two inches on bricks, will give the required shade for the first few days; later the bricks can be turned to raise the board four inches. When the sun gets low in the afternoon, the board may be removed till the next morning, and as the plants increase in size, the shade can be dispensed with. August 1st is a good time to sow fall lettuce; even an early September planting has produced good results.

PARSLEY may be made to send out a new growth for the embellishment of a frost-proof garden, by cutting back in the middle of September. Seed stalks must be cut to prolong the bearing season of old plants.

SPINACH can be added to the frost-resisting garden. When gathering the early sowings, instead of pulling up the entire plant, each one should be cut back, and they will send out a new growth that will flourish till frost. A satisfactory kind is the New Zealand type, well cultivated and kept free from weeds.

SALSIFY, of iron-clad hardiness, may be left in the ground all winter and used in early spring before growth begins. Some of the crop should be stored in sand, for use in cold weather. General treatment should be the same as for carrots.



Brussels sprouts is one of the iron-clad vegetables for the cold-weather garden. Picked outdoors Dec. 20th

PARSNIP, another hardy inmate of the frost garden, also requires the same treatment as carrots and other root crops.

TURNIPS for the fall garden patch should be sowed from the middle of July to the middle of August. A moist, loose soil will suit them best. For fighting off the flea-beetle Bordeaux mixture is excellent. Although hardy, turnips are better dug for fall protection before any severe frosts. The rutabaga type of turnips should be sowed the last of June and harvested in October.

CELERY requires a good garden loam and plenty of water. A soil that is sandy, and rich with manure in the proper condition to hold moisture well, will agree with this vegetable. The amateur gardener may sow seed in April for fall use. In June the plants will be ready to cut back and transplant. For home storing, boxes containing a few inches of soil for the roots, and holes in the sides for ventilating, will be all-sufficient.

RADISHES may be used for early fall sowings in soil that is rich and loose. Wood ashes, sprinkled after the sowing, will keep off insects. Store radishes are never worth buying, for they should not be more than an hour from garden to table.

CHARD retains its good looks after frost. Both leaves and stems are used, cooked like greens and asparagus. The stems are also packed in brine, for winter use. Lucullus is a choice variety.

ENDIVE, sowed in June or later, will add another hardy sort to the frost-defying garden.

KALE is a worthy member of the cold-weather family. Left in the garden, for use in the cold months, it will keep up an extended supply of greens. It should be sown in June and transplanted to stand a half-yard apart. Freezing improves it, and its decorative

(Continued on page 470)



Victoria spinach and White Egg turnips were among the survivors in the frost-resisting vegetable patch



A screened porch was built across one end of the old structure, reached through a doorway from the living-room. A covering of shingles, dipped in a silvery gray stain, was put on over the original clapboards

Remodeling an Old Long Island Farmhouse

WHAT HAS BEEN DONE WITH AN OLD HOUSE AND THREE ACRES THAT WERE BOUGHT FOR \$1,200—THE EXPERIENCE OF A CITY WOMAN WHO MADE A COUNTRY HOME

BY ALICE BOUGHTON

Photographs by the Author

HALF-WAY down the south shore of Long Island was a square, rather ugly, little box of a house, situated in a small fishing village. Somehow or other the mushroom development companies, and the tide of suburban homeseekers, overlooked this place in their advance upon the Island and left the town unmarred, still retaining all its original charm. About five years ago a young woman, whose work was in the city, became seized with the desire to own a real country home. In her peregrinations after something that at the same time fitted her pocketbook as well as her ideal, she happened upon this house. Crude and ugly as it was, she saw it remodeled, in imagination, into the very likeness of her dreams. It would be hers—the fruit of her labor and the outgrowth of her plans! And so it became.

The house and three acres were bought for \$1,200 and she at once set about the work of remodeling it according to her own ideas and taste. In this she was assisted by a young student of architecture who happened to be a very good carpenter. He had just completed his first year's instruction and was very glad to spend his vacation in work along similar lines

to the study which he had been pursuing at the university.

They consulted and planned together and after plenty of good hard work succeeded. The young woman leaded the windows, dipped and nailed the shingles, painted floors, lathed, and in an emergency carried on her bicycle all sorts of building materials from the town three miles away. The student drew plans for stairs, windows, doors and other details and sent them to a mill in a neighboring town where they were made and delivered with the lumber, at one-quarter of the expense estimated by local builders.

The original house, though ugly, was well built, with a good foundation and the cellar had a bricked and cemented floor and sides. The beams were apparently taken from some wreck that had found its resting place upon the coast and were of hard weathered oak. In places the timbers were caulked as they were originally when aboard ship. The exterior was finished with the ubiquitous clapboards.

With this to work upon they set about the labor of transformation. Two large dormer windows and two small ones and an annex were



The old house was very small, boxlike, and with little provision for lighting the second-story rooms



A new flight of stairs was put in at one end of the living-room—the latter combining the old parlor, sitting-room and hall

added, changing the stiff, chunky, plain appearance of the original house to one of pleasing lines and diversified surface. The extension contained the kitchen, laundry and servant's room on the ground floor, and a bathroom and bedroom upstairs, thus making the advantageous arrangement of a small house with the kitchen department somewhat separate from the living-rooms. A tank was put in above the upstairs hall, where it rested upon the rafters, and was supplied with water pumped by a

hot-air engine installed in the cellar. Over the clapboards an additional covering of shingles was put. They were dipped in a silver gray stain made of kerosene with white lead, toned with black and Indian red, mixed thin like a wash. This gave a beautiful weather stain. To harmonize with this the old solid-wood outside shutters were painted a blue-green.

With the room scheme few alterations of a difficult character were necessary. The parlor with its inviolate gloom, the "settin" room, and the hall were shorn of their partitions, making a big, airy, inviting place, really meant to live in. Two windows of ordinary size in the western end of the room were joined together, giving a wider outlook and heightening the cheerful, outdoor "feel" of the place. At one end of this living-room a new flight of steps was built to take the place of those taken out of what was formerly the hall. Filled with a well proportioned balustrade they had a decidedly decorative effect. The dining-room with its screened veranda, which in season is used for meals, the small den opening out of it—sometimes used as an overflow bedroom—and laundry, servant's room and kitchen, completed the arrangement of the lower floor.

The kitchen, as it appears now, is the really unique corner of the house. It is blue and white; a grayish-white rough plaster with a frieze of blue flamingoes and trees, stenciled upon it. The wood-work is a china blue, the closets blue with tree design in white, and the floor-covering blue and white tile-linoleum. The pump at one end of the sink, and the draining-board for dishes at the other end next to the closet, simplify the work and save steps. Lately a fireless cooker has been added, likewise painted blue, and rolled under the draining-board to be out of the way.

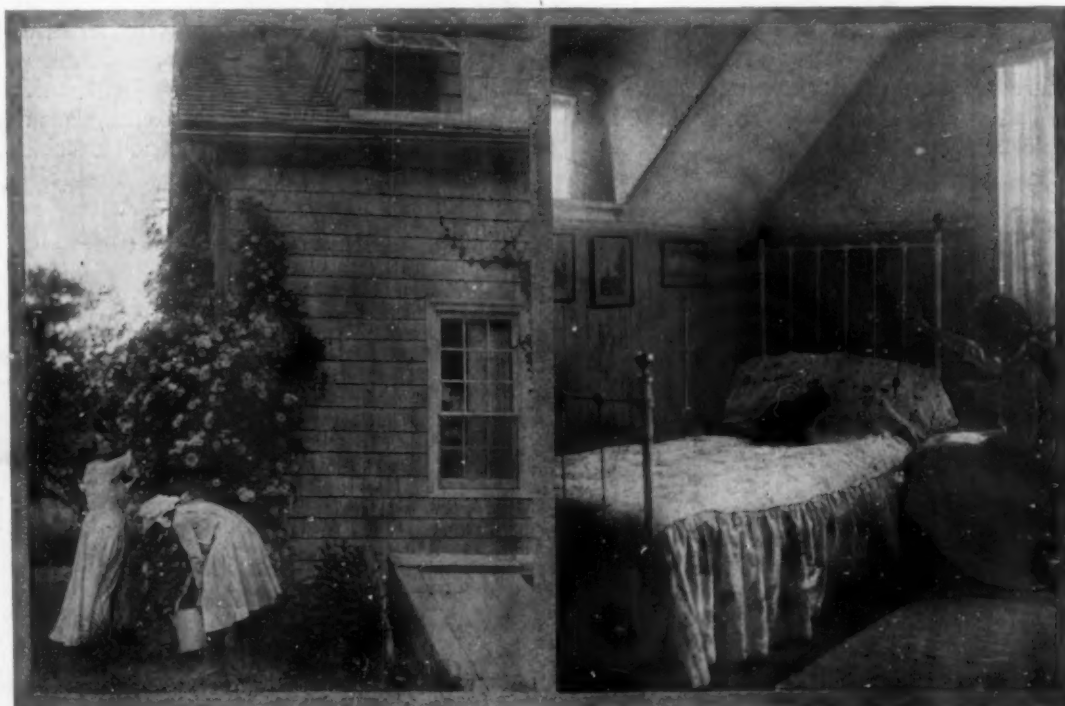
The decorations also showed the same selection, first of utility and then beauty. The rough plastered walls of the living-room were treated with a neutral greenish tone that would not tire one. The chimney was left in the original rough brick and the floor painted a harmonious dull-red tile color. The dining-room, being small, was painted white, and had its Colonial character increased by old articles taken from other parts of the house—a corner-cupboard made of sheathing, and shelves for dishes around the top of the room, which were formerly the little old wooden mantel-shelves. The colored plates and jugs now rest on these, forming

the most fitting kind of decoration. Over the mantle is a mirror, the panels on the side painted directly on the glass. The curtains in this room, as well as throughout the house, are made of unbleached cotton and stenciled with water-color mixed with white of egg and then ironed. This sets the color and it never comes out, even in the wash.

Since the strictest economy had to be maintained, (Continued on page 470)



The new kitchen is one of the most attractive parts of the remodeled house, with its rough gray plaster and stenciled frieze



In the gardening end of the remodeling activities the aim is to preserve the informal and simple flavor of the garden that surrounded the home long ago

The addition of dormer windows in the front roof was and always will be a difficult problem. It was, however, the only way of lighting the bedrooms adequately

Achieving Distinction in Summer Hangings

THE NEED FOR SOFTENING THE LINES OF THE MODERN WINDOW OPENINGS, TOO OFTEN MERE HOLES IN THE WALL—METHODS OF HANGING AND THE AVAILABLE MATERIALS

THE modern window, with its huge panes of glass and simple framework, makes an insistent demand for curtains. Without curtains windows of this kind give a blank, staring appearance to the room and also a sense of insecurity in having so many holes in the walls. The beautiful windows of the seventeenth and eighteenth centuries in Italy, England and France, give no such feeling of incompleteness, for their well-carved frames and over-windows, and their small panes of glass, were important parts of the decorative scheme. Windows and

doors were more than mere openings in those days, but things have changed, and the hard lines of our perfectly useful windows get on our nerves if we do not soften them with drapery. In that hopeless time in the last century called "Early Victorian," when black walnut reigned supreme, the curtains were as terrifying as the curves of the furniture and the colors of the carpets. Luckily most of us know only from pictures what that time was, but we all have seen enough remnants of its past glories to be thankful for modern ways and days. The over-draped, stuffy, upholstered nightmares have entirely disappeared, and in their place have come curtains of a high standard of beauty and practicality—simple, appropriate, and serving the ends they were intended for.

The effect of curtains must be taken into account from both the outside and the inside of the house. The outside view should show a general similarity of appearance in the windows of each story, in the manner of hanging the curtains and also of material. The shades throughout the house should be of the same color, and if a different color is needed inside for the sake of the color scheme, either two shades should be used or they should be the double-faced kind. Shades should also be kept drawn down to the same line, or else be rolled up out of sight, for there is nothing that gives a more ill-kept look to a house than having the shades and curtains at any haphazard height or angle.

And now to "return to our muttons." The average window needs two sets of curtains and a shade. Sometimes a thin net or lace curtain, a "bonne femme," is hung close to the glass, but this is usual only in cities where privacy has to be maintained by main force, or where the curtains of a floor differ greatly. Thin curtains in combination with side curtains of some thicker material are most often used.

Curtains either make or mar a room, and they should be carefully planned to make it a perfect whole. They must be so convincingly right that one only thinks at first how restful and pleas-



When sash curtains are used in this way the upper one should cover the rod of the lower

BY LUCY ABBOT THROOP

Photographs by Jessie Tarbox Beals and Others

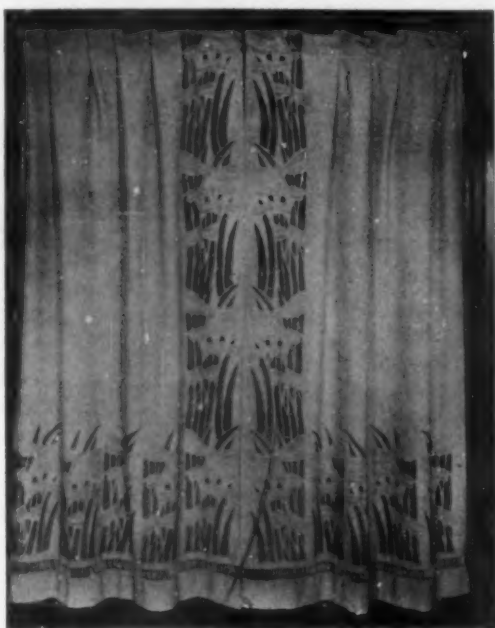
fascinating fabrics that may be used in any room of the house. The ready-made curtains are also most charming. There are muslin curtains with appliqué borders cut from flowered cretonne; sometimes the cretonne is appliqué on net which is let into the curtain with a four-inch hem at the bottom and sides. A simpler style has a band of flowered muslin sewed on the white muslin, or used as a ruffle. It is also added to the valance. There are many kinds of net and lace curtains ready for use that will harmonize with any kind of room. Some of the expensive ones are really beautiful examples of needlecraft, with lace medallions and insertions and embroidery stitches.

When it comes to the question of side curtains the supply to choose from is almost unlimited, and this great supply forms the bog in which so many are lost. A thing may be beautiful in itself and yet cause woe and havoc in an otherwise charming room. There are linens of all prices, and cretonnes, both the inexpensive kind and the wonderful shadow ones; there are silks and velvets and velours, aurora cloth, cotton crêpe and arras cloth, and a thousand other beautiful stuffs that are cheap or medium-priced or expensive, whose names only the shopman knows, but which win our admiration from afar. The curtains for a summer house are usually of less valuable materials than those for a winter house, and this is as it should be, for winter life is usually more formal than summer life. Nothing can be prettier, however, for a country house than cretonne. It is fresh and dainty and gives a cool and delightful air to a room. Among the many designs there are some for every style of decoration.

The height and size of a room must be taken into account in hanging curtains, for with their aid, and also that of wall paper, we can often change a room of bad proportions to one of seemingly good ones. If a room is very low, a stripe more or less marked in the design, and the curtains straight to the floor, will make it seem higher. A high room can have the curtains reach only to the sills with a valance across the top. This style may be

ant and charming the whole room is; the details come later. When curtains stand out and astound one, they are wrong. It is not upholstery one is trying to display, but to make a perfect background for one's furniture, one's pictures and one's friends.

There are so many materials to choose from that all tastes and purses can be suited. Nets begin at about twenty cents a yard and go up to two or three dollars; scrims and batistes also vary in price; then there are cotton and silk crepes, muslin or dotted Swiss, cheese-cloth, soleil cloth, madras, and a host of other



Stenciling curtains for summer use requires very little labor, considering the effects obtainable

used in a fairly low room if the curtain material is chosen with discretion and is not of a marked design. If the windows are narrow they can be made to seem wider by having the rod for the side curtains extend about eight inches on each side of the window, and the curtain cover the frame and a part of the wall. This leaves all the window for light and air. A valance connecting the side curtains and covering the top of the net curtains will also make the window seem broader. A group of three windows can be treated as one by using only one pair of side curtains with a connecting ruffle, and a pair of net curtains at each window. Curtains may hang in straight lines or be simply looped back, but fancy festooning is not permissible. There is another attractive method of dividing the curtains in halves, the upper sections to hang so they just cover the brass rod for the lower sections, which are pushed back at the sides. These lower sections, which have the rod on which they are run fastened to the window-sash if one wishes. They will then go up with the window and of course keep clean much longer, but to my mind it is not so alluring as a gently blowing curtain on a hot day. I have seen a whole house curtained most charmingly in this manner, with curtains of unbleached muslin edged with a narrow little ruffle. They hung close to the glass and reached just to the sill with the lower part pushed back at the sides. The outside view was most attractive, and the inside curtains varied according to the needs of each room.

Casement windows should have the muslin curtains drawn back with a cord or a muslin band, and the side curtains should hang straight, with a little top ruffle. The muslin curtains may be left out entirely if one wishes. Net curtains on French doors should be run on small brass rods at top and bottom, and the heavy curtains that are drawn together at night for privacy's sake should be so hung that they will not interfere with the opening of the door. There should be plenty of room under all ruffles or shaped valances where the curtains are to be drawn to allow for easy working of the cords, otherwise tempers are liable to be suddenly lost.

All windows over eighteen inches wide need two curtains, and the average allowance of fullness is at least twice the width of the window for net and any very soft material, while once and a half is usually enough for material with more body. Great care must be taken to measure curtains correctly and have them cut evenly. It is also a good plan to allow for extra length, which can be folded into the top hem and will not show but will allow for shrinking.

Stenciling can be very attractively used for curtains and portieres for country houses. Cheesecloth, scrim, aurora cloth, pongee, linen and velours, are a few of the materials that can be used. The design and kind of material used in a room should be

(Continued on page 476)



Cretonne steadily gains favor. For French windows, have the main rod long, to keep the curtains back from the opening



There is a pseudo-valance here—a short length of cretonne hung on the same rod



The shaped valance is coming into favor again. Allow plenty of room inside of it



Occasionally the side curtains extend to the floor rather than only to the sill line



The strangely fascinating calceolaria is one of the many things that may be carried over the summer in the sand-box to bloom next winter indoors

Summering the More Tender House Plants

BY IDA D. BENNETT

Photograph by R. R. Raymoth

WHAT to do with the house plants during summer is often a vexing question. Even where there is a greenhouse or conservatory it is of little practical assistance during the hot summer months, when the glass creates a temperature inimical to the interests of anything less addicted to heat than the phoenix or a salamander.

Certain house plants, to be sure, may be turned out in the border, or plunged, pot and all, into the ground in some shady place, but there are many other plants to which this half-heroic treatment would mean death or at best a serious deterioration. Among these may be included the cinerarias which may be carried over, the calceolarias, primroses, and all the tender young things which have been started from seed in early spring for the purpose of stocking next winter's window-garden or conservatory.

For all such plants there is but one satisfactory place, and that is a sand-box. To this the treasures of the window-garden may be intrusted with the certainty that the fall will find them in the pink of condition for winter blooming.

The best location for the sand-box is on the east side of the house, where there is also some shade from the south, so that while receiving the morning sun in sufficient quantity to keep the plants thrifty, there will not be so much as to overheat the young and tender ones.

Where the east side of the house affords no convenient place—as when the house fronts the east, there may be found a convenient spot under the shade of a tree whose foliage is not so dense as to shut out the sun and air too much. Such a position will often give very good results, but no position should be chosen which is entirely devoid of sunshine during at least a portion of the forenoon.

Any shallow box may be converted into a sand-box, or one may be kept in it; for many plants four inches would be amply deep, than six or eight inches deep, according to the plants that are to be kept in it; for many plants four inches would be amply deep. It should be of a width convenient to reach across when sitting in a chair beside it, for much time will be spent here attending to the wants of the plants, as its convenience, accessibility, coolness and fascination tempts one to linger in so agreeable a nook, and insures to the plants a care they would not receive elsewhere.

When specially constructed for the purpose it may have a lining of zinc to insure its being watertight and also to add to its longevity. Boxes constructed wholly of wood and kept constantly wet under a hot sun decay rapidly and are, therefore, short-lived; the bottoms warp and curl up and become uneven, much to the inconvenience of the worker. It should, when made of zinc, be fitted with a drain at the bottom for the escape of surplus water in a season of too great humidity, and if the box is entirely of wood but of good and close construction it will be well to make a hole at one corner of the bottom and fit it with a plug for the same purpose.

The box must be elevated on supports of some nature—either permanent legs, a couple of saw-horses or blocks of wood; it must be of a convenient height to sit at when at work, and the space beneath may be utilized for the storing of pots and other paraphernalia that will be needed in repotting and otherwise caring for the contents of the box.

Packing boxes may be utilized for the purpose, and if puttied over the seams and given a coat of paint or some preservative on the inside, will last for several years and give good service.

The outside of the boxes may be made attractive with paint or in some other way. It is sometimes possible to secure lichen-covered wood—as boards from an old fence; some of these are really beautiful and have the advantage of growing more beautiful with age, as the moisture about them tends to the health and growth of the lichens with which they are covered and makes them more attractive than artificial decoration.

The sand-box should be filled with clean white sand—that from the lakes is best; the yellow sand should not be used, as it contains much clay, which hardens when the box happens to become dry and is not desirable. Into this the pots are plunged to the rim and the sand brought up snugly around them. The sand must be kept constantly wet, which maintains a moist, cool temperature around the roots of the plants, and the evaporation of the moisture from the sand's surface creates an atmosphere very conducive to the health of the plant, at the same time tempering the heat of the sun so that the very best conditions for growth exist. I have never seen a plant that would not thrive in this sit-

(Continued on page 474)



Where stone is cheap and not beautiful in itself, a stucco covering for it will result in an effective and durable house. Duhring, Okie & Ziegler, architects



One way of avoiding monotony of a stucco house is to use this material in combination with stone or half-timber. Duhring, Okie & Ziegler, architects

New-Old Possibilities in Stucco Houses

METHODS OF SECURING INTERESTING TEXTURES IN THE SURFACES OF STUCCO WALLS—
LESSONS FROM THE PAST IN ITALY AND ENGLAND—PARGE WORK AND SGRAFFITO

BY HAROLD DONALDSON EBERLEIN

Illustrations by L. H. Dreyer and others, and from "The Art of the Plasterer"

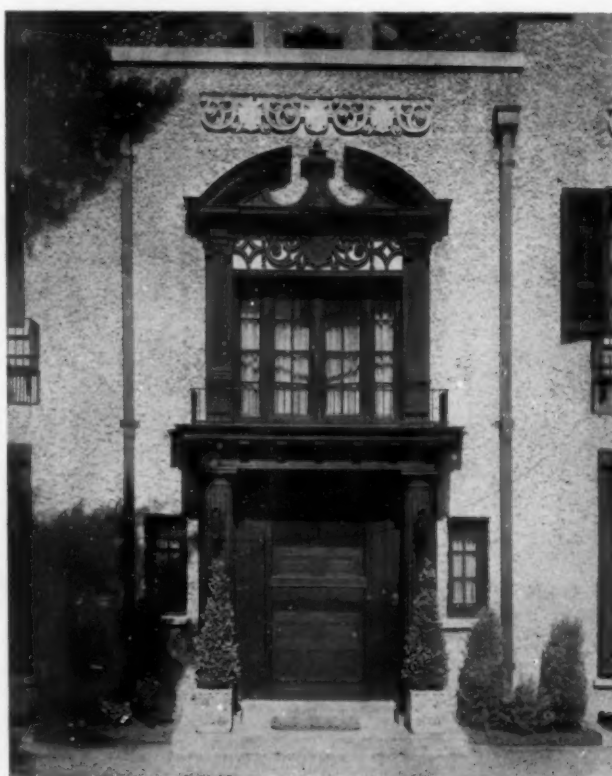
[Two houses that are alike in every respect but the stucco walls, may be almost as dissimilar in appearance as if one were of stone and the other of wood. The best use of wall materials is a subject of as great importance as the architectural style that is to be followed, yet the layman, as a rule, seems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

WE live in a cement age—so we are told repeatedly, and a casual glance in almost any direction confirms it. Cement work of some sort is everywhere in evidence. Not so very long ago ardent cement enthusiasts were confidently predicting that concrete would soon utterly supplant all other building materials, and that brick, stone and wood would scarcely be heard of for structural purposes. Notwithstanding the steadily increasing use of cement, the supplanting has not yet come to pass, nor is it ever likely to, for all the wonted building stuffs have their appropriate uses and their legitimate places from which they will not be ousted. It were well, however, to consider the special fitness of cement and concrete for certain ends, and the prospective house-builder, if he is wise, will thoughtfully ask himself, "Shall I use cement in the construction of my house, in the form of either concrete or stucco?" His answer will be reached after duly weighing the pros and cons, some of them, perhaps, affecting only his own particular case, but others of a more general nature.

Among the manifest advantages of concrete construction are to be reckoned immunity from fire, durability, exemption from frequent repair expenses, such as painting for a frame house or pointing for masonry, comparative evenness of indoor tempera-

ture because of the non-conducting properties of concrete and sundry other desiderata. Against these may be measured some limitations, though several of them are entirely surmountable.

We must understand clearly what we mean by the terms concrete, stucco and plaster. Concrete is a carefully proportioned mixture of cement, sand and gravel, or, in some cases, small stones, combined with a necessary quantity of water. This mixture after being well worked is poured into moulds or forms to harden and, when set, makes a wall of one solid piece. When the mixture is poured around metal rods or meshing, to give additional toughness, it is known as reinforced concrete. A concrete house is understood to be one whose walls throughout their thickness consist of concrete either reinforced or plain. In such houses it is usual to make the interior construction either wholly or in large measure of concrete, thereby rendering them fireproof. The terms stucco and plaster are in a measure interchangeable, each being a coating applied to some other substance as a backing, though it is usual to regard plaster as composed of sand, lime and hair, while stucco, since the advent of Portland cement, has been generally supposed to contain some measure of that ingredient. The old stuccoes were of various composition, but we



An example of moulded and colored cement panels set in a wall of pebble-dash that has been given a wash of thin cement. Oswald C. Hering, architect



Another treatment of a stone wall where the stonework cannot stand on its own merits is to give it a very thin coat of stucco. Duhring, Okie & Ziegler, architects



While we would not choose to employ parge work to such an elaborate extent as here, there are excellent opportunities for its use in belt courses and inset panels

are not now particularly concerned with them. When we speak of a stucco, or a stuccoed, house we mean that a coat of stucco has been applied to the outside walls on a back of concrete, stone, brick or wood. In the latter case metal lathing or wire mesh is usually fastened to the wood and the stucco applied to that. In some instances, instead of metal lath, boards are used for a backing, so grooved that the stucco may "key" into them and gain a hold.

As this series, however, is meant to be mainly suggestive, and has to do with the external appearances and the means by which desired effects may be secured, let us pass by matters pertaining to internal structure without further comment and go at once to the question of wall textures and other visible particulars.

It cannot be denied that many a concrete house, and many a stucco house has an uncompromising, "plain Jane" aspect. They are severe and angular and raw-looking, and besides

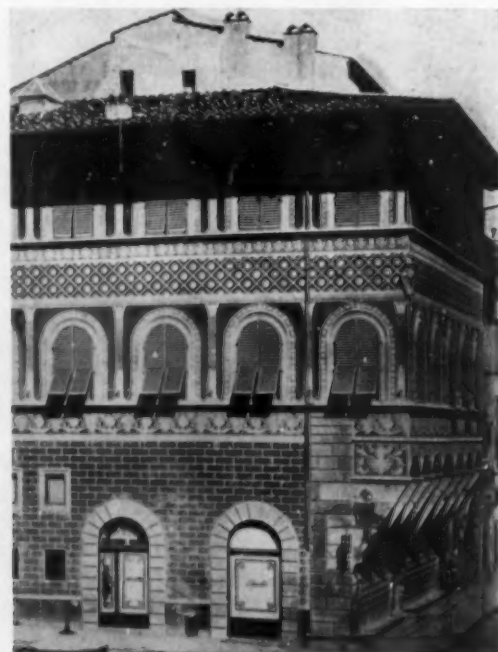


A simpler form of parge work that is more applicable to American needs. The rough panels below the upper windows are pebble-dashed. Note the ornamental bands

have a depressing hue. Naturally, one shies at them. Structural devices have been so far perfected by reinforcement and otherwise as to meet nearly every conceivable engineering requirement likely to arise. By skillful management, cost of construction has been placed upon a reasonable basis. But the bugbear of forbidding angularity, unrelieved by softening details, still confronts us. The failure of concrete construction in domestic architecture to win more general favor has so far been largely attributable to this shortcoming. "Plain Janeness" has blocked the way. If mouldings, lintels and belt courses are resorted to, the cost for special moulds at once soars, sometimes to an altogether prohibitive figure. In domestic concrete work the American public demands something that shall be practicable and reasonable in cost and at the same time meet esthetic requirements. This subject is much in the minds of architects. They are eager for a satisfactory solution and will hail with delight a workable combination of utility and artistic worth. Then, truly, concrete construction will increase by leaps and bounds. Some architects have reached happy solutions of the problems presented them, but they are the exceptions. We are indeed in the infancy of concrete architecture, and in stucco work we have scarcely dipped into the rich possibilities disclosed by the examples in the Old World. A great field of opportunities lies open before our architects, and we may trust their ingenuity to make the best and fullest use of them.

Several sorts of wall texture make possible a degree of variety in the appearance of concrete walls. There is the simple rough dressing after the forms have been removed, giving a surface that someone has facetiously called "a mere inexpressive expansive expanse of smooth smears." The "smooth smears," though, are susceptible of more variation than one might at first suppose, and by no means need be inexpressive. The patina of the wall, its skin, if you like so to call it, may be "roughed" or "pricked up" with a pointed tool made for that purpose. If the "smooth smeared" finish of a concrete wall is "pricked up," while still sufficiently "green," a regular pattern may be carried out. This plan

has been resorted to in some old English plaster houses. The effect is good. Another method of treatment is to



An example of sgraffito work—the top coat of light plaster is scratched away in parts to show the darker color below

scour the wall so that the aggregate (the broken stone or gravel) may be exposed by the removal of all the superfluous small particles of cement. A good deal of variety can thus be gained. Then again, the wall may be "smooth-washed," or it may be "sand-floated," a finish that produces great uniformity of appearance though it sometimes gives the impression of sandpaper, or, last of all, it may be "pebble-dashed." Good pebble-dashing is highly desirable. The rough surface has great light-absorbent qualities and, in a bright climate, tones down the lines of the building and prevents the general effect of glaring hardness. Pebble-dash, too, offers an exceptionally good holding surface for any colored wash that it may be expedient to apply. One architect has achieved a particularly pleasing result with a pebble-dashed concrete wall by having the workmen go over the whole surface with whitewash brushes dipped in a wet mixture of cement and water. He has thus secured a beautiful, mellow gray.

There can be no doubt that modern architecture will undergo certain modifications because of the increasing use of reinforced concrete as a building material. Concrete architecture, we may be sure, will not follow the lines of stone or brick masonry, nor the lines of steel or wood structures, except where identical principles of construction compel it to do so. Utility and necessity will be the two chief determining factors of its future. Being cut off by considerations of cost from mouldings, string courses and other natural forms of ornamentation for the builder in stone, brick or wood, the concrete architect must perforce find some other means of expression, and compulsory simplicity will doubtless bring about a more serious study of the resources and requirements of artistic proportion and beauty of simple form and lines. In contemplating this impending change we should bear in mind that there are already certain well-developed styles of architecture that can most readily be translated into concrete and adapted to expression in that material. Some of the old Italian buildings furnish us with excellent examples in this respect.

While the architect of a concrete house is deprived of many devices of ornamentation by the limitations of his material, nevertheless some avenues of decoration are wide



The Loggia degli Innocenti, Florence—the typical Italian architecture in which the use of stucco is particularly suitable



The smooth cement base, belt course below the second-story windows, and the recessed panels below the arches, give the house its character. O. C. Hering, architect



The frieze protected by the deep overhang of the roof was secured by stenciling with cement washes in subdued colors. Louis Boynton, architect



Another instance of the English parge work where the detail, however, is rather heavy. Compare this with modern work at bottom of page 443

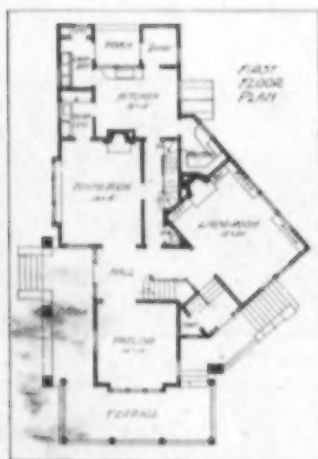
open to him. Countersunk panels he can use to advantage, while moulded panels, either plain or judiciously colored, make an agreeable and striking relief to the monotony of the wall. Colored tiles and mosaics, too, may be used in the bed of the wall. The prevailing neutral gray of concrete walls forms an excellent foil for colors, and it is to be hoped that our present foolish timidity about their use may soon be a thing of the past. Even where neither color nor

moulded panels are used, plain countersunk panels, finished with a face different from the rest of the wall, afford a welcome diversity. Good results from the use of pillars, also, are always possible.

When we turn to stucco we find a bewildering number of ways in which it may be legitimately and effectively employed. In combination with timber, brick and stonework it is entirely satisfactory. It is when it is used as a complete outer coating over stone, brick or tile that the danger of aus-
(Continued on page 474)



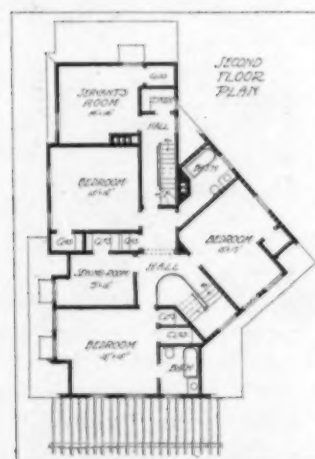
Owing to the peculiar features of the sloping site, Mr. Wadsworth's house is an interesting example of the irregular plan—something that is not often seen in houses of this moderate size



All the irregularity is taken up in the hall and pantry



It will be noticed that there are two main entrances, each of which leads into the hall



The angularity is confined to hall and bathroom



Even with its radical departure from conventional right-angledness, the hall, with its landing at the turn of the stairs, is by no means displeasing

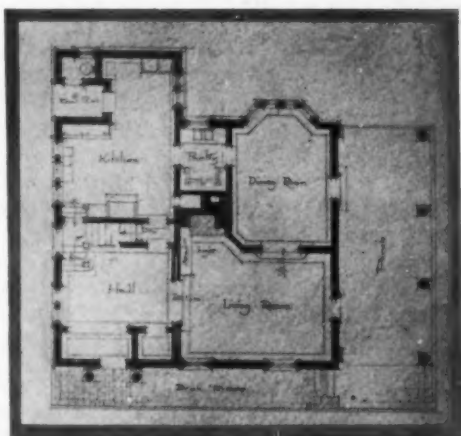


Beyond the dining-room at the right lies the screened piazza, reached by a doorway that has replaced the window shown in the plan

THE HOME OF MR. DEXTER E. WADSWORTH, QUINCY, MASS. *J. Sumner Fowler, architect*



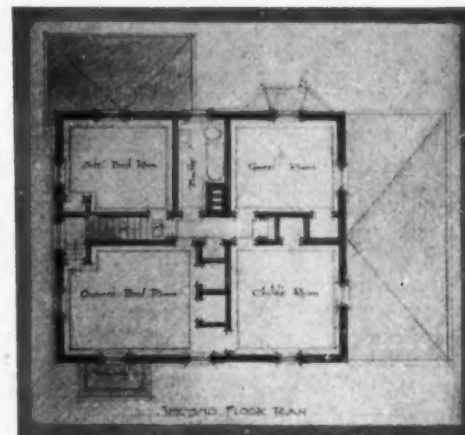
There is no question as to the desirability of stucco for the summer home among the trees. No other material for the walls seems so cool and inviting



A plan nearly square and with but one chimney—the most economical type

THE HOME OF
MR. EDWARD F. BEALE
STRAFFORD
PENNSYLVANIA

*Mellor & Meigs
architects*



Waste space in the upper hall has been brought to the irreducible minimum



The recessed fire-corner, made necessary by the one chimney, rather adds to the living room's attractiveness



The door on the landing leads down into the kitchen—making one staircase serve the house



Garden Suggestions and Queries



Conducted by
F. F. ROCKWELL

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

June

IT'S hard to stay and work in a hot and dusty garden these June days, when the white roads point away to wooded hills or the cool recesses of a vine-shaded veranda invite all one's spare hours. It seems time to pause in garden work; and it is—but not to loaf. It is time to pause and check up your work, and to take stock for late summer's and for winter's supply of vegetables.

In the Flower Garden

ATENTION must be given to all the little seedlings that will be coming along from seed sown last month. Whether they are in the seed-bed or in their permanent places, they must not be allowed to get too big before thinning, and without thinning it will be impossible to get thick stocky plants, that will give satisfactory results when put in their permanent positions. Sorts that tend to run up into one straight stalk should be pinched back a third or a half when they are budded, to induce a branching growth.

Do not neglect to stake plants that are apt to become bent or "lodged" by wind and rain, especially when they are planted in exposed positions. Chestnut stakes, one-quarter to one inch in diameter, may be had cheaply of any local milling company, and cheaply cut in desired lengths, pointed and painted at home. Painted green or white, and used with raffia—either in its natural brown color or dyed green—they make neat, inconspicuous supports and by being stored under cover in winter will last many years.

Do not overlook the fact that it is just as necessary to maintain a soil mulch, by frequent cultivation, in the flower beds, and even around isolated plants, shrubs and vines, as it is to properly cultivate the vegetable garden. Light dressings of nitrate of soda, or of liquid manure, will often produce surprisingly good results.

Getting Plants from Left Overs

HAVE you any Begonias? If so, take some of the leaves and after making several inch cuts in them lay them on a box of coarse sand, dampened, and in the

course of a few weeks you will have a new plant from each place of incision. This is mighty interesting and profitable work. Or have you any dracenas that have been doing poorly? Cut up the stem into several pieces and bury them in coarse sand that is kept damp, but never too soggy. Each piece will give you a new plant. Boston Fern also multiplies very rapidly. An old plant that is going back should not be doctored. One young plant is better than a dozen old ones. Separate the old plant and pot the divisions. Then during the summer plunge them out in the ground and see that the little runners that they throw off have a smooth piece of ground to spread on. From these runners dozens of new plants will spring up. This is the way to get new thrifty plants.

Are there any hydrangeas in the cellar? Take some cuttings and start them



It is not too late to plant bulbs of the gladiolus which will well repay your trouble

in sand. They will take hold without any trouble and later the small plants can be set out for the season and by fall will be worth looking at. This is a cheap way to get a stock of hydrangeas. There is no difficulty about it; it is just as simple as the directions I give.

Do you admire the Boston Ivy? You can have all you want by taking cuttings and starting them in loam. They root easily.

Saved any cannas? If so separate them and either pot each piece or put them all in a shallow box with loam. If you haven't any and would like a beauty, buy a couple of clumps of King Humbert and separate them. One good sized clump will give you many plants, for each tiny piece will make a new plant. All that is necessary is to have an eye in the piece.

One thing you can do in the seedling line is to start some *Grevillia robusta*. The seed is very cheap and the methods of propagation are very simple. The plant is most beautiful and not used as generally as it should be. Start the seeds in shallow boxes and pot the seedlings when sufficiently large. The resulting plants will more than please you, for they grow very rapidly and the fern-like markings of the leaves make them seem almost fragile, but, on the contrary, they are really tough. They are to be recommended highly for a house plant and will weather conditions that the ordinary palm would go down under. I have had a couple in the house this winter and their keeping qualities certainly surprised me. They are most attractive. Take three or four small plants and put them in a large pot with a larger plant for a centre and you will have a stunning combination. There is no mystery about starting them. Just sow the seed as you do any other seed and results will speedily come. L. D.

Cultivation of the Gladiolus

IN cultivating the gladiolus the first consideration is to obtain fine varieties from the florists, or of your neighbor who makes a specialty of this popular flower. A study of reliable floral catalogues will help in the selection.

A friend of the writer is in love with this

culture, and plants, each year, three hundred of the choicest bulbs for her own private use. She did not purchase this amount to begin with, but she let them multiply, saving the corms each year, until now she has the above number of bulbs.

The gladiolus is not over particular about soil; a light, loamy, rich soil, and considerable moisture suits it well. Plant rather deep, from four to five inches; they are less liable to need support; but if the soil is heavy, not so deep. Set the bulbs two inches apart in the row, and the rows six inches apart.

The time of planting may vary with circumstances. If a succession of bloom is desired, plant the first as soon as the ground is in good condition, and not in danger of a hard frost—the plants withstand a light frost—a light covering will prove a safeguard, if caught by a severe frost.

With the first planting do not use the largest bulbs; keep them for the second or third planting, as the larger bulbs withstand the dry heat of summer better than the smaller ones. This succession of planting, with a two weeks' interval between, may be continued profitably as late as the middle of June, or even later, according to some specialists, but the months of August and September being notably hot and dry, the later plantings are much more likely to be less luxuriant, unless moisture is plentifully supplied. With these later plantings it is not difficult to find places, as some early vegetable has been used, leaving vacancies which can be utilized in this way.

It is better to plant the gladiolus in beds, or groups, rather than in rows, as the plants help to sustain each other; but where they must be supported, tie to a stake carefully placed at the side of the



Why not use part of this spring in propagating from your old plants? *Pandanus Veitchii* can be sprouted in damp sand



Leaves of *Begonia Rex* root easily if given several inch cuts and spread carefully on damp sandy earth



Leaf propagation is one of the most interesting of garden practices. *Begonia* leaf showing the roots starting from the incisions

bulb, or place stakes at intervals around the bed, and wind a strong cord around, which will keep the heavy stalks from falling outside the bed. Some prefer to nail strips of lath to the top of the stakes, and wind twine over the top both ways, forming a small square for the spikes to pass up through, which steadies them against the wind.

For bouquets cut the stalks when about half grown; they develop in water until the last bud is open. With this kind of cultivation the gladiolus will prove a joy through the summer. To continue it from year to year great care should be exercised in removing and storing the bulbs and little corms or bulblets for the increase of desirable varieties, remembering to give new locations for each year's planting, to avoid deterioration. At least one year should intervene between bulbs occupying the same ground.

Harvest the bulbs before severe frosts, keeping your varieties separate as much as possible; put in a cool, dry place for drying out and fully maturing. Cut off the tops and store the bulbs in shallow boxes and baskets in a cool, dark cellar, being careful not to pile them much. Plant the little sets thickly in the spring, very much like sweet peas, and you will be rewarded the following year with much added bloom.

M. A. NICHOLS

In the Vegetable Garden

IT is time now either to plant or to start the last crops, and the tender ones which cannot safely be put in until settled warm weather has come to stay. These crops may be considered in three groups. (1) Vegetables to be started, such as cabbages, cauliflower, endive, kohlrabi, lettuce, broccoli, Brussell's sprouts, kale and second transplanting of late celery. (2) Vegetables to be sown or planted, that should not with safety be put in during the first half of May—pole beans, lima beans, pole limas, eggplant, okra, peppers, melons, pumpkins and squash. (3) Succession or last plantings of early vegetables for fall and winter use—such as beet, carrot, corn, cucumber, tomato, kohlrabi, lettuce, peas, radish and turnip.

Vegetables to be Started

AT this season of the year, when the ground is often dry as dust, and no rain may fall for weeks, more care will be needed to get seedlings of cabbage, lettuce, etc., started along than was required in early spring, when everything that can grow pushes up to the light. If empty coldframes are at hand, they will make a good place for starting such seeds. Put in several inches of clean fresh earth, run through a quarter-inch screen. If it is heavy, lighten by mixing with it a sufficient amount of leaf-mould and sand. If no coldframes are available, make a bed in a convenient place where it can be watched and watered if necessary. A bed four feet wide and ten feet long will give sufficient space for starting several hundred plants.

A day or two before you are ready to
(Continued on page 454)



A cutting from a rubber plant with the roots which it has developed within two weeks after planting



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

Rugs for Bungalows

AN excellent rug for use in the country house or bungalow is the Caledon Rug. This rug is made in Scotland, of wool, the dyes of which are sunproof. They cannot be absolutely guaranteed against continuous strong sunlight, but the effect, if a little fading does take place, is rather more desirable than otherwise, as it only softens the whole effect, blending one tone into another. However, they may be safely called "unfadeable," as the change, if any, is very slight, merely harmonizing the whole.

Another very desirable feature of the Caledon Rug is that it can be made to your own colors. It is sometimes difficult in carrying out the color scheme of a room to provide a floor covering that will harmonize with the other furnishing, but in the case of these rugs you can submit water color slips of the three main colors of your room, designating which is to be the body color, the color of the design, and the outline color. These must be judiciously arranged so that the main color will be soft and unobtrusive. If a brilliant color is used, have it for some small pattern of the design. A soft buff or tan is usually the best color for the outline and with the two intermediate tones made by the interweaving of the three principal colors, the effect will be of a five-color rug.

Caledon Rugs are made in various patterns, some with all-over designs and others with a plain background with a wide border for large rugs, or a narrow border, scarcely more than six inches, for small rugs. No rug is woven less than one yard wide, and these, made in any length, are for halls or bathrooms. The designs are running flower patterns or repeating patterns

of conventionalized flowers in charming art nouveau designs.

These rugs are particularly appropriate for a summer cottage or bungalow. The weave is close and firm, so the rugs are a good weight and are very easy to keep clean, a sweeping with the carpet-sweeper every day maintains them in excellent condition. The permanence of the colors is a very desirable quality for the rug that is exposed to much sunshine, as all furnishings of a summer house are very likely to be.

One would imagine that a made-to-order rug would be very expensive, but these wool rugs are cheap enough. The price is reckoned at \$4.00 a square yard for the lighter weight, or \$6.50 a square yard for a very heavy weave. This makes the lighter weight rug, which measures 9 x 9, cost \$36.00, or \$48.00 for a 9 x 12 rug—and so on. The lighter weight rug is usually preferred. The Caledon rug can be woven almost any size. There are a few sizes for which looms have not been provided, but many more than the regular stock sizes are to be had in these made-to-order rugs.

Perhaps the very best feature of all is that the rug made to your order and color scheme is not to be seen in every store or other homes. You have something distinctive, and the stranger on entering your home knows that you have given time and thought and personal attention to the furnishing of your house.

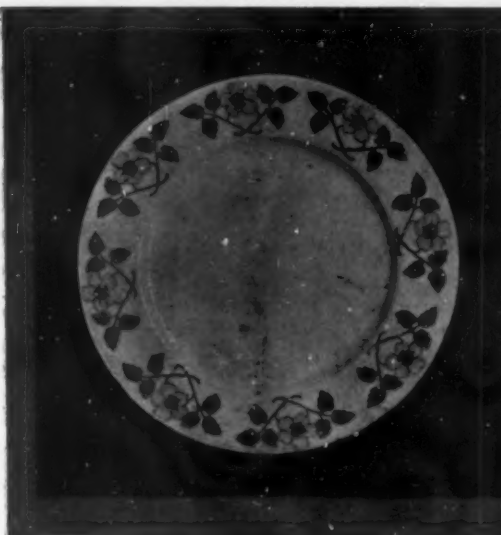
There are more expensive and more elegant rugs which may be made to your own design as well as color scheme. A very heavy hand-tufted rug made in Ireland is called the Donegal and costs from \$15.00 to almost \$100.00 a square yard. A little less expensive rug which may be made to order in color and design is a Scotch axminster, which costs from about \$12.00 to \$50.00 a square yard.

A Spring Cleaning Suggestion

HOW many times do we hear, "Oh, I wonder what I can do for this stubborn drawer"? It may be either in the bureau or the buffet, or the desk or in the kitchen cabinet, yet the person who makes the impatient exclamation is generally the one who forgets in the next minute



A rug which can be woven to order for you in colors and designs to match the rest of the furnishings. This border matches the freize on the wall paper



A plate of the unbreakable Swedish ware so serviceable for the rougher usage of the summer cottage



A most attractive plate with a Dresden pattern, inexpensive yet dainty and delicately colored

only to make the same comment on the very next occasion the self-same drawer has to be opened. A little of the common yellow soap rubbed along the grooves on which the drawer slides and on the edges of the drawer itself would eliminate the trouble.

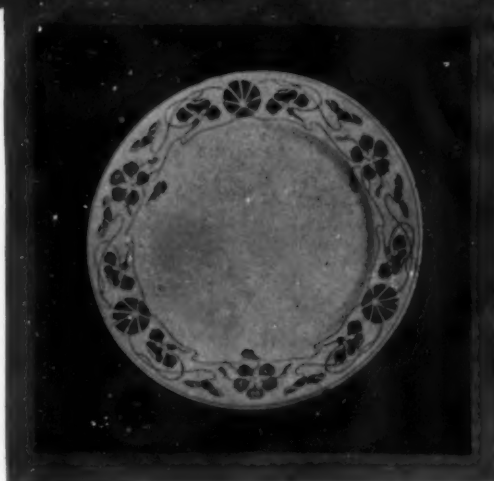
China for Summer Cottages

OF all the china especially designed for the tables of summer cottages and bungalows none is prettier or more serviceable than the Swedish ware, which is said to be as nearly unbreakable as it is possible for china to be. It is noticeably light in weight, but quite tough, owing to the large amount of bone used in making it, and the decorations are in pale yellows and pinks and greens, just the colors for summer use. As it is an open-stock china, sold by the piece and not by the set, any quantity may be had, and pieces that are broken can readily be replaced.

Another style that is dainty and promises to be popular is patterned after the familiar Dresden china, and, while inexpensive, does not look cheap, as so many imitations do. It shows tiny flowers in the most delicate of colorings placed singly on a plain white ground, with sometimes a thin line of gold around the edge of the plate. Most of the new china shown this season is in fact distinctly simple in decoration and dainty in color, as opposed to the large figures in rather gaudy reds and blues that decorated the cottage ware of a few seasons ago.

The plain white china ornamented with a gold rim, which is much used and always suitable, may be had in various qualities and at prices to correspond. There are of course some people who prefer to keep to a standard pattern in white and gold or blue and white for summer use, but somehow a design of flowers with just a bit of color seems rather more attractive for the season of recreation and outdoor pleasures.

By way of novelty for the blue and white enthusiasts the well-known pat-



The upper picture shows a beautiful Adam design in green; below is a tasteful nasturtium motif in yellow, brown and green

terns that have been used for generations are reproduced with additional decorations of gold. One of the more expensive sets shows the familiar willow pattern; lovers, doves, irate father, bridge and all, in a rather deep blue intermingled with an elaborate design done in gold, producing an effect that is decidedly rich. The idea is not confined to the more expensive china, however, for many of the cheaper sets in blue and white are ornamented with just a touch of gold to bring out the blue.

A moderate-priced ware that seems particularly suited to summer use on account of its durability as well as the fitness of its decorations is the yellowish china with a design in a flat stenciled effect. Heretofore the pattern has been one of poppies in plain green or a combination of green and red, but a nasturtium design, new this season, is even more satisfactory than the poppies. The nasturtiums, yellow with brown centers, are wonderfully natural-looking, and with the green leaves on a cream ground they make one of the most desirable patterns, either for the small bungalow or the country house.

One of the newest patterns has a particularly cool and summer-like appearance, owing to the several shades of green that are cleverly worked into the decoration. The irregularly-shaped edges are outlined in

dark green, while a design composed of medallions and festoons of the tiniest leaves in lighter greens ornaments the rims of the plates and the sides of the other pieces.

Practically all of this china for summer use is to be had in any desired quantity as well as by the set, and much of it is inexpensive. A set of one hundred pieces of an exceedingly attractive design may be had for \$25 or \$24.75 to be exact, and from that figure the prices go up to \$100 and over.

The Finest Furniture Polish

ACCORDING to the best cabinet-maker in our city, the best possible furniture or piano polish is composed of equal parts of sewing-machine oil and vinegar. It will remove white marks caused by heat and dampness, and both cleans and polishes the wood.

A friend of mine keeps her piano like new by wiping it with a chamois skin wrung out of cold water, doing but little at a time, and drying immediately with a soft cloth. This is good, but the oil and vinegar does more than cleanse.

Protection for Wall Paper

I HAD often wanted to rearrange the pictures in the various rooms of my house, but owing to the unfaded and especially bright condition of the paper underneath them I was obliged to let them remain in their usual positions.

This spring I have had my rooms done with fresh paper, and while the paper-hangers were at the house they told me that if I would put a push-pin in the wall at each corner of the lower edge where the picture rested on the paper, I would overcome this unsightly condition of the paper underneath. The glass-headed push-pins cause the picture to remain out a little way from the wall, allowing the air to circulate all around it, thus keeping the condition of the paper even.

Ingenious Devices

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

When the Drain is Clogged

TO remove the obstruction from the clogged-up drain pipe of a sink, first dissolve in one-half gallon of boiling water a sufficient quantity of any good soap powder to make a strong suds. Pour the solution into the drain pipe, and open the faucet, then while the water is running place the palm of the hand over the mouth of the pipe and pump up and down in such manner as to cause suction through the pipe. The obstructions will usually soon be removed.

J. J. O'C.

How to Take Up Flooring in the House

WHENEVER it is necessary to take up a section of flooring for any purpose, whether it be to lay steam or hot water heating pipes, or gas or electric light wires, the careful housewife is in despair for the safety of her floors, especially, as is often the case, they are of fine wood, carefully stained and polished. Few workmen understand the art of doing this. The following hints were gleaned from the experience of having some work of this kind done about the house.

One method is simply to destroy lengths of flooring, using new materials to cover the opening. This method will be found very expensive in the end. It will require an endless amount of an expert painter's time to darken the new material to match the old. It is, however, the common method of doing the work.

A far better plan is the following, which takes but little time. Briefly the idea is to cut the tongues from two strips of flooring laid side by side, which will allow them to be removed without any injury. If done in the following manner, when it is relaid, no injury is noticeable. A very fine chisel, about one-half inch wide, is inserted between the strips of flooring at their ends and driven down with a hammer until the tongue is cut through. Then a "key hole saw" is used, and the tongue cut as far as the first beam. The saw is held at quite an angle when cutting the tongue. It is necessary of course to use the chisel again on the side of each beam opposite the saw. When the tongue has been cut as far as necessary on one strip, that on the strip next to it is also cut. Then at the ends of both the strips the chisel is driven through at an angle and the saw inserted and both pieces cut.

It is obvious that when they are laid in place again, and nailed, and a little varnish of the right color applied, that where they have been taken up is scarcely noticeable. I have discovered some very poor work where other methods were employed. To start the hole for the saw to be inserted a bit and brace was used to bore a hole! In another house, after the

strips had been removed, another wide strip was put down instead, of course spoiling the appearance of the floor. With the method above described I have known fine flooring to be removed, and after it was replaced it was difficult to locate the spot, unless a person knew exactly where to look. So many old houses are being wired for electricity that this method is very valuable.

C. K. F.

A Picture Frame Suggestion

MANY old-fashioned picture-frames are spoiled by over-decoration; either too great width or a combination of wood and gilt carving. Where the outer rim of gilding may be removed, leaving a simple frame of wood, the change makes



A clever method of tree doctoring accomplished by hammering lead sheathing over the cut limb

all the difference between vulgarity and good taste. Often a few strokes of a hammer or the use of a screwdriver will accomplish such amputation with gratifying results.

M. E. S. H.

A Camp Cupboard

SOME fellow-campers filled me with envy at sight of their two fine cupboards. These proved to be simply boxes with one side made into a door and attached with leather hinges. Inside, cleats were nailed across to accommodate the light, removable shelves.

For the trips to and from camp, these were merely packing boxes, the shelves being slipped all together into one side. After the stores and bedding were removed, they were "set up," and were the

greatest convenience the camp contained. Leather handles made them easy to lift when full. The boxes were painted neatly.

Camps and rented cottages seldom have adequate cupboard room, while this also disposes of the packing boxes which are often a burden in limited space.

A. M. A.

Starting Rose Cuttings

A LADY unusually successful in starting rose slips gives this as her "secret":

She takes each little cutting, after it has stood a few hours in water to freshen its stem, and makes a ball of clay around the end or joint where the roots will start. This ball she forms with her hands, pressing it as hard as possible, and making it somewhat larger than a baseball. This she plants in the earth just as though it were a bunch of roots. In this way she seldom loses a cutting, and finds she can grow the most delicate varieties.

L. M. C.

Protection from Sun

AFTER having suffered a slight sunstroke, I find it impossible to go into the garden for even a short time without protection. For a very small sum we purchased one of the large umbrellas used for advertising purposes, and my husband wired the handle securely to a stout stick sharpened at the end. Now, when desiring to pick a few berries or vegetables I plant my umbrella, and work beneath its shade without discomfort or fear of injury. This would prove an excellent thing for children who have no shade in which to play.

A. M. A.

Tree Doctoring.

PROBABLY there is no country where there is such a universal interest in gardening as in England. Almost everyone has his garden plot, from the few square feet of the cottager to the wide acres of the landed proprietor. Consequently nearly everyone is proficient in the art, and considerable ingenuity is shown, especially in the trimming of vines and hedges and pruning of trees. The accompanying illustration shows a tree wound and a successful means of doctoring it, practised by an English gardener. Because of the exposed position where the branch was sawed off, something more permanent than a liquid coating was sought for, and a sheet of lead sheathing used. By simply bending this over the amputated branch and hammering with a fairly broad-faced hammer, a hermetical casing of great durability was formed. This was sufficient to prevent decay and allow the natural growth of the tree to proceed unhindered.

A. W. D.

Tarvia

*Preserves Roads
Prevents Dust~*



Westminster Street, West Fitchburg, Mass., constructed with Tarvia

Fitchburg's Experience With Tarvia

FITCHBURG, Mass., has solved the problem of road maintenance and dust prevention. For old roads requiring only a superficial treatment, Fitchburg uses Tarvia B, while for more thorough renewals, Tarvia A is used.

Fitchburg's experience with Tarvia dates from 1908. Three sections of road, aggregating a mile in length, were built with Tarvia A as a binder.

Writing in the Municipal Journal of July 6, 1910, Mr. David A. Hartwell, the City Engineer of Fitchburg states: "The work laid in 1908 has passed through two winters and is in such excellent condition that there is no question about continuing this class of work in Fitchburg."

He also states: "In 1908 about 10,000 square yards of old macadam road in a

number of streets was treated with Tarvia B at an expense of 7.2 cents a square yard.

This work was very successful and highly satisfactory. While such treatment is only designed as a superficial treatment, and was applied as a dust preventive, yet after about two full years of service much of it is in excellent condition.

The abrasion of the stone from traffic is much less and so the life of the road has been lengthened as well as the nuisance of dust largely abated."

Scores of towns have learned the same lesson that Fitchburg has and are using one of the three Tarvia treatments yearly on enormous areas to preserve their roads and prevent dust.

Illustrated booklets regarding same on request.

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Factors

Ambler, Pennsylvania

Garden Suggestions and Querries

(Continued from page 449)

sow the seed, give the bed a thorough soaking, if the soil is dry. Then, when it has dried out to the proper condition (so that it will not be at all sticky or lumpy when you work it), make the drills six inches apart and a quarter to a half inch deep, according to the seeds to be sown. Sow the seed *thinly*. If the ground has been made properly moist, and the seed is good, almost everyone will germinate; and it is better not to have to thin out very much, as the plants remaining are likely to be injured. Five or six seeds to the inch will be enough, if the seed is fresh and strong.

If the weather is very hot and dry it may be necessary to shade the seed-bed until the seedlings break ground. With very fine seed, and with lettuce and celery, the shading is very important. In old cold-frames it is easily given by supporting the sash, a foot or more above the frames, and spraying or sprinkling with a solution of plaster, lime or clay, and water, to make the glass opaque (or light frames, 3 ft. x 6, covered with protecting cloth, are still better. These may be made at a total expense of twenty-five to forty cents, and are useful in many ways).

As the plants grow tall, cut back one-half of the leaves, thus inducing a thick, stocky growth. Keep the bed clean and the surface loose at all times and the day before transplanting, if the soil is dry, give the plants a copious soaking.

THE HEAT LOVERS

Nothing is gained by attempting to start the pole-beans before warm weather comes, but everything should be ready when it does come to give them a quick start and rapid growth. To this end special hills are prepared, by digging out the soil and incorporating old, fine manure. If the sod is heavy, add leaf mould or sand. Sow ten or fifteen beans in a circle, marking a place for the pole—if it is not already in place—and cover not more than two inches deep. When well up, thin out to two or three plants, and watch for the first "runners" which may need to be started up the poles. In sowing limas, try to select a time after rain and when it does not seem likely that one will occur for several days more. Plant with the eye down, and if the soil is at all wet or heavy, cover in the drill with sand, or the light soil from some other place. Okra seed rots very quickly in damp soil. Sow several seeds in a place, making the hills about two feet apart, and thin out to the best plant when well up.

Special preparation of hills for melons and squashes was described in the May HOUSE & GARDEN. In growing the vine vegetables the best way to fight the various bugs which are the special enemies of these plants, is to use bottomless boxes eighteen to twenty-four inches square, and eight inches deep, covered with mosquito wire netting, or protecting cloth. For further information about fighting these and other plant pests read the article on page 424 of this magazine.



Choice Plants and Shrubs

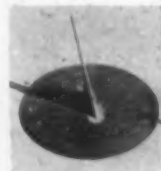
Before selecting anything in the line of trees, plants or shrubbery for your suburban or country home, you should visit our nurseries or send for descriptive catalogue which we send free.

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For peppers, and especially for egg-plants, the ground cannot be made too rich. They should be put firmly in specially prepared hills, and, unless the ground is very rich, enriched with liquid manure, hen-manure, guano or cottonseed meal. It will be well, if possible, to keep them within reach of the hose, as the egg-plants especially will need plenty of moisture to mature large fruit. Most persons still have the idea that peppers are just as hot as they sound, but the new large mild varieties, such as Ruby King and Chinese Giant, are, when well grown, so thick and mild that they can be sliced and eaten like cucumbers or tomatoes. To those who are not yet familiar with their merits, they will prove a revelation.

In growing egg-plants the worst enemy is the potato bug. Use arsenate of lead and other remedies suggested on page 425.

SUCCESSION AND LATE CROPS

In sowing succession and winter crops, by seed, be exceedingly careful in hot weather to make the seeds firm in the soil. After sowing, press down into the furrows or drills with the edge of a board or the sole of the foot, before covering. If using a seed drill, sow from half again to twice as deep as in spring.

Beets may be sown until August. Give a good rich soil and sow two inches deep in rows fifteen to eighteen inches apart. Carrots, to be on the safe side, should be in by June 15, and for the first few weeks great care must be taken not to let the weeds, which grow very quickly in the hot June and July days, get a start and smother them out. In the first stages of growth the plants are very small and weak, but once they get a good start, if ordinarily good culture is given, there will be no danger from weeds. The soil should be deep, and finely worked, so that the roots will make a smooth, even growth.

Sweet corn may be sown, if the early varieties are used, as late as July 4 and still mature good ears in weather at all favorable. Kohlrabi and lettuce are often sown where they are to be grown. Firming in the soil is of the utmost importance in getting a good stand.

Late plantings of peas should be made two to three inches deep, in the coolest soil, with the most moisture, available. For succession plantings the wrinkled sorts, although they require bushing, will give by far the most satisfaction, as they are a hundred per cent. better in quality. Boston Unrivaled (an improved strain of Telephone) is one of the best.

Select a few of the most forward of your tomato plants and try to get the tomatoes ahead of anything your neighbors will have. Give a top dressing of nitrate of soda early in June, and one of muriate of potash or of ashes toward the end of the month. Keep all suckers pinched off, and after half a dozen bunches have formed, cut back the top. Train to stakes or trellis, of course, and when the fruit is half developed, pinch out large leaves that shade it too much. Paper bags tied over the bunches will insure fine surfaced

A June Suggestion

Nabisco Sugar Wafers play an important part during the month of brides and roses.

NABISCO Sugar Wafers

served with ices, frozen puddings and beverages, add the final touch of elegance and hospitality to every repast—simple or elaborate.

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fruit, and slightly hasten its ripening.

Remember that the success of spraying must depend entirely upon the *thoroughness* with which it is done; and that the second and third applications are in many cases just as important as the first. Look up your spraying table, and attend to what requires attention now, if you would have abundance of firm beautiful fruit in the fall and winter.

Keep a sharp eye in the currant bushes; if the currant worms are not checked at the start, it will take them only a few days to work havoc; and in the case of the currant, the good foliage is doubly necessary because it shades the soil about the roots and helps maintain the moisture and coolness so essential to a good crop of this useful fruit. In general, throughout June daily watchfulness is very important in every part of the garden.

A Botanist's Vacation

(Continued from page 423)

I have found only once in the woods in July; the great green orchid, which was best of all; and last, several varieties of ladies' tresses, a field full as far as the eye could see, with the busy September bees doing their work of cross-fertilization from flower to flower beneath your eyes. They completed my orchid calendar.

So much for the vacation in the field and woods. It was no less a busy one at home. Out-of-doors on a shady porch all the work of analyzing was to be finished with the use of a large microscope, and here the camera found another use. It made records of the parts of flowers with unswerving truthfulness, showing the pollen on a lily petal spilled by a large-winged butterfly a minute before. All the little protruding parts of the petal that protect the nectar troughs are shown in a photograph better than they could be drawn, so, if you want to teach botany, or know botany, you should take photographs of the flowers close by. The photographs will show you many things you overlooked when you studied the blossom at first hand.

The hollyhock shows the crinkled texture of the petals as they have just unfolded from the bud. The pistil is covered with pollen that is spilling and falling.

The bunch of catalpa blossoms, laid on a leaf and photographed, shows plainly its relation to the trumpet vine. This gives an idea of what can be done with larger flowers in the studio.

It is all work, and it is all play, and that is what makes it a vacation.

Modern Warfare on Garden Pests

(Continued from page 425)

parasitical disease. Lime, applied heavily to both soil and seedbed, is the only thing so far as found to prevent its appearance in infested ground, unless a two or three years' rest can be given. It is preferably applied in the fall, but if special agricultural lime is used, may be put on in the spring. The only assistance for crops in-

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fested is to help them through by giving a dressing of nitrate of soda, guano or other quick-acting fertilizer, and high piling with moist earth, thus giving a new stimulation and encouraging the formation of new roots. While this does not in any way cure the disease, it helps the crop to withstand its attack. When planning where to put cabbages or similar crops next year, be sure to use a system of rotation and to set plants grown in clean soil.

CUCUMBER-BEETLE. Often the little cucumbers barely get above ground when the small black-and-yellow-striped cucumber-beetle attacks them. At other times he does not appear until after they are well advanced and apparently beyond injury. That is the time to beware! There will be a swarm of beetles and seriously injured vines before you realize what the matter is. The easiest and surest way to fight this fellow is to keep him away from your plants altogether by means of a screened box. If the beetles are in evidence when the vines get so large as to make it necessary to remove the boxes, keep them sprayed with Bordeaux mixture. Plaster, or fine ashes, kept sifted on the leaves, is also used, but this protects only the tops of the leaves.

CUCUMBER-WILT. This condition of the vines often accompanies the presence of the cucumber-beetles, and formerly was supposed to be the direct effect of their work. It is now supposed to be a disease, spread by the striped-beetle. The only remedy is to get rid of the beetles as quickly and thoroughly as possible and to collect and burn every wilted leaf or plant.

CUCUMBER-BLIGHT. This is a mildew which attacks both cucumbers and melons, the leaves turning yellow, dying in spots and finally drying up altogether. Upon the first appearance of the mildew, or where there is reason to fear an attack, spray with Bordeaux every ten days.

CUTWORM. No garden pest is more exasperating than the fat, brown, clumsy-looking cutworm. He works at night, attacks the strongest, healthiest plants and cuts them off near the ground, very rarely eating or carrying away any of the severed leaves or fruit—although occasionally I have found such bits, especially small onion tops, dragged off and sometimes buried in the soil. In small gardens the most effective remedy is hand-picking. As the worms work at night, they are readily found by lantern light or very early in the morning. In the daytime, by digging about in the soil at the roots of an injured plant, a careful search will almost invariably reveal the culprit. In connection with hand-picking, where there is reason to fear the cutworm's attacks, it is decidedly advisable to use a poisoned bait. This is made by mixing wheat bran with water into a mash, adding to the water before mixing, Paris green (powder) or arsenate of lead. This supper is distributed toward nightfall in small amounts—about a teaspoonful to a place—along the rows or near each plant, just as they are coming up, or after setting out. Another method, sometimes used

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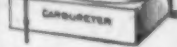
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where only a dozen or so plants are set, is to protect each by a collar of tin or tarpaper sunk an inch or two into the soil and several inches high.

FLEA-BEETLE. This hard-shelled, far-hopping mite attacks potato vines and young cabbage, radish and turnip plants. The damage done is generally much underestimated, as the insects are so inconspicuous. Thorough spraying with Bordeaux or kerosene emulsion will hold them in check.

POTATO-BEETLE. This old reliable, sure-enough plague is almost certain to be encountered every season. He invariably finds the potato patch, or a few egg-plants, no matter how isolated they may be. The standard remedy for years has been Paris green, sprayed or put on dry with a modern gun. Arsenate of lead is now largely used in place of Paris green. It has the double advantage of staying on much longer and of never burning the leaves. On a few rows, hand-picking of the old bugs and destruction of eggs, which are laid on the under side of the leaves, is quick and sure.

POTATO-BLIGHT. There are two forms of the potato-blight, early and late. Both are prevented by Bordeaux, 5-5-50, sprayed every two weeks. Remember to spray before the blight appears, as it is almost impossible to combat it successfully afterward. Begin the spraying early, when plants are about six inches high.

POTATO-SCAB. This is a sort of skin ring-disease affecting the maturing tubers, sometimes so seriously as to render them useless for market. If the trouble is in the soil, it should be given several seasons' rest from potatoes. If with the seed, soak in solution prepared as directed under No. 10, which see. Be careful not to use any boxes, bags or baskets for the treated seed that have been in contact with scabby potatoes.

ROOT-MAGGOT. This insidious pest, a small white grub, often works havoc among cabbages, cauliflowers, radishes, turnips and onions. His presence is indicated by the wilting down of the tops during the heat of noontide. Destroy every infested plant at once, being sure to get the grubs up with the roots. The remaining plants should be treated with a half-pint of strong caustic lime water, or a solution of muriate of potash, poured about the root of each plant, first removing an inch or so of earth. Carbolic acid solution is used in the same way; the most effective method of all, however, is to make a small hole with the dibber, and into it drop a small teaspoonful of bisulphite of carbon, covering at once. As the root maggot is first hatched above ground, pieces of tar-paper, several inches in diameter and slit from one side to the middle so as to fit tightly about the plant's stem, are sometimes used. Frequent liming of the soil, and constant rotation, are the best means of prevention. Extra stimulation of the plants, as directed for club-root, will help carry the plants through.

ROSE-BUG. These unsightly gray "chaf-

ers" frequently come in swarms and strip everything clean. They prefer roses or grape vines, but destroy many other things as well. For a few vines or plants, hand-picking will serve. Arsenate of lead is the most effective spray.

SQUASH-BUG. Anyone who has ever attempted to grow squash or pumpkins is familiar with the large, flat, black "stink-bug," so destructive of all running vines. Protection with frames and hand-picking are the best garden remedies. Trap-vines of early squash, as used for the borer, are used, or the old bugs, before the hatching season, may be trapped under old boards. The small, newly hatched bugs, or sap-sucking "nymphs," are the ones that do the damage. Tobacco dust or kerosene emulsion, heavily applied, will kill them.

TOMATO-WORM. This is a large green-horned caterpillar, very piggish and somewhat irritable. Hand-picking, or destroying the beautiful night-flying moth which lays the eggs, is the only way to combat it.

WHITE-FLY. This troublesome indoor pest fortunately does not molest us much in the open, but occasionally injures flowering plants and tomato and running vines. The young flies, which do the damage, are scale-like insects, found only on the under side of the leaves. Spray thoroughly with kerosene emulsion or whale-oil soap.

WHITE GRUB. The white grub, or muck-worm, is the larva of the common June-bug. It chews the roots of grasses and plants. When lawns are infested, the sod must be taken up, the grubs destroyed and new sod made. When the roots of single plants are attacked, dig out, destroy the grub and reset the plants if not too seriously injured.

The various remedies mentioned above may all be readily prepared at home, as follows:

MECHANICAL REMEDIES

1. Covered protecting-boxes are made of half-inch stuff, about eight inches high and eighteen to twenty-four inches square. They are covered with mosquito netting, wire or "protecting-cloth"—the latter having the extra advantage of holding warmth over night.

2. Collars are made of old cans with the bottoms removed, cardboard or tarred paper, large enough to go over the plant and an inch or so into the ground.

3. Cards are cut and fitted close around the stem and for an inch or so upon the ground around it, to prevent maggots going down the stem to the root. Not much used.

DESTRUCTIVE REMEDIES

4. Hand-picking is usually very effective, and if performed as follows, not very disagreeable: Fasten a small tin can securely to a wooden handle and fill one-third full of water and kerosene; make a small wooden paddle, with one straight edge and a rather sharp point; by using this in the right hand and the pan in the left, the bugs may be quickly knocked off. Be sure to destroy all eggs when hand-picking is employed.

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5. Kerosene emulsion is used in varying strengths. It is prepared as follows: Dissolve one-half pound soap in one gallon of hot water, and (away from the stove, please!) add two gallons of kerosene. Churn or pump for five or ten minutes, until of the consistency of thin cream, so that the oil does not separate on cooling. This is the stock. When using, dilute with ten to fifteen parts of clean water.

6. *Whale-Oil Soap*.—Dissolve one pound of soap in one gallon of hot water, and when using add four to six parts of water. (Ordinary soap will answer the purpose, if necessary.)

7. *Miscible Oils*.—They are advertised under several brands, for use against scale insects. They mix with cold water; used only on dormant plants and trees.

8. *Tobacco Dust*.—This article varies greatly. Most sorts are next to worthless, but a few of the brands especially prepared for this work (and sold usually at \$3 per hundred pounds, which will last two ordinary home gardens a whole season) are very convenient to use, and effective. Apply with a duster, like that described later.

9. *Carbolic Acid Emulsion*.—One pint crude acid, 1 lb. soap and 1 gal. water. Dissolve the soap in hot water, and balance of water and pump into an emulsion, as described for kerosene emulsion.

10. Corrosive sublimate is used to destroy scab on potatoes for seed by dissolving 1 oz. in 7 gals. of water. The same result is obtained by soaking for thirty minutes in a solution of commercial formalin, at the rate of 1 gill to 15 gals. of water.

11. *Bordeaux Mixture*.—This can be bought ready mixed in liquid or powder form, or may be made as follows: Take copper sulphate 5 lbs., unslacked lime 5 lbs., water 50 gals. Prepare several hours before required, as follows: (a) Dissolve the copper sulphate in 5 gals. water, suspending the crystals in a piece of bag just below the surface. (b) Slake the lime in hot water, adding the latter slowly, to do the work thoroughly. Add sufficient water to make five gallons. (c) When ready to use, dilute the stock sulphate solution (a) with water in the proportion of 5 to 50. Add the stock lime solution (b) in equal amount to the sulphate solution.

To test the mixture, after making, get at a drug store a pint bottle, with a quilled cork, in which have dissolved 1 oz. of yellow prussiate of potash. When this is dropped into the Bordeaux mixture, it should *not* turn brown. If it does, add more lime water.

POISONOUS REMEDIES

12. *Paris Green*.—This is the standard remedy for eating-bugs and worms. With a modern dusting machine it can be put on dry, early in the morning when the dew is still on. Sometimes it is mixed with plaster. For tender plants easily burned by the pure powder, and where dusting is not convenient, it is mixed with water at the rate of 1 lb. to 50 to 100 gals, and used as

a spray. In mixing, make a paste of equal quantities of the powder and quick-lime, and then mix thoroughly in the water. It must be kept stirred up when using.

13. *Arsenate of Lead*.—This has two advantages over Paris green: it will not burn the foliage and it will stay on several times as long. Use from 4 to 10 lbs. in 100 gals. of water; mix well and strain before putting in sprayer.

14. *Hellebore*.—A dry white powder, used in place of Nos. 12 or 13 on vegetables or fruit that is soon to be eaten. For dusting, use 1 lb. hellebore to 5 of plaster or flour. For watering or spraying, use at rate of 1 lb. to 12 gals. water.

APPLYING POWDERS AND SPRAYS

There are a few of the modern engines of destruction which every gardener should have. If for the present but one can be purchased, I would advise an automatic air-tank sprayer, such as illustrated on page 425. Almost all the powder poisons can be applied when held in solution in liquid, so the spray pump will do for both liquid and powders, if necessary. It will pay, however, especially in a garden of some size, to have a powder duster as well. The simplest forms of these are merely cannisters with perforated bottoms, from which the powder, usually mixed with plaster or fine ashes, is sifted upon the leaves of low-growing plants. A much better form, however, is the powder gun, which by a forced current of air blows the powder on in a fine, almost invisible cloud. By this method pure poisons can be used and a very large area gone over in a short time.

For the work in the orchard, the compressed-air sprayers are furnished with extension rods, to reach the upper portions of trees. There are also different styles of nozzles for various special purposes, such as reaching the under side of leaves, which may gradually be added to one's collection. By giving careful treatment, all these tools will last for years, so that in the long run the expense is very little.

THE PRICE OF PEACE

These things we can do in actual hand-to-hand, or rather hand-to-mouth, conflict with the garden's enemies. But the sad fact remains that for plants once badly infested, particularly if covering any great area, very few remedies are satisfactorily successful. Nowhere are the old adages of "eternal vigilance" and "a stitch in time" more applicable than in fighting garden pests. Instead of relying upon remedies it will be far better, far easier and far more effective to use the following precautions against ravages by plant pests.

First: aim to have soil, food and plants that will produce a rapid, robust growth without check. Such plants are seldom attacked by any plant disease, and the foliage does not seem to be so tempting to eating-insects; besides which, of course, the plants are much better able to withstand their attack if they do come. Second: give clean, frequent culture and keep the soil busy. Do not have old weeds and refuse

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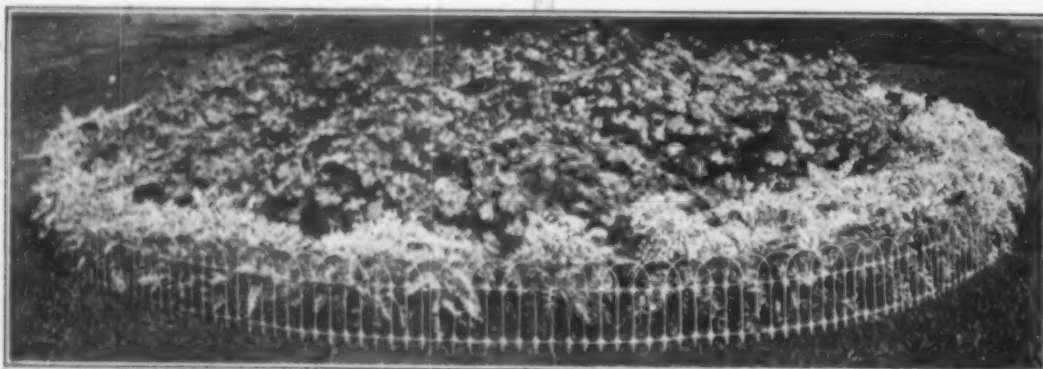
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Worcester, Mass.

lying around to shelter insects and eggs. Burn all leaves, stems and other refuse from plants that have been diseased. Do not let the ground lie idle, but by continuous cropping keep the bugs, caterpillars and eggs constantly rooted out and exposed to their natural enemies. Third: practise crop rotation. This is of special importance where any root disease is developed. Fourth: watch closely and constantly for the first appearance of trouble. Do not wait to see what will happen. And last, and of extreme importance, be prepared to act at once. Do not give the enemy an hour's rest after his presence is discovered. In almost every case it is only by having time to multiply that the pest will do great damage.

If you will keep on hand, ready for instant use, a good hand-sprayer and a modern powder gun, and a few covered boxes, tobacco dust, arsenate of lead and materials for kerosene emulsion and Bordeaux mixture, you can cope with all pests.

On Transplanting

A PRACTICE that has brought me successful results when transplanting is not to apply fertilizer to seedlings until growth has started. My plan is to set the young plant only in the clean natural soil of the bed. Afterward, when the recovery from the shock of transplanting is complete and the new growth has begun, stir in the fertilizer; of course the bed has been well worked beforehand and the heavy winter application of manure has been thoroughly incorporated with the soil. High grade commercial fertilizer, however, must be given only to a growing plant. When the young plant is taken from the protection of the moist seed-bed and placed in the open ground it faces an important crisis. The tiny roots have been torn from their native soil and have to adapt themselves to the new food supply. The leaves are exposed to far greater evaporation from the sun and the whole plant is forced to meet an increased demand upon its resources at the very time of its lessened vitality. The growth must not be checked too long or the plant may never recover. All depends now upon the treatment. To begin with the tender roots want nothing but the natural soil made very fine and pressed gently but firmly about them and this soil well moistened. A light mulch of leaf mold will keep the moisture in. Next it will require protection from the direct rays of the sun. A plant so treated will almost certainly recover in a day or two and begin a new growth. After the plant is established and no longer needs protection, stir in a little high grade fertilizer. This application made at first would have added very greatly to the plant's problems by giving too much heat and too great food supply. Now the plants—like a patient well past a fever—will take to nourishment and be able to stand it. Later, as growth becomes stronger and just before fruiting time, heavier applications can be made with visible results in the plant. This suggestion applies to all transplanting, but



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CHARLES E. RAYNAL

A Blue Bird Bedroom

(Continued from page 428)

been adopted. In wall papers, cretonne, etc., blue wrens, blue swallows, blue jays, blue sparrows, blue canaries and conventional blue birds are introduced. The fact is that the play has emphasized the bird idea and a color idea, leaving the fancy to play with them as it will in decorative art.

In the foregoing observations we have dealt somewhat fully with the subject of wall treatment, as this is the prime essential of interior decoration. Woodwork, draperies and other furnishings are developed harmoniously. The woodwork should be of white. The rug for the floor should be blue or blue and white. White enamel furniture is most appropriate, though a brass bed is not incorrect. If, however, the furniture one has on hand is of another color it is a simple matter to paint or enamel it one's self with any of the convenient preparations which come ready to hand. An old and perhaps discarded set of furniture may be made new and found precisely suited to the room. If one is disposed to venture on some artistic flights it is a good idea to paint or stencil upon the furniture an appropriate blue bird figure to strike a note of harmony with the walls.

The next problem is draperies. It is interesting to note that manufacturers of fabrics are equally awake to the impulses of popular taste. In fact draperies and wall papers go hand in hand; they are sister crafts. There is no difficulty in obtaining draperies with corresponding motifs. Good decorators are careful to consider wall papers and draperies together as practically one subject. Let us apply these principles to the room before us. If it is treated with plain side walls having figured frieze or crown, the latter suggests the window style. That is to say, the chief note of the window is the over-drapery and lambrequin of blue bird cretonne. Under this are simple white curtains. If, however, the entire side walls have an all-over design, the treatment of the windows is different. In this case the over-drapery is of plain material with applied designs either of cretonne or stencil in blue bird motifs. In this treatment the decorative idea is diminished in the windows to avoid tediousness, but it is not wholly abandoned. In some instances it is found preferable to dispense with the over-draperies and use scrim curtains with blue bird stenciling. This gives a light, simple, dainty and inexpensive result. One has to judge each case on its own merits. Taking the paper as a basis, one proceeds to work out the logical, artistic ensemble. It is difficult to lay down any hard-and-fast rule, but the illustrations show something of what has actually been accomplished.

Using the blue bird cretonne as a material, a number of simple accessories can easily be made: table-covers, scrap-bas-



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kets, laundry-bags, pincushions, sofa-pillows, etc. The little screen completely fitted with sewing materials is a decided addition to the appearance as well as the usefulness of the room. Tufted cushions of the cretonne may be added for white or wicker furniture. Thus birds seem to be lighting everywhere. No treatment of the subject would be complete without considering also other unique blue bird accessories for the dresser and table. There are pin-trays, trinket holders, hair-receivers, hatpin holders, vases and rose bowls, all with blue bird motifs in Copenhagen effects. Some of these are pictured. Pretty as they are they are not costly, ranging in price from thirty-five cents up. If anyone is interested in the prices of the blue bird papers shown, they cost from forty-five to sixty cents a roll; the cretonnes cost from thirty-five to eighty-five cents per yard. The aim has been to confine ourselves to decorations which, though artistic, are inexpensive.

So it will be seen that this is a blue bird year. It may or may not be a fad. If it is one, it chances to be what is not always the case with fads, a lovely one.

The Seventeen Year Locust Appears

(Continued from page 431)

knowledge of the distance it will fall before it reaches the ground. On reaching the ground it at once enters it through a crack and begins its long period of development, out of the sight of man, only to come forth again at the end of seventeen years.

During this long period underground the larva sheds or moults its skin a number of times, and, attaching itself to the tender fibrils of plants, it derives its nourishment from these, with occasional shifting to other fibrils as the different ones cease giving forth the juices so needful to its development. As the Cicada underground takes such a long period for its development, there is little or no damage done to the trees or shrubs on whose roots it feeds.

There is a false notion abroad concerning the so-called sting of the Cicada, and every once in a while we hear that some person has been stung to death by these so-called locusts, but the fact is that there is nothing to fear from them; they can be handled and even mutilated without showing the slightest sign of resentment. Doubtless there have been rare cases where the flesh of a human being has been pierced by the needle filaments on the sucking-beak of the male, or by the ovipositor of the female, but as such cases are of doubtful record, there is absolutely nothing to fear from them in this respect.

Gen. Jacqueminot

THE rose is universally conceded to be the queen of flowers, and Gen. Jacqueminot may be justly regarded as the king of roses! At least it has been proven so in this rose garden by many rose-loving friends, for after wandering around and duly admiring all the varieties their steps

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invariably return to the jacqueminot, especially if they expect cuttings.

A rich, velvety crimson, very handsome in its brilliancy, fine buds, large, full roses, delightfully fragrant and well adapted to open ground culture.

It blooms in great profusion in June, and there is also considerable bloom during the later summer and fall. The writer has observed that for some reason some roses of this name are more free to bloom after June than others.

Gen. Jacqueminot is a Hybrid Perpetual, and among the hardiest of roses; so hardy that it persists in living almost without protection along the coast of Green Bay.

The picture accompanying this description was taken July 2d—hardly a June rose this year, owing to the unusual lateness of the season.

The bush stands five and one-half feet high; breadth of view, six and three-fourth feet; circumference at fullest part, twelve and one-half feet, giving us nearly two hundred roses.

We find the best results in protecting the rose by gradually and gently turning the bush on one side late in the fall, and holding it down with light boards and covering freely with straw, held from blowing off by light weights.

Rich, loamy soil, judicious culture and sufficient covering during the winter are rewarded by an abundance of bloom.

M. A. NICHOLS

Creating Outdoor Living Rooms

(Continued from page 434)

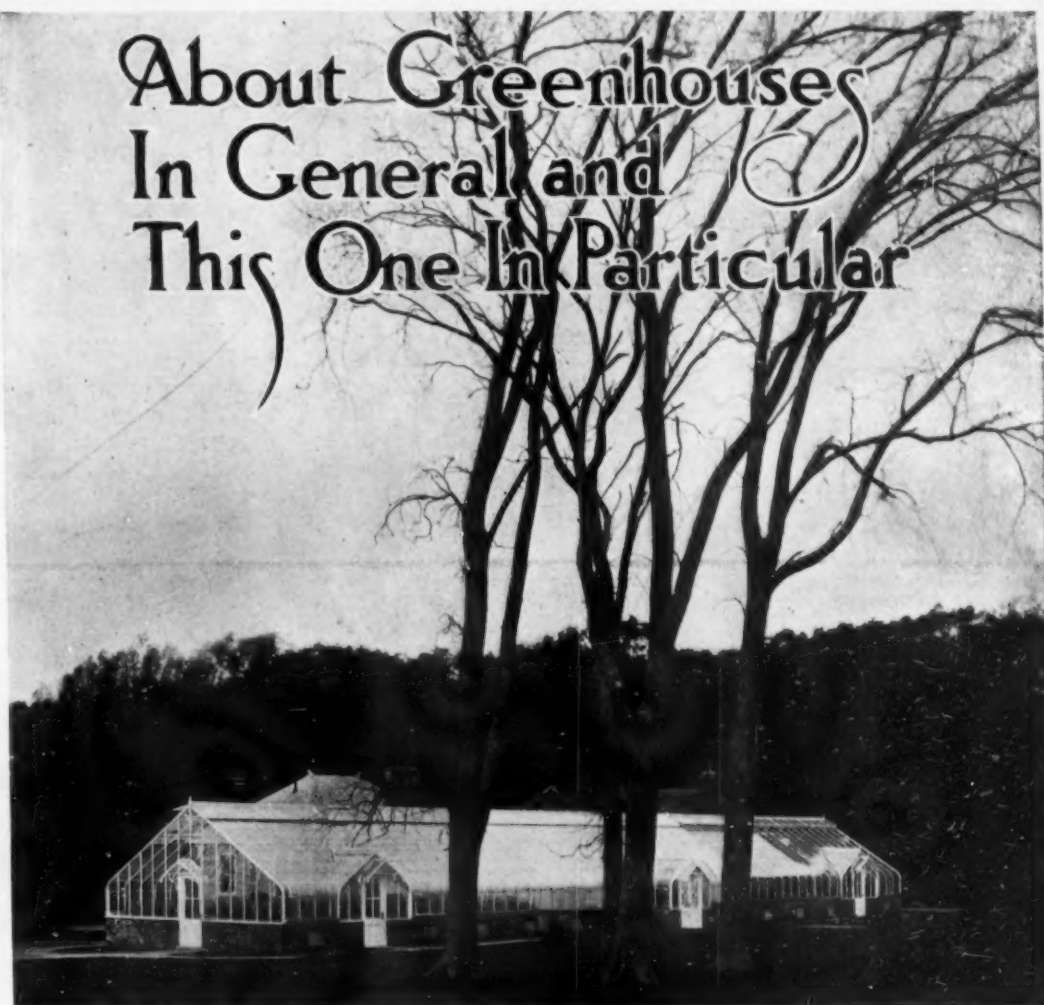
in either red and white or blue and white stripes, as picturesque as it is practical. The umbrella can be closed and stood in a corner when not in use, just as are the smaller ones of rainy day usefulness, but the iron table can spend the entire summer in the same spot on the lawn, as it is made entirely weatherproof by the paint.

A rustic summer-house of ample proportions that may be fitted up as an outdoor room for serving tea, for a sitting-room or for sleeping-quarters, can be bought in sections all ready to put together. If it has a floor, so much the better for its usefulness. The stationary seat built around three sides, with a rustic table in the center, constitutes its furnishings, which can be augmented by other chairs, or a cot and outside curtains if it is to be used as a sleeping-room. At any rate its possibilities for comfort are practically unlimited and it has an advantage over the furnished piazza, for it can stay in a secluded spot or be set up right in the midst of any outdoor festivities with equal facility.

Notes for Southern Gardens

MONTBRETIAS, better known by their pretty nickname of "Merry Breezes," are indispensable—even in a garden full of rarer plants. The blossoms, combined with plenty of the leaves, are very satisfactory in decorating. Out of blooming time, and when flowers generally are scarce, there are constant calls for

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In brief—it is a distinctive construction—and looks it. Obviously, a logical investment for you.

This particular house, with its four compartments and work room, is freely illustrated and untechnically described in the catalog. Some fifty or more others are also there.

If the greenhouse "bee is buzzing in your bonnet," this catalog will satisfactorily answer many of your queries. We will gladly answer the rest, either by correspondence, or in person. Send for the catalog or send for us—or both.

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the graceful reeds. Flowers may come and go—but “breezes” are always available, summer or winter.

Decoration Day usually means one of the really hot days. Only a very few flowers—like Calla lilies—are suitable for cemetery use, at that time, as most blooms become limp and unsightly, exposed to the hot sun, long before the services begin. One woman, who grows Montbretias as an outside border for a long stretch of sidewalk, contributed the seeds in quantity. The dainty green decorations, with their perfect sun-resisting freshness, proved a most effective and refreshing substitute for half wilted flowers. The result will be an extensive planting of “breezes” in many gardens just for that one purpose. Montbretias may be cut to the ground occasionally—coming on again in a few weeks. They are very easily grown, a few bulbs soon showing strong clumps. And they do well in a wet place or a dry one—growing taller when freely watered.

Many new varieties are offered—supposed to be improved as to blooms, but I've seen nothing better than the original red and gold. In any, the real value is more in the plant than the blossom. E. S.

The Sewage Disposal Problem on the Insolated Country Plan

(Continued from page 435)

tion. This apparently impossible and almost inconceivable consummation of transforming a foul mass of closet sewage into water pure enough to drink, and better than much that is supplied to cities, is effected by a process of septic bacterial destruction performed in an air-tight and light-proof compartment. It is self-operating and extremely simple; so simple that it requires neither chemical nor mechanical assistance to produce the seeming miracle. Its self-generated bacterial action is comparable in chemistry to perpetual motion in physics. The process has been quite aptly likened to the battle of the Kilkenny cats that continued to fight among themselves until the last cat was dead—only the septic tank goes so far as to bury the cats.

Being lighter than water, the sewage from the closet rises to the surface on entering the septic tank, from which the fresh air and light, that would naturally neutralize or destroy the bacterial action, is completely excluded, and the development of bacterial life extremely rapid and multitudinous. These bacteria, preying upon one another, accomplish their own complete annihilation during a period of twenty-four hours.

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(Continued on page 468)

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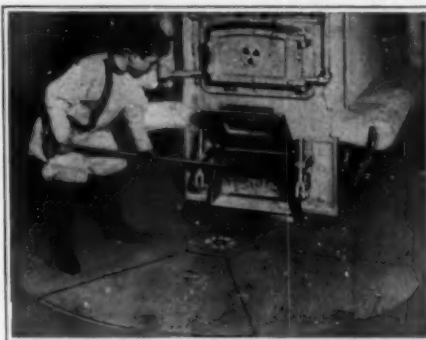
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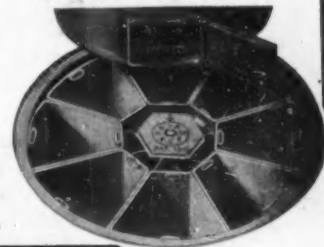
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(Continued from page 466)

water runs over the filter and comes in contact with the air, when it is as pure as crystal spring water.

Since simplicity of construction gives the most satisfactory results it is advisable to discard plans of the types of tank that depend on complicated mechanism for their operation and adopt one which is at once easy of construction, substantial, durable, self-acting and simple.

The type of septic tank here described is simplicity itself. When properly built it will take up its work with the first flush of the sewer and keep it up for generations without any care or attention. This tank may be built of stone, brick, concrete or wood covered with cement. One of the main essentials in proportion is that the receiving tank, or septic tank proper, should have a capacity sufficient to hold the accumulated product of the closets and sinks for a period of forty-eight hours, the tank being first filled with water to level of inlet. A tank, for instance, four feet deep, six feet wide and eight feet long, or containing approximately two hundred cubic feet, should be large enough, under ordinary conditions, to accommodate the wastes of a family of eight or ten persons. If the waste from the bath is included, additional space must be allowed for the increased flow, though diverting the bath and wash water will save expense in construction.

The weir box, which is mainly to prevent agitation of the water, and the filter tank may be in about the proportions indicated in the drawing. The filter tank is to be filled one-third its depth with very fine sand, above that an equal depth of sand, coarse gravel and fine charcoal, and the top third of depth with coarse charcoal mixed with small pebbles.

The outlet from sewage tank to weir box should be fitted with an elbow with tile reaching to within six inches of floor of sewage tank, and the same with the outlet from weir box to filter bed. The tile from closets to tank should be of vitrified tile large enough (six or eight inches) to avoid possibility of clogging. A trap joint is placed at location shown under the vent, to prevent sewer gas returning to house. The joints of sewer pipe are sealed with cement.

To guard against the possibility of some extraordinary condition arising that would make it necessary to enter the tank to clean it out or make repairs, a manhole should be let in at the top, as indicated, although tanks of this pattern have been in operation for years without requiring the least attention. Only one case is reported where such a tank needed cleaning, and that was where the refuse of a paper-mill, where much of the waste is rags, emptied into a large tank that requires cleaning once or twice a year.

The top of the tank may be covered with matched plank laid on joists. Where it is intended to cover the tank with earth, which is desirable, as it leaves no intima-

(Continued on page 470)

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(9)
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208 Pages; 203 Illustrations

The book is most profusely illustrated and in the most helpful way. In addition to the floor plans the bungalows chosen are illustrated from photographs—there are no mere visionary schemes in the book at all. Every bungalow shown has actually been built and all are representative of the work of leading architects and amateur builders in various parts of the country. The bungalows illustrated—by exterior, interior and detail photographs, and by the plans—have been selected from hundreds of examples—selected so as to prove of the greatest value to the prospective builder.

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(Continued from page 468)

tion or suggestion of what is beneath, the joists should be heavy enough to sustain the added weight.

Where the closets are on the second floor the tank may be on a level with the house; when on the first floor the tank must be lowered sufficiently to provide a good fall from house to tank through sewer pipe. The outlet may be into a cesspool filled with stones.

Septic sewage disposal tanks of this type are in popular favor in the West, where they are used not only for individual houses, but for large public institutions, and, to the writer's knowledge, for the sewage disposal of towns and small cities, and in every instance they are reported as giving entire and perfect satisfaction.

A Vegetable Garden that Will Survive the Fall Frosts

(Continued from page 437)

qualities would place it high on the list, as an addition to any garden planted purposely for making a good appearance in the fall.

Certainly a vegetable garden that is green and productive two months after tender vegetables have begun to look the worse for wear, is worth a little attention and labor in the planning and sowing. It is very desirable to group all the hardy sorts in some conspicuous part of the garden plot. Then when it becomes necessary to clear away the tender vegetables that have become unsightly, the frost-proof garden will still be attractive in appearance and as profitable as it is decorative. Frost that would destroy tender annuals under a carpet covering will leave many of these frost-resisters unharmed.

Remodeling an Old Long Island Farmhouse

(Continued from page 439)

much of the work had to be done by hand, and all sorts of ingenuity employed to make inexpensive things serviceable and attractive. For instance, instead of using a thin stain for finishing stairway, wainscoting and some of the new furniture, a thick coat of paint of the desired color was applied and immediately wiped off. This filled the pores, protected the wood and gave a pleasing waxy finish. Another saving was made in filling irregular cracks and spaces in the flooring. These were made smooth and level by a home-made crack-filler, consisting of white lead, whitening, and the desired color, worked in and kneaded to a dough consistency. This too was much cheaper than the ready-made kind. In the big living-room the floor was painted a red tile color, and the crack-filler colored to match the red tile shade of the floor. Nor did its many uses end here, for this very same combination was used for leading the windows, the mixture being dull gray instead of red. The pane of glass to be leaded was laid over a design drawn on paper and the lines followed with

(Continued on page 472)

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(Continued from page 470)

this lead-colored putty. This has remained intact through winter storms.

Upstairs there are four bedrooms and a bath. The guest room has a dormer window with window-seat which lifts up, making a cupboard underneath. As there was no place in this room for a bureau or even a dressing-table, one had to be devised. A bureau would have blocked out a small side window, so the wall was pushed out over the stairs and a shrine-like recess serves the purpose of a dressing-table. A mirror hangs above, and little lockers take the place of drawers. These, with the window-settle and shelves under the sloping roof, give to a small room many places for stowing away things. The hall leads back into the addition—to bath and bedroom, and is lined with sheathing stained a gray-green. On one side a jointed door, held in place by a wooden button, makes it easy to get to the tank.

The comfortable bedroom in the addition has two little dormers, and one large end window, from which the ocean can be seen. There are two more bedrooms on this floor, one of which has a good-sized dormer window, so although the house is really a small one, it can accommodate a goodly company with utmost comfort—eight people, not including the servant!

Outdoors the three acres have for the most part been laid out in an orchard—apples and pears, and a few peaches, the vegetable garden, and a lawn on one side. This ends in a hidden garden. At present it is not on display, as it is only in the process of making, but there are always possibilities and there is joy in attempting to realize them. The ramshackle fence, which was falling to pieces and would have been expensive to patch and renew, is replaced by a privet hedge which thrives. This borders the hidden garden, with its two althea trees at the opening, which are being trained into an arch. Near by are two little weeping willows, and within the enclosure are hollyhocks, larkspur and phlox, reduplicating, perhaps, those that grew there long ago.

Two old cherry trees, outside of the hedge by the roadside, instead of being chopped down, are used as supports to a thriving wistaria, which has almost covered them. Beside the house a group of three poplars have been planted and throughout the grounds each bare spot is growing some tree, shrub, flower or grass to add beauty to the setting.

Behind the house is a small, well-built barn, used as a storehouse, and beyond is the chicken-house and yard. Between the house and barn is the kitchen garden, screened by a grape-vine from the road, and surrounded on the other sides by honeysuckle.

So, in six years, a little bare, unprepossessing house, in a barren, weed-tangled, treeless tract, has been converted into a cheerful, tasteful country home, surrounded by garden and orchard and shaded by all sorts of growing things

(Continued on page 474)



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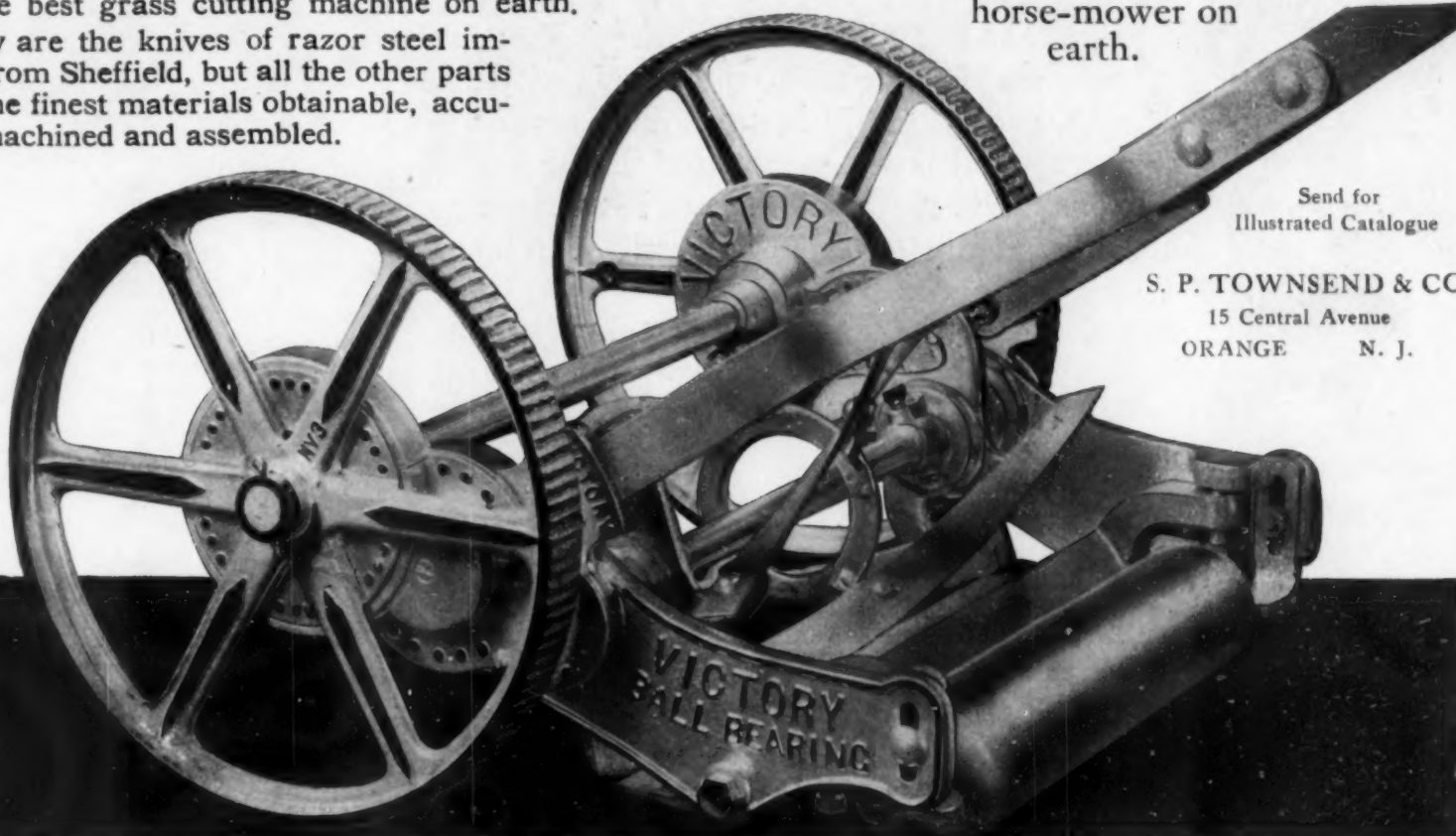
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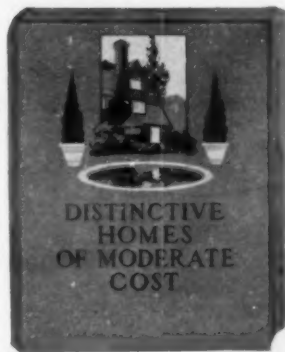
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And why do we call it a "Farmstead"? Simply because it is a farm greenhouse attached directly to the farmhouse. It only goes to show how indispensable greenhouses are getting to be. Cold frames are all right in their way, but if you really want to raise top notch plants, with the least trouble and a surety of success, then a greenhouse is the thing.

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(Continued from page 472)

which bring the bounty of flowers, fruits and fresh vegetables. All this has been accomplished with the smallest possible outlay of funds. The expenditure has always meant improvement. The young woman worker has had enjoyment and gratification in a country house, out of all proportion to the money, labor and time invested, for it is an expression of her own personality.

Summering the More Tender House Plants

(Continued from page 442)

uation; and as for cuttings, anything that will root in any situation and under any conditions will root here; it is only necessary to thrust the cutting up to the first joint or leaf bud in the sand between the pots and leave them, and in an astonishingly short time they will be found to have taken root and commenced growth.

Roses, especially, root readily here; begonias and gloxinias grow as if by magic, and if one forms the habit of sticking all the cuttings, stems of cut flowers of many kinds, and the like, into the sand, when fall comes there will be a fine lot of little plants waiting to be potted.

In arranging the plants in the sand-box care should be taken to place such sun-loving plants as the geraniums in the front or on that side of the box which receives the most sunshine. Shade-loving plants should be shielded from too great amount of sunshine by being placed in the rear of the box or behind taller plants. So, too, cuttings of shade-loving plants may be thrust in between the pots where they will be shielded from the sun; gloxinia leaves may be laid flat on the sand with the stem thrust under a pot and in this position will quickly form a callus and then a bulb, and by fall will be ready for potting; if kept growing during winter it will be large enough to bloom in the following summer.

The sand-box may be beautified with trailing vines, and vines may be planted in the rear of the box and trained on the wall to form a background. Choice greenhouse vines which one hesitates to commit to the ground may be grown here in perfect safety, providing there is sufficient sunshine. The passiflora, Southern Beauty, is a fine vine for this purpose as it is a very free bloomer and the blossoms are of great beauty.

The sand-box may be kept gay with the blossoms of the tuberous begonias, gloxinias, amaryllis and fancy-leaved caladiums if one wishes to devote it to this purpose, or it may be made to serve the double part of utility and beauty.

New Old Possibilities in Stucco Houses

(Continued from page 445)

terity of line, already referred to regarding concrete houses, again crops out. In its plasticity, however, lies a remedy for this repellent hardness, and it needs only some-

(Continued on page 476)



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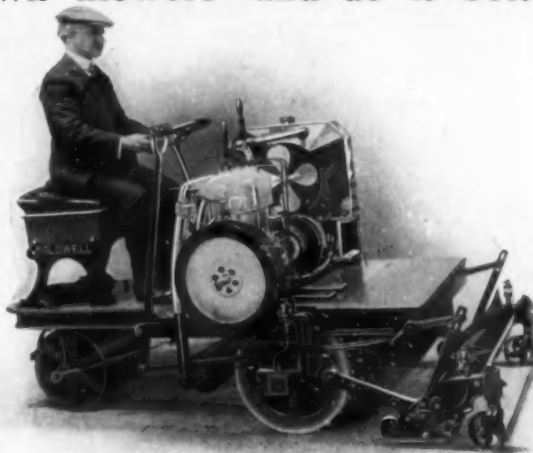
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(Continued from page 474)

one with the courage of conviction to apply it. Examples and material are all ready to our hands. We need only study the parge work or pargetting so common in the sixteenth and seventeenth centuries in England.

When Henry VIII, not to be outdone as a royal builder by his rival Francis I, began to rear Nonesuch Palace, he brought from the Continent skilled workmen in stucco-duro, who covered the new edifice, both inside and out, with marvelous sculpture. This new fashion, introduced through pique, soon became immensely popular, and everywhere stucco ornamentation had great vogue. Native workmen soon adapted the new style to their own material—plaster of sand, lime and hair—and wrought designs that have lasted to our own day despite exposure to wind and weather. No one would deny that much of this work is gingerbread, but some of it is distinctly good and worth imitating. What the English workman did with his "parge" or plaster of sand, lime and hair, we can do quite as well, if not better, with our materials now. It only needs a pioneer to blaze the way and exploit the fashion. This has already been done to some extent in England. Few, probably, would wish to see our stucco houses covered with a profusion of relief ornamentation, but doubtless some modification and adaptation could be advantageously devised to relieve the extreme plainness of many of our stucco structures that oftentimes look as though their very eyebrows had been shaved off.

Another revival of an old process has also been attempted in several places in England—the scratching away of the upper coating of stucco so as to leave a design in the coat underneath. This "sgraffito" work was much practiced in Italy during the Renaissance. It, also, is one of the means of ornamentation within the reach of the modern stucco worker.

What will be the future of domestic concrete and stucco architecture none can certainly foretell. The practical claims to consideration, in the case of both materials, are too obvious to be gainsaid. We may look for the use of both to continue unabated. Modifications are bound to come and everyone engaging in concrete or stucco construction will bear a share, be it never so small, in hastening those modifications. Strict adherence to principles of constructional honesty and utility and, at the same time, due and ample regard for matters of esthetic import, will evolve styles that will answer our demands. In this period of reconstruction, where so many people are intimately concerned, it is worth while to weigh past experience and also to divest ourselves of some prejudices.

Distinction in Summer Hangings

(Continued from page 441)
chosen with due regard to its suitability. A Louis XVI room could not possibly have arras cloth used in it, while it would be
(Continued on page 478)

IF you are building or remodeling your house your work will progress much more satisfactorily and rapidly if you have expert advice upon the selection of wood finish for the trim and floors; also in deciding upon hardware, tiles, lighting fixtures, wall covering, drapery and furniture.

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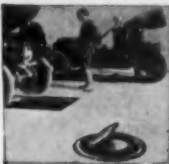
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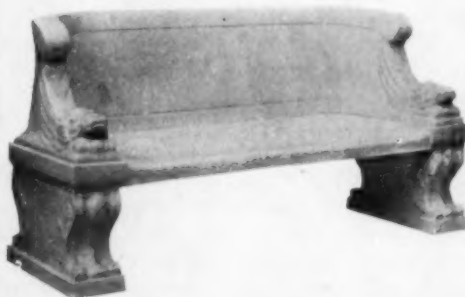
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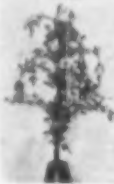
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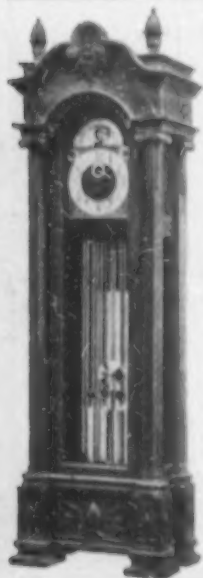
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(Continued from page 478)

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(Continued on page 482)



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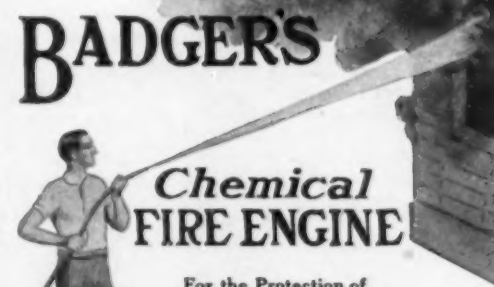
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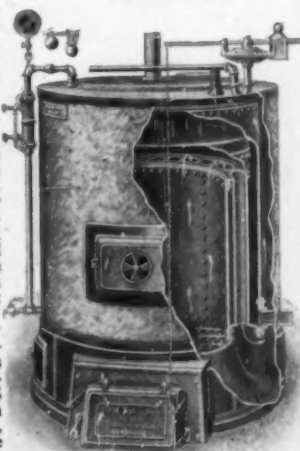
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(Continued from page 480)

lor. There are also many oddly shaped designs in the shape of fish, animals, men, violins, etc., but these are of uncertain date and origin, and therefore do not appeal to an enthusiast who desires chronological information in regard to his collection.

The oldest designs we have here in America could not have been made before 1825 and since most of them were produced between 1848 and 1852, we can be justifiably amused at the accounts frequently published, of remarkable discoveries of Taylor or Washington flasks imbedded in the foundations or stone walls of buildings erected more than a hundred years ago.

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MARY A. NORTHEAD

Building the Summer Home

(Continued from page 420)

the stone secure, yet a stone wall that is a stone wall should stand up even if there were no mortar in it, and should not only be able to stand up, but should present this appearance of stability to the eye; it is this feature of the house at Cynwyd which is of particular strength.

(Continued on page 484)

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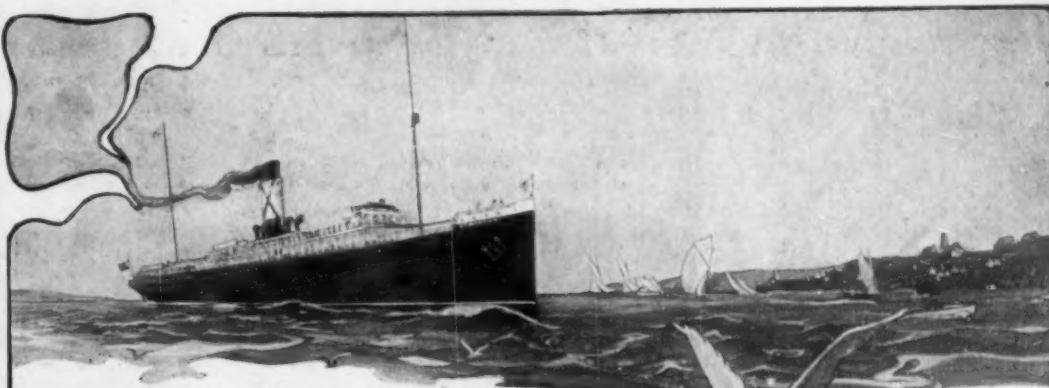
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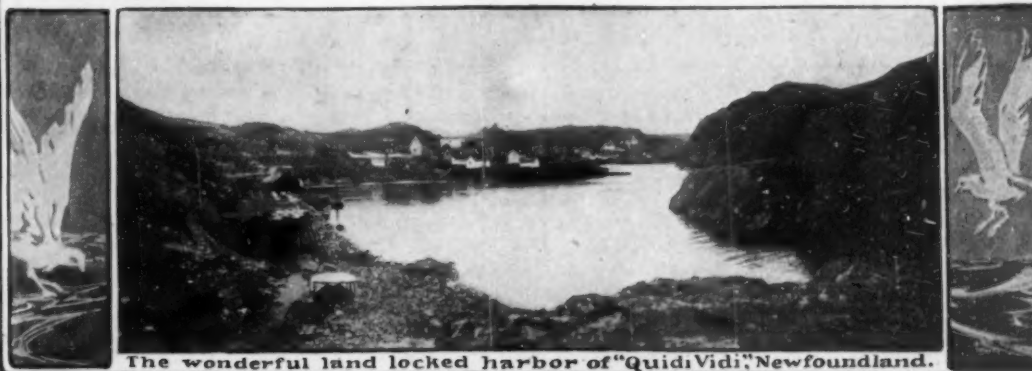
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(Continued from page 482)

The house for Dr. Hollister at Easthampton is a house designed for summer occupancy only, but built with a cellar and heated, it is intended for frequent use during the winters; winter week-end and Christmas parties at the seashore have quite lost their terrors for the city dwellers. The beautiful piazza on this house is arranged to be enclosed as a sun-parlor in colder weather, and what is in the summer-time open to every breeze that blows, in the winter becomes a sheltered spot in which one can be, to all intents and purposes, out-of-doors and yet with comfort.

The house at Pocantico Hills is one of the very large American summer homes, and from the standpoint of pure design one of the greatest. The main body of the house was built of rough stone, with half-timber used for the extensions, and the proportion between the half-timber and the stucco panels between is admirable indeed. The stonework has what we call texture; small variations in color and a play of light and shade over the entire surface. We no longer seek in our materials undeviating regularity of form, but rather seek to have them express their nature as unreservedly as possible, and this characteristic of modern work is here exceedingly well displayed. The house conveys a wonderful impression of power and strength, but it is associated also with the idea of comfort. The heavy stone walls mean cool interiors and the large windows of the first story provide plenty of light. Bold and simple, it is one of the highest achievements of the American architect.

While these houses were all intended primarily for summer occupancy most of them have been designed also for occasional or extended winter residence, and the period of summer occupancy itself is being extended every year. People are finding that the summer is no more delightful than the spring, and that autumn is the best of all; yet both in the spring and in the autumn heat is needed in this country, and the houses are not mere shacks, but homes. As has been said before, while the illustrations are mainly of large houses they all show houses whose quality is not a by-product of their size, but is as easily obtainable in the smallest as in the greatest.

The Bird Allies

THE pleasure which one feels in having a number of birds flying about the garden has of late been diminished by the raucous cries of the English sparrow. A certain effort is being made, however, to induce some of the attractive and useful birds to gather about the home. The Purple Martin yields very readily to any attentions that may be shown it. These birds, have a pleasant note and are beautiful to look at in their shining black plumage. They live in colonies, and to induce their visits bird houses must be built for them. The Secretary of the Audubon Society at Evanston, Ill., has been experimenting on a type of house to draw these birds, and has now made an attractive colony house which he finds very satisfactory in making the birds his neighbors.

