August 1910

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You see here an Electric Suction Cleaner which weighs but ten pounds instead of sixty. The "RICHMOND" Suction Cleaner enables you now, for the first time, to clean by electricity, without lugging a sixty- or eighty-pound machine from room to room—up and down stairs. It represents as great an advance over heavy-weight vacuum cleaners as these cleaners represented over brooms. For it is the only really portable Suction Cleaner.

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ANNOUNCEMENT

We take great pleasure in announcing that we have taken over The Travel Magazine, which will be greatly enlarged and improved and continued as a monthly publication under our imprint. No greater opportunity ever existed for making a magazine of compelling interest and entertainment, as well as of educational value, than that before us. And we expect to take full advantage of our opportunity. Travel in every land will be the field we shall cover, and the illustrations will be the most beautiful and remarkable of any periodical because, after all, there is nothing more fascinating than an acquaintance with people, places and things throughout the world. Travel in our own country with its matchless natural beauty, in Europe with its picturesque peoples, its architectural splendors and its interesting life, as well as the curious places and people of the more remote corners of the earth—of China, India, Africa, the islands of the sea—each of these will have its share of attention.

Here then is to be a magazine that will conduct its readers through the beaten paths of the world and far afield as well, bringing them from continent to continent, visiting peoples barbarous and cultured. Those who have traveled will be brought face to face with old friends and new sights, while the stay-at-homes will enjoy vicariously the recreation and travel of the more fortunate ones who have leisure and means to gratify their wanderlust.

The first number under our direction is August, ready July 23rd. In it Mr. A. Radclyffe Dugmore, F. R. G. S., shows for the first time the interesting fact that Africa really is accessible to the traveler. The illustrations, of course, are wonderful, as Mr. Dugmore's pictures always are. This presentation of the subject is entirely new and different from anything heretofore published.

Mr. Arthur Bartlett Maurice, Editor of The Bookman, contributes a particularly interesting article entitled "A Literary Pilgrim in Paris," in which he seeks out the Paris of Hugo, of Dumas, of Du Maurier and other French writers, leading us through the haunts that they have immortalized.

"A Venetian Holiday" is the title of another article by Mr. Gardner Teall, who has seen it all from every side, portraying graphically in text and picture the Lido, the Coney Island of Italy, with all its picturesque holiday making.

Mr. C. H. Claudy describes the wonderful caverns of Luray—that marvelous geological cave of Virginia, more mysterious and magnificent than the Mammoth Cave of Kentucky. Many most extraordinary photographs are shown of the stalacite and stalagmite formations along the miles of subterranean passages in this little known cave.

Then there are articles on a climb of Mt. Popocatepetl in Mexico; our own Adirondack country; a Visit to Segesta, that bygone seat of culture in Sicily, with its superb Grecian ruins of a former architectural splendor: Home Life in Persia, and many other subjects no less interesting that will strike a responsive cord in the heart of every red-blooded man.

The appended coupon is for our friends who have confidence enough in us to believe that we will make a magazine as notable in the field of coed as we have in the field of country home making. Our friends the readers of House & Garden, whether they are on our subscription list or buy the magazine regularly on the newsstands, may become charter subscribers of the new Travel Magazine and secure it from now until January, 1912, for the regular yearly subscription price of $1.50. But you must act promptly. The charter subscriber's list closes August 31st. The appended coupon is for your convenience. If it is not used your letter must state, in subscribing at this special rate, that you are a regular reader of House & Garden.

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The Chow Chow

BY FRANK T. CARLTON.

The Chow Chow dog is a native of China, and it is only in very recent years that he has become popular in this country and England. The vogue of the breed has been slow to develop, but the last two or three years has seen an advance that is amazing. The principal breeders in various parts of the United States all report an overflow of orders for puppies. So far, the Chow has enjoyed an exclusiveness of patronage somewhat akin to that of the French Bulldog. It is not a cheap dog, in the first place, and its singular or quaint appearance perhaps calls for a rather cultivated taste in dogs. At all events he has grown in the affections of the American dog-lover in the most permanent fashion, and many of the most handsome homes throughout the country boast these dogs as ornaments and guards.

In connection with this last quality, the fact is that as a real guard or watch-dog, the Chow has no superior. He is not a very large dog, but he is muscular, hardy, of undeniable courage, and never fails to give warning of the presence of intruders. One commendable feature of his watching is that he is no mere alarmist. When a Chow gives tongue there is something going on, or somebody around, that his owner should be aware of. Added to this he has one of the greatest charms in any dog, namely, he does not make friends with strangers. This is his most noticed commendable trait of not easily making friends.

The Chow is a good watch dog, with the commendable nature of not easily making friends.

The Chow Chow breeds true to type, therefore he must be accepted as a dog of high degree. Once at maturity, he is regarded as exceptional, and it is best to purchase a specimen when he is high degree. Once at maturity, he is re-
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RETHBERG COLLIE KENNELS
N. T. CAMEL, CONN.

AMERICAN KENNEL MAGAZINE

AN ARTIST IN THE BIG GAME COUNTRY

ANOTHER DEAR OLD DUG

THE Chow has an under-coat, soft and woolly, topped by an outer coat of coarse texture—the more profuse, the better. This coat is whole-colored—red, black, shaded red, yellow, blue, and white. The colors most commonly seen in this country are the three first named. The deep red is most coveted by fanciers. The shaded reds are becoming increasingly popular, however, owing to their generous coats of the desirable straight, coarse texture.

The general appearance of the Chow is a lively, compact, muscular dog, with a well knit frame, and tall curled tightly over his short back. His skull should be flat and broad; muzzle broad from the eyes to the point (not pointed like the fox); nose black, large and wide; teeth strong and level; eyes, dark and small; ears small, pointed, carried stiffly erect, and carried well forward over the eyes, giving the desirable "scowl"; the shoulders are muscular and sloping; forelegs, straight, massive and of moderate length; hocks on hindlegs well let down; feet small, round, and cat-like. Puppies of good breeding bring from $50 to $100.

The best evidence of the Chow's increasing popularity is the provision made for the breeds at all large dog shows. The classification is most liberal, and the owners of good specimens secure no insignificant returns in the way of cash prizes and trophies of value.

It is the way of doggy men when approaching a strange dog to handle him, to give him first the back of the hand to smell when, nine times in ten, the dog will suffer himself to be handled, or stroked. The dog always seems to demand this form of introduction from humans. Should he be so ill-mannered as to snap at your hand, do not withdraw it suddenly, or the flesh will be ripped, whereas if the hand be held firm the intelligent animal will scarcely sink a tooth into the flesh. As you grow nervous, dogs grow courageous. Great bluffers they are, in form of introduction from humans.

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The purpose of this department is to give advice to those interested in poultry. All inquiries will receive careful attention. When an immediate reply is desired enclose a self-addressed stamped envelope.

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The Moult Hen  
by M. ROBERTS CONOVER

A FOWL moult during its second year, usually when from sixteen to eighteen months old, and once a year thereafter during the remainder of its life. The majority of fowls moult in late summer. Many poultrymen do not keep their pullets beyond the moult, but sell them and procure others for laying. Although old hens are not profitable as layers, the hen that goes through her first moult quickly and is ready for business in the fall, may still be counted valuable enough by the average man to be held for one more season of laying.

Hens that make of it a deliberate process lasting for three months, during which they suspend their egg-laying functions, will not be profitable to their owners. Such birds are usually in a debilitated state, the system lacking the feather-producing elements.

A preliminary of moult is the loss of feathers, caused by the diminution of nourishment to the old quill. The forming feather within the follicle crowds the old one out. In warm weather the shedding is not injurious to the bird, but the real tax upon the system is the formation of the new feathers. Vigor is, of course, conducive to a quick moult and a speedy return to egg-laying. Among normal fowls, there should not be undue raggedness of plumage, the new feathers soon replacing the old. The moult should be completed in from four to six weeks. Its requisites are moderate exercise, right food, cleanliness and freedom from the weakness of inbreeding. There must exist the proper conditions for weeks beforehand, not a belated delaying after rules for feed rations when the flock has assumed that distressing half-plucked appearance often seen among neglected flocks.

As soon as the feathers begin falling, confine the flock in a good-sized pen where there is a good stand of grass or clover. This will furnish the necessary green food. Stop working for eggs. Some hens will lay during the moult, but usually a hen does but one thing well at a time and in moulting time she should grow feathers. The aim is to get them through the process quickly by lessening all other drains. Fattening foods are not required. There must be nitrogenous material in plenty. Linseed meal, oat-
meal, bran and whole wheat should be fed chiefly. Give the heaviest feed late in the day and let the birds have cool, airy sleeping quarters in which to assimilate the feather-making material of their last meal. It is well to vary their rations to a certain extent, feeding certain foods on alternate days. Below are two feed formulas which give the necessary elements in about the right proportion.

No. 1. Linseed meal... 1 part  
Whole wheat... 3 parts  
Bran ... 1 part  
Corn ... 1 part

All mixed thoroughly and fed dry. Feed enough to give each fowl a full crop.

No. 2. Oatmeal ... 3 parts  
Meat scraps ... 1 part  
Whole wheat... 1 part  
Corn ... 1 part

When No. 1 is fed, the morning feed may consist of clipped oats scattered about where the birds must hunt for it. When No. 2 is fed, whole wheat may be fed in the morning.

During the second week omit the corn from feed No. 1 and increase the allowance of linseed meal to two parts. Omit the corn in feed No. 2 and increase the oatmeal to four parts. During the third week, feed as during the first; during the fourth week, feed as during the second.

An excess of linseed meal sometimes affects the bowels slightly. If such is the case omit it for four days and resume it gradually.

This feeding should bring the fowls around in first-class condition.

At the end of the fourth week examine the birds. Such as have fresh plumage and bodies free from forming feathers have finished the moult and may come down to ordinary rations. Those that have not may be fed the following on every other day:

Linseed meal ... 1 part  
Bran ... 1 part  
Whole wheat... 1 part

While on the intervening days the ration could be made up of equal parts of bran and wheat. This is fed in a moist, crumbly mash.

The dust bath of ashes or clean fine sand is vital to the fowls at this time and all precautionary measures against vermin are of the utmost importance.

Where there is no pen of grass or clover, such gleanings from the garden, as pea vines, the outer leaves of cabbage, overgrown lettuce, etc., are very much relished.

It is also well to mix with their food from time to time two or three tablespoonsfuls of powdered charcoal.

If any birds sicken, isolate or annihilate them at once.

Give the fowls double the quantity of drinking water, as they need more and the evaporation is greater.

If coughing or sneezing is noticed among them, put a little kerosene in the drinking water—about one tablespoonful to every quart.

The BEST SHORT STORIES of the year are in the

FICTION NUMBER

(AUGUST)

SCRIBNER

Richard Harding Davis contributes a story of remarkable power and dramatic intensity—A Question of Latitude

E. W. Hornung, creator of the famous Raffles, tells a story of villainy and heroism in which a chauffeur plays a leading part—The Man at the Wheel

Stories by Alice Brown John R. Spears Dorothy Canfield Gerald Chittenden

John Fox, Jr., author of “The Little Shepherd of Kingdom Come,” describes a journey On Horseback to Kingdom Come—a region he had never before visited. It has all the charm and romantic color of his fiction

A very notable feature of this number will be

GEORGE MEREDITH’S

The Sentimentalists—An Unfinished Comedy

Maurice Hewlett’s Rest Harrow

THEODORE ROOSEVELT’S

account of the great LION HUNT by Nandi spearmen is one of the most vivid and dramatic episodes among his African experiences

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THE TERRACE OF A COUNTRY HOME NEAR VILLA NOVA, PA. Charles Barton Keen, architect

With the need for more light in the rooms back of the ordinary covered porch, there has been developed the paved terrace, either open to the sky or sheltered by vine-covered rafters. In this combination of Germantown hood and pergola motive lies a charming solution of the problem.
Plant Evergreens Now

WHY AUGUST IS THE BEST TIME TO SET THEM OUT—SPECIES FOR ALL PLACES AND PURPOSES—THEIR CHARACTERISTICS AND METHODS OF GROWTH

By Gardner Teall

Photographs by Nathan R. Graves and others

The best Evergreen planting month is August. This is because the soil conditions at this time are particularly suited to an Evergreen’s special requirements. The soil in August will not yet have suffered from summer droughts, and its mellow condition will permit the young roots of the Evergreen, eagerly seeking the soil of its new environment, to take hold firmly and to begin immediately the important function of furnishing moisture to the foliage of the plant. This month the soil will not be suffering from the effects of winter frosts, as it would in the early springtime, and September’s planting will not have set in to take one’s attention away from the care which must be given all newly planted Evergreens. Deciduous trees and shrubs, while requiring equal planting care, are different from Evergreens in the time required for their planting. Deciduous plants are put in the ground at “sleepy” times, and their vigor awakes with the awakening of nature. On the other hand, Evergreens want to be transplanted when and where their energetic constitutions may derive immediate nourishment for uninterrupted, vigorous growth. Otherwise they dwindle and die.

There are two classes of Evergreens, (1) those among the Conifers (Pines, Spruces, Hemlocks, Cedars, etc.) and (2) Broad-Leaved Evergreens (Rhododendrons, Box, Holly, Mountain Laurel, etc.). While those of the first sort are familiar to everyone by the general name of Evergreens, there are many who do not know that the broad-leaved varieties are likewise true Evergreens, though different from Conifer Evergreens, in appearance, their leaves being more like those of foliage plants in general. There are, of course, a few Conifers which are deciduous and not evergreen (such as the Larch, the Bald Cypress, and the Ginkgo.)

The place too small to be made more beautiful by the introduction of Evergreens in the home landscape would be hard to
A generous planting of Rhododendrons. Do not neglect the Broad-leaved Evergreens in selecting your varieties for planting around the base of the house.

find. There is hardly any other class of trees and shrubs that served so many decorative and useful purposes—for hedges, windbreaks, winter effects, shading, edging, screening, etc. It would be almost impossible to construct a formal garden without evergreens, and we could not well get along without the beautiful, flowered broad-leaved varieties. Elsewhere in this number will be found an article especially devoted to a consideration of the place of Evergreens in landscape design.

Evergreens must be selected with reference to the position they are to occupy, the purpose they are to serve, and their relation to the place where they are to grow. One would not plant a Norway Spruce in a yard space of twelve feet square, nor expect a single specimen of the common Juniper to be discovered alone in the middle of an acre. As the catalogue of one nurseryman enumerates over two hundred varieties of Conifers alone, the suggestions that follow will probably be welcomed by those who wish to select certain Evergreens for certain purposes, but are not sure just what sorts to order. With the Holly it is always necessary to plant several specimens in a group to ensure cross fertilization and hence berries, as the flowers of a single tree are infertile in themselves.

Unlike deciduous trees and shrubs Evergreens show their character at once, and it is a comparatively easy matter, when they come from the nurseryman, to group them and to have an excellent idea of just how they are to look, which, of course, one cannot do with the leafless stemmed deciduous plants. Evergreens love company, as in this way they form mutual protection against dry and chilling winds, from which winds all Evergreens are apt to suffer. Evergreens may be grouped with deciduous trees and shrubs to be planted at a later time.

If you are buying very large specimens, that is, large treesizes, it will be well to visit a nursery to consult about the matter and to examine the growing tree to see if it is all you would have it to be. Any small trees and shrubs can be bought by correspondence from any reliable dealer in Evergreens, and there are several who particularly specialize in trees and shrubs of this sort. Always demand plants of symmetrical form and those that have good roots. These should be dug with a generous ball of earth clinging to them and plenty of feeding roots left around the main roots. Evergreens up to twenty or twenty-five feet may be shipped by rail with comparative safety. All Evergreens in the process of moving should have the root-ball wrapped in bagging, so the air will not come in contact with the moist roots and dry them before they can be planted. Evergreens are particularly sensitive to this. Don't permit the Evergreens you have bought to lie around for a minute in the hot sun unplanted.

You will find that Evergreens take spherical, cylindrical or pyramidal form, many of them, as they reach greater age, branching out irregularly. Among the spherically formed are many of the Conifers in the early stages of growth, and occasionally older Evergreens assume an approximation of this
It is unfortunate that the great popularity of Privet has forced into the background such splendid hedges as those formed by Hemlock Spruce (on the left) and Arborvitae, which latter, in the picture on the right, divides the vegetables from the old-fashioned flower garden form, the Dwarf Japanese Yew; for instance, and again the Austrian Pine (*Pinus larico var. Austriaca*). Of the cylindrically formed Evergreen, the old American Arborvitae (*Thuja occidentalis*); which was the most popular hedge plant before the advent of California Privet, is the most representative. Then among the pyramidal-formed Evergreens are the pyramidal Arborvitae (*Thuja occidentalis var. pyriformis*), and Red Cedar (*Juniperus Virginiana*), which has probably solved more landscape problems than any other Evergreen, so nearly reproducing the effect of the Cypresses to be found in every Italian garden. The Broad-leaved Evergreens are, almost without exception, found under the spherically formed class. They are indispensable for this reason, as architectural accessories, softening, as they do so admirably, the hard lines of the foundations of buildings.

It is rarely necessary when setting out Conifers to cart good soil especially for them, because, as the reader has undoubtedly remembered, nearly all of them are native to poor soils. On the other hand, good, fertile loam should always be used in preparing for the planting of Broad-leaved Evergreens.

First of all it will be well to note that the following varieties of Evergreens seldom prove thoroughly hardy north of the latitude of Philadelphia: the Cypresses, the true Cedars, the Yews, Oregon Cedar, Japanese Euonymus, Oriental Yew, Japanese Mahonia, Magnolia and Japanese Holly. However, if well protected in winter, many of these will thrive still farther north. The following are suggested for various exposures: For shaded places: Rhododendrons, Azaleas, Mountain Laurel, Drooping Andromeda, Daphne, Myrtle and Mahonia, all of which may be counted upon. For seashore places: There are few Evergreens for this purpose that excel the Red Cedar, Pitch Pine, Scotch Pine, Austrian Pine, Mugho Pine, Japanese Holly, English Holly, Japanese Euonymus and Myrica. For coal-smoked places: Austrian Pine, Mugho Pine, Colorado Blue Spruce, Canadian Yew, and the Scotch Pine; and, among the Broad-leaved Evergreens, the Leucothoe will, with some success, withstand contact with continually smoky atmospheres. However, where the air is laden with soft coal smoke, as it is in Pittsburgh, it is not expected that Evergreens will thrive.

The following list has been compiled with a view to aid in the selecting of various specimens that will enhance, year after year, the beauty of the lawn where they are intended as a single feature, more or less: Nordmann’s Fir, Engleman’s Colorado Spruce, Norwegian Spruce, Inverted Spruce, Eastern Spruce, Colorado Spruce, Colorado Blue Spruce, Austrian Pine, Mugho Pine, Ilotan Pine, Thread-branched Retinispora, Green Retinispora, Silver Retinispora, Golden Retinispora, American Arborvitae, and Hemlock Spruce.


Box hedges in a very old garden on the Wye River, Maryland.
Spruce has been used for the hedge in front and Arborvitae for the one beyond. The former Evergreen is seen at its best in a very high hedge. Arborvitae is of comparatively rapid growth.

The Box-bordered walk to the garden from an old Long Island home

There are a number of dwarf Conifers that may be referred to as Dwarf Architectural Evergreens by reason of their adaptability to positions in tubs and window-boxes as decorative features, to enhance architectural effects. Among this number the following will be found especially useful: The Retinispora (Chamaecyparis pisifera, C. plumosa, C. aurea, C. Squarrosa), White Pine (Pinus Strobus var. brevifolia), English Juniper, Chinese Juniper, and American Arborvitae. Then almost all of the Broad-leaved Evergreens may be considered as Architectural Evergreens.

As it occasionally happens that one wishes to establish a little forest of Evergreens, the following species (planted at a distance of about five feet apart), are suggested for the purpose: White Pine, Norway or Red Pine, Common Hemlock, Canadian Juniper, Norway Spruce. All these should thrive in the north. Canadian Juniper, it should be borne in mind, requires a dry position.

Certain Evergreens assume, more or less, weeping forms, such as the Hemlock (Tsuga Canadensis var. pendula Sargent), Common Juniper (Juniperus communis var. oblonga, and also var. pendula), Norway Spruce (Picea excelsa, var. inerterta), and Retinispora (Chamaecyparis pisifera, var. obtusa pendula).

There are few Conifers that equal the Junipers (Juniperus Sabina, J. prostrata, J. communis prostrata, and J. Chinensis prostrata) for this purpose. The Canadian Yew also lends itself to such positions. Nearly all the Broad-leaved varieties, from the low-growing Myrtle to the splendid and gorgeously flowered Rhododendron, fit into rock-work admirably.

As Evergreens vary in color, much depends, in selecting and in grouping them, on bearing this in mind. Therefore some of the species with marked color characteristics are given here to aid one in choosing according to color. Light green: Siberian Fir, Carolina Hemlock, Chinese Evergreen, Austrian Pine, Retinispora (Chamaecyparis pisifera var. plumosa), Box, Japanese Mahonia and Yucca. Dark green: Siberian Arborvitae, Pyramidal Arborvitae, White Cedar, Nordmann’s Fir, Fraser’s Balsam Fir, Trailing Juniper, Pinus densiflora, Norway Pine, Retinispora (Chamaecyparis obtusa, also var. nana), Japanese Yew, Oriental Spruce, Dwarf Japanese Yew, Spreading Yew, English Yew and Rhododendron. Golden: George Peabody Arborvitae, Golden Japan Cypress, T i g e r - t a i l S p r u c e , Golden English Yew, Chinese Arborvitae (Thuya orientalis, var. aurea) and Golden Juniper. Blue-green: Blue-red Cedar, Blue Cedar, White Fir, Colorado Blue Spruce, Sub-Alpine Fir, Noble Fir, Scotch Pine.

We can best appreciate the real value of Evergreens in the older and more fully established gardens such as this one at Camden, S. C., with its Olive hedges and fine old Cedar arches.
The Secret of Durable Stucco

SOME SUGGESTIONS ABOUT THE PROPER USE OF THE BUILDING MATERIAL
THAT HAS IN THE PAST FEW YEARS WON ITS WAY TO POPULARITY

BY ALBERT MOYER

ASSOCIATE OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS

Photographs by Thomas W. Sears and others

There has been a tendency to discredit stucco, also called plaster, rough-cast and pebble-dash, for the simple reason that in some conspicuous instances it has proven unsatisfactory as a durable covering for the exterior of walls. The trouble has not been with the material itself, but with the ignorant methods by which it has been mixed and applied. Because we have come upon houses from the walls of which there were unsightly patches cracked or entirely fallen away from the support we have naturally been somewhat skeptical about the lasting qualities of this new-old wall covering.

With the rapidly increasing cost of wood, however, we have been forced, fortunately, to carry forward our experiments with other materials, until we have finally reached a point where the inherent merits of stucco have unmistakably asserted themselves, and the dependableness of the material been fully established when it is properly made, properly supported and properly applied.

The history of stuccoes does not furnish sufficient information and data to be of practical value in the manufacture of the present-day Portland cement stuccoes. There are records standing from the year 350 B.C. of stuccoes made from vastly different material than are of economical use at the present time, and we find that such stuccoes were almost invariably used in warmer climates where the action of frost would not end to disintegrate the rather poor material which was then available.

There is every reason to believe that originally these stuccoes were intended to cover up and protect inferior building stone and sunburned straw brick. The archaeology of stucco would tend to show that from an artistic standpoint this method of decoration was a development of the wattle buildings, which were plastered with clay and different muds hardened by being baked in the heat of the sun. Therefore, in this instance, the use of clay plaster over wattle houses was to protect an inferior building material.

To-day stucco is used for a similar purpose, that of protection and pleasing surfaces. It would, therefore, seem advisable to recommend a material which would best serve the purpose of protection and artistic merit. Stucco or plaster should never be used as an imitation of other building material. "To cover brick with plaster and this plaster with fresco is perfectly legitimate—the plaster is gesso grounds on panel or canvas, but to cover brick with cement and to divide this cement into joints that it may look like stone, is to tell a falsehood, and is just as contemptible a procedure as the other is noble."

To secure a wall covering that fulfils all modern requirements it is advisable to use only Portland cement stucco for exteriors, as this is the only hydraulic material which will stand the action of the elements.

From the artistic side we would also recommend such surface...
It is possible to secure dark stucco very easily, either by the use of colored aggregates or by the addition of mineral coloring matter finishes for stucco as will give both natural color and pleasing texture. It would be well, therefore, to expose to view the aggregates used and avoid as far as possible exposing the bonding material, Portland cement.

There is no artistic reason for allowing only the bonding material to be displayed to the eye. On very large wall areas the surface can be cleaned off by means of a sand blast, and on smaller jobs the surface may be cleaned so as to expose each grain of sand by means of muriatic acid in dilute solution, 1 part commercial muriatic acid to 4 or 5 parts clear water.

Where white aggregates (the gravel, marble chips or sand that is used with the cement) are used the surface may be cleaned off with a solution of sulphuric acid: 1 part acid, 4 to 5 parts clear water. The sulphuric acid leaves a white deposit and therefore should not be used excepting where the aggregates are white.

Another method is to scrub the surface while yet green, say within twenty-four hours, with a house scrubbing-brush and clear water. This is more difficult than the others, for the reason that if the stucco is allowed to remain too long before scrubbing, it will be too hard to remove the coat of neat cement from the outside of each particle of sand or other aggregates; while if scrubbed when it is too soft the surface may be damaged and difficult to repair.

If the character of the available aggregate will not present a pleasing surface when exposed, the following surface treatment may be used:

While the last coat is still thoroughly damp, apply a Portland cement paint, composed of 1 part Portland cement, 12 per cent. of the volume of the cement of well hydrated lime in pulverized form, and 1 part of fine white sand. Mix with water to the consistency of cream or the ordinary cold water paint. Stir constantly and apply by using a whisk broom, throwing the paint on with some force.

Keep this finish surface damp for at least six days, or longer if economy will permit. Do not allow it to dry out in any one place during the week. If necessary, protect by hanging tarpaulins and using a fine spray of water playing upon it several times during the day, by means of a hose. This will give a pleasing light gray color of excellent texture.

Stucco may be applied to various building materials. There is hardly any reason at the present time for stuccoing stone buildings; the procedure at best is difficult and hardly to be recommended unless the stone is of an inferior quality and color. Our building stone is usu-
ally an excellent material, however, and therefore does not require either protection or covering to produce pleasing effects.

New brick may be covered with stucco very successfully. The joints should be first raked out to a depth of half an inch. The brick must be saturated with water. It is always best to start stuccoing at the top of the wall and work down between the pilasters or corners, finishing a whole strip or whole side wall from top to bottom in one day. Thus no streaks or cracks are formed where one day's work ends and another begins. By this method the wall can be kept wet ahead of the work by means of a hose.

The second coat should be put on as soon as the first coat has stiffened sufficiently to hold in place and stand the pressure of the trowel. This second coat should be well scratched and the finish coat applied while the second coat is damp. The finish coat should then be kept wet, protected from the rays of the sun, and, as far as possible, from drying out. This can be done by hanging wet cloths over it. This rule of keeping each coat moist until the other coat is applied, and protecting the surface after applying the finish coat, must be observed in all forms of Portland cement stucco.

If the stucco is to be applied to metal lath or wire cloth the metal should be plastered on two sides so that the supporting mesh is entirely encased in mortar in order to avoid rusting. If this is impracticable, then the metal lath or wire cloth should be dipped in a paint made of equal parts of neat Portland cement and water. Immediately after dipping, the metal lath or wire cloth should be tacked upon the framework in the position it is intended to occupy. As soon as the neat Portland cement has hardened on the metal, apply the first coat of stucco. Hair should be added to the mortar to be applied on wire mesh or expanded metal. Use one bag of cement to one pound of hair.

If plaster boards are used they should be nailed on the frame work of the building, leaving at least a quarter of an inch between each pair. This joint is to be filled in with lime putty, otherwise each plaster board will cause square cracks on the outside of the stucco the size of each board.

A convenient method of waterproofing plaster boards is easily available. The boards may be painted with two coats of any of the reputable bitumen waterproof paints to which plaster adheres. Then, about twenty-four hours after the bitumen paint has been applied, and within six days, apply the first coat of stucco.

For stucco or terra-cotta blocks great care should be exercised in keeping the blocks thoroughly saturated with water.
The home of Mr. D. M. Murphy at Winchester, Mass., showing a very interesting combination of materials—this time of brick and timber paneling with the stucco. Robert Coit, architect

for if the blocks are not moist they will pull the water out of the mortar and it will crack and disintegrate. Portland cement requires water in its makeup until it has thoroughly hardened, which ultimate hardening usually requires from fourteen days to a month. It is not always necessary, of course, to play the hose on the wall for a month, although it would be advisable. The dews at night, the dampness in the atmosphere and the rain will furnish the necessary moisture, provided the material on which the mortar has been plastered has not too great an affinity for water.

In order to prevent the porous hollow terra-cotta tile from sucking the moisture from the stucco, and also to furnish waterproofing and an additional bond other than that which would be given by the key, it is good practice to paint the surface of the dry terra-cotta blocks after having been erected in the wall with two coats of first-class bituminous paint. It is important that the first coat of stucco be placed over this paint after twenty-four hours and within six days.

Proportions for a good stucco should be 1 part Portland cement, 2 parts coarse clean sand (if coarse clean sand is not available use only 2 parts of sand). Add well hydrated lime, dry pulverized, equivalent to 10 or 15 per cent. of the volume of the cement.

In mixing stucco great care should be exercised to obtain the thorough incorporation of cement, sand and the other aggregates. The sand and cement should be mixed together dry until an even color results. This can be done by shoveling, and raking while shoveling. Water should then be added, being careful not to add too much water at a time and not to get the resulting mortar too wet, so that more sand or cement has to be added. Be very careful to bring the resulting mortar up to the proper consistency for plastering.

It is advisable to add to the mortar from 10 to 15 per cent. of the volume of the cement of well hydrated lime. This should be mixed dry with the cement and sand before the water is added. The addition of hydrated lime tends to "fatten" the mortar, making it more adhesive and impervious.

Another specification which we believe will prove of considerable value provides for the addition of mineral oil to wet mortar. After the water is added and thoroughly mixed with the mortar add 15 per cent. of mineral oil and remix. If a light effect is to be produced use white oil. When the oil is to be mixed with the mortar it is always advisable to use hydrated lime, as we thus have a larger amount of emulsifying material.

If it is the desire of the owner or architect to use the exposed aggregate method, interesting natural colors can be obtained by using the following materials instead of sand, in the same proportions: Green, red, buff, black or white marble screenings, all passing a number 8 screen and all collected on a number 40 screen. These different colored marbles and different colored sands, where obtainable, can be used singly or in a combination. When exposed by scrubbing or by means of the acid treatment, very interesting results are obtained, the resulting color being limited only by the available sand or marble screenings; in each case the color will be the color of the aggregates. Or, an excellent green can be obtained by adding 8 per cent. of the weight of the cement of chromium oxide. This should be mixed dry with the sand, cement and hydrated lime.

Always keep in mind that the surface to which the mortar is to be applied must be thoroughly saturated with water, each coat of stucco must be kept moist and the final coat must remain moist for at least one week, and longer if economy will permit.

Stucco should not be troweled to a smooth surface. The artist (Continued on page 123.)
It is a mistake to allow planting of any kind to interfere with a close approach to the dial.
HERE are two kinds of stenciling, the good and the bad, and, I am sorry to say, we see altogether too much of the bad variety. A weak and banal border used as a frieze, the work of an unimaginative "decorator," will quite spoil what should be an attractive room, but interesting and artistic work is quite another matter.

Stenciling is such a simple and useful art that anyone can add it to his or her list of accomplishments, and what is more, do with it something that is really worth while. Everything from leather belts to house furnishings can be stenciled, and if the work be done with care and skill, the result is charming. It seems especially suited to the furnishing of country houses, and houses of the Craftsman and bungalow type that are growing so rapidly in favor. These houses with their beamed ceilings and stained woodwork, their casement windows and leaded glass, have more or less an informal charm that heavy brocades and beautiful lace would quite spoil, and to fill the need of something individual and appropriate stenciling is often called upon in the furnishing. By varying the material and the style of design it can be used in almost all circumstances.

Stenciling is not difficult to do, but it takes practice to achieve the best results. One should never begin a piece of work without trying the color to be used on a sample of the cloth, as materials differ in the way they take color, and one must experiment and learn from experience, and thus avoid disappointment.

Cutting the stencil is the hardest part of the process. If one does not care to do this there are many designs already cut for sale at art stores, and some of the large paint companies have good collections and send catalogues; and many of the magazines have charming cut stencils for sale. Some of the designs are very good indeed, and some of them are too dreadful, but one can pick and choose, and if nothing suitable is found it is well to have some clever designer make one that is appropriate. A design does not have to be elaborate to be effective; in fact it is most important that the design one chooses should be broad and simple in construction, so that the effect will be good without a mass of detail.

To cut a stencil one must first transfer the chosen design to stencil board by slipping a piece of carbon paper face downward under the design and fastening them to a board with thumb-tacks, then tracing carefully the outline of the design with a sharp pencil. Stencil board is sold at paint shops for fifteen cents a sheet. When the tracing is done the design must be cut out with a sharp knife, and one must be very careful not to cut the connecting sections. There are special knives made, but a penknife is satisfactory, in fact is what most people use. Cut the stencil on an old table or drawing-board, and it is a good plan to put a piece of glass under it. This gives a clean, sharp edge but rapidly dulls the knife. To protect the forefinger while cutting wear the finger of a stout old glove. Leave at least an inch of plain board around the design and be sure the centre of the design is at right angles with the bottom edge. This helps to keep it straight in repeating.

Prepare the material by carefully marking the places for the repeat. If the design is a unit to be repeated several times the cloth must be divided into halves, quarters, or fifths, or whatever division one may wish, and the design put in the exact centre of each space. If the unit is to be grouped in sets the measurements must first be carefully made. A running design must have the repeat clearly marked upon it.

The material should be stretched over a piece of clean blotting paper and the stencil pinned in place with thumb-tacks. Have each color mixed...
in a separate saucer before beginning work, with a separate brush for each color. The brushes are stubby little bristle affairs and cost from five cents up, according to size. Dip the brush in the color, press out as much as possible and wipe on a piece of blotting paper, so there will be no possibility of any excess of color, and then apply to the cloth. Hold the brush at right angles to the material and tap it up and down until the color is well rubbed in. Put the brush down first in the center of each portion of the design, as this lessens the danger of the color running. When the stencil is moved it must be carefully wiped before putting down again.

There are many different preparations to use for stenciling. Oil colors thinned to the consistency of cream with turpentine, or benzine, or one of the thinning fluids that come for the purpose, are very satisfactory, and with them one can get beautiful colors. There are also some very good and simple dyes that come in tubes and have only to be mixed with hot water to be ready for use, and the colors are soft and attractive. There are also crayons that have a very interesting effect when used on coarse crash or linen; in fact they look more like block printing than stenciling. A good many of the color preparations need fixing with heat after the work is otherwise completed. One must try the color with great care on pieces of the material to be sure the consistency and color scheme are right. Do not use very many colors in one design, as it makes the work harder and takes away the simplicity and often the charm.

If these directions are carefully followed a little practice is all that is needed to bring success and most gratifying results.

When using stenciling for the decoration of rooms there should be dignity and beauty in the design, and the color and treatment should harmonize with the style of room. The subject of the appropriateness of the design is an important one, and it should, of course, always be in keeping with the room. The plain, heavy lines of a Mission interior, for instance, call for corresponding strength in the decorative scheme. I have seen a Mission living-room quite spoiled by a poor weak little Empire wreath used as a border—at least it had a family likeness to the Empire, but it certainly was a poor relation. It was entirely out of scale and style with the room. A single motif repeated at intervals about the room above the wainscot, or a more solid design, or one that gives the feeling of paneling, are all good. They should be done in soft tones that harmonize with the wall and furnishings.

Bedrooms lend themselves especially well to stencil decoration, and one in a country house could be made very charming by having the walls tinted cream color with a rose stencil design done in a panel effect in soft pinks and greens, and a rose border stenciled on scrim or muslin for curtains, with the same design repeated on the bed-cover, cushions, and bureau scarf. The side curtains and rug might be either plain soft pink or green. This same idea could be carried out in any color and the design used could be varied to suit the taste of the occupant of the room.

In a bathroom a design of waves and fishes done in cool greens and green blues, stenciled just above the tiles, is attractive. The design should be adapted for use on the linen or scrim curtains. There are many charming designs for nursery walls. Children certainly appreciate their walls treated in this way, and there is a wide opportunity to have an individual and delightful room for them. A Noah’s ark or barn-yard procession, or fairy tale or Mother Goose rhyme people, give a wide enough choice. The frieze should be placed low, about three feet from the floor, or the children will not notice it.

If stenciling is to be used in halls, living-rooms or dining-rooms, the designs should have a more conventional feeling than those used in the bedrooms.

Stenciling can be done on rough finished plaster walls, the natural color of which makes a beautiful keynote for a scheme of decoration. A design of old Dutch tiles done in blue on the plain plaster, just above a wainscot of weathered oak, with blue side curtains over white muslin, would make a very pleasant and cool looking room on the sunny side of a house. Also if one has a plain wall paper that is a trifle shabby and care-worn looking, a little stenciling applied judiciously but not too freely will freshen it enough to give it a new lease of life.

Stenciled curtains can be made of scrim cheesecloth, linen, Russian crash, raw silk, pongee, arras cloth, velours—in fact the list is too long to mention all the possibilities, as nearly all fabrics can be used, as well as leather. Velours takes dye extremely well, giving a soft and charming effect. Very beautiful sofa pillows, curtains, and portières, can be made of it. Chair and sofa cushions of linen, silk, or arras cloth, can all be stenciled to match any scheme. Piazza cushions are very attractive done in this way. Matting rugs for the piazza can also have a bit of stenciling done on them in neutral colors with good effect.

A very beautiful screen can be made for

From an old Japanese stencil such as can be bought in antique shops

A simple poppy stencil on the same cheesecloth in red and green. Two pairs were made and stenciled in one day

(Continued on page 123.)
The Right Use of Evergreens

STRIKING THE MOST POWERFUL NOTE IN LANDSCAPE PLANTING — ARRANGING GROUPS TO AVOID ARTIFICIALITY — THE ADVANTAGES OF THE GOOD OLD ESTABLISHED Sorts

BY GRACE TABOR

Photographs by Nathan R. Graves and others

We in America can hope only to approximate the grandeur of the Cypresses of Italy, for the elemental stirs the heart when the voices of all this great whispering tribe breathe their mysteries into human ears; equally certain it is that Evergreens always have struck and always will strike the supreme note in a landscape—a note that lifts the imagination to splendid heights.

But it is all too seldom that they are planted with reference to this. In modern gardening they are too apt to be "specimens," such as the glaucous-foliaged Spruces or golden Arborvites, or else they are relegated to the merely utilitarian and planted as shelter belts for something that stands before them and focuses the attention; in either of which cases the real and lofty grandeur of the order is overlooked and hopelessly dimmed if not altogether obscured.

To be sure the question of purpose must be kept in mind quite as much here as in all other phases of gardening, for a reason for planting must exist, else there can be no excuse for planting—but this reason need not altogether lack an aesthetic side. Precise, straight rows of Hemlocks or Spruce will shelter from the wind and will hide a view that is objectionable, but it is such planting, utterly devoid of imagination and feeling and resulting in a forbidding gloom, that is largely the cause of the prejudice which some cherish towards evergreens as a class. It is quite as possible to group effectively and still secure protection or shut out objectionable features as it is to plant in rows to do so—and in the former case a definite interest is created, a bit of true landscape is formed so that the utilitarian is lost sight of completely in the end; nevertheless the reason for planting existed and continues to exist, though it is not apparent to the observer.

Fancy varieties of a tree are seldom worth while, whether evergreens or deciduous—and this can never be emphasized too much. With evergreens particularly the temptation to indulge in some of the many novelties is constantly before the unwary buyer and the standard natural forms are almost lost sight of. Horticultural forms may be interesting in themselves, but it takes something with a greater claim to consideration than “interest” to build up a beautiful picture—and the quality that makes them interesting when they are a novelty is usually the very thing that makes them tiresome when the novelty has worn off. So on the
whole it is the ordinary and accustomed variety which wisdom will select.

Nothing is more beautiful than the familiar White Pine which is native over such an extended area of the United States and which will grow practically everywhere, so what excuse is there for using a novelty in place of it? No novelty can have withstood the test of generations as the native has—if it had it would no longer be a novelty—and the weaknesses it may develop can not even be conjectured. The changes which age will bring to it are likewise all a matter of guess-work and with evergreens, where we are planting for all time, these are very important.

For there are two distinct forms in the life of the majority of the cone-bearers; the first—the youthful—is regular, pyramidal and somewhat formal; the last—the mature—is rugged and irregular and altogether quite different from anything to be imagined, judging from the earlier.

The period of transition from symmetry to irregularity comes at about the twentieth to the twenty-fifth year in some up to the fortieth or fiftieth in others, hence it is apparent that not until a variety has been grown for fifty years in a given soil and climate can it be said positively whether or no it is a success under those particular conditions.

Fifty years hence seems a long way off in this day and age of haste—and of course it is a long way off—but building a landscape is not the task of to-day or this year; indeed it is not a task that the builder can much more than begin. Even with wisdom and industry beyond price at his command he still must wait on Time.

And Time goes straight ahead if the builder's work is ill, quite as bent on finishing it as though it were well, and quite as determinedly laying emphasis on every point where emphasis can be made to lodge. This is the thought that ought always to be before us—this is the thought that, centuries back, guided the builders whose work now remains in the wonderful old gardens of the Old World.

Plan for to-day, and this year, and next of course—plan to get all into the present and out of it too, that is possible; but plan ahead at the same time. Patience and this looking ahead are always essential in gardening but especially are they so when the subject of the work is evergreens. Keep an eye constantly to the future. Have the quick-growing, short-lived trees for the immediate need, but do not omit planting the slower-growing, long-lived species to take their places, in the course of time.

All that has been said about fancy varieties and novelties applies with even greater force to the “golden-leaved” and “silver-tipped” conifers so much in use at present. Bear in mind constantly that it is always a question whether any tree or shrub with abnormal foliage—and variegated foliage is, with one or two exceptions, always abnormal—is in good taste; and the doubt makes it safer to draw the line quite this side of planting them, altogether. No artist would dream of planting them unless many were grouped in such a way as to give them the meaning and force which unity might express.

This is the test which will ultimately decide the merit of any garden work; no planting can be regarded as a complete success if it does not offer finally a subject worthy canvas and paints and brushes—and a cultivated eye and trained hand to use them. Certainly a solitary Blue Spruce in the middle of a lawn will hardly permit even its fondest admirers to hope or expect this for it.

Generally speaking, the grouping of evergreens follows the same lines as the grouping of deciduous trees, but fewer will ordinarily be planted because of their stronger individuality and dominating qualities. They may be combined with deciduous trees or planted by themselves, either one; in combination with the former they should occupy the prominent positions and should be in either a decided majority or minority. Never use an equal or nearly equal number of both kinds.

Usually one variety of

For the most harmonious grouping along a border the greatest depth in plan occurs at the point of greatest height

Cedars, Pines, Spruces, Firs and Hemlocks were moved here to screen a service court
Pines do not like close, heavy, clay soil, nor will they do well on shallow soil because they have a long tap root. Loose sandy earth suits them best, and because they have this tap root that reaches deep for moisture, they can endure dry soil. The White Pine is not so particular as the rest of the family, however, and will adapt itself to uncongenial places very cheerfully. Pines are very intolerant of shade, but the latter will make the best of a certain amount of this, too.

Cedars are at home on wet, even swampy, soils, though as a matter of fact they will do better where it is dry. They will stand some shade.

Spruces are shallow-rooted trees, which always means adapted to soil that is moist—and they thrive in extreme cold, being natives of high altitudes. They mind shade less than either of the two first named.

Firs are trees of high regions too, and some can not endure a dry, hot climate at all, unless shaded and given the coolest spots.

Hemlocks are not exacting and will grow in almost any kind of soil providing it is moist. Hemlocks and White Pines, by the way, are one of Nature's combinations and may often be found growing together in large forests, which is a hint toward group-

evergreen will be found repeated more or less often, in any patch of woods or within any special area, just as we have noted previously that one variety of deciduous tree is to be found dominating nearly always in a similar growth. The reason of course lies in the fact that all the conditions are exactly suited to give to that variety a little advantage, and though other trees may not be crowded out altogether they do not multiply as rapidly as the favored one. This leads to a "mass effect" quite in line with what Nature continually offers—and furnishes the best example possible of ideal planting, from the practical as well as the esthetic side, being in the last analysis a survival of the fittest.

Learn what evergreens are best suited to a place before planting any, by ascertaining what are native to the region, to the immediate territory; then make use of these or their nearest relatives in all broad scale planting, governing the selections, of course, by the soil conditions of the particular piece of land to be planted. A tree that may thrive on a mountain side will not tolerate the moist valley at the mountain's feet very often, hence the caution to judge from those trees found growing in the immediate territory.

In planting evergreens allow one or two kinds to predominate

Five-hundred-years-old Cypresses around the pool at the Villa Falconieri, Italy. We can approximate the grandeur of this effect with our Junipers.

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of the native Pines, Pinus strobus, Pinus resinosa and Pinus rigida are the best; Juniperus Virginiana is the choice among cedars. The White and the Red Spruce (Picea Canadensis and Picea rubens), respectively, and the Douglas Spruce, which after all is not a true Spruce (Pseudotsuga macrocarpa) are preéminent among their kind. The native Firs do not do well "in captivity," but Abies Nordmanniana, which is an importation from the Caucasus mountains, is a splendid tree that may be planted with confidence in its good behavior. Tsuga Canadensis is the fine native Hemlock, one of the most satisfactory evergreens in the world, while Thuya plicata—the giant Arborvitae, very little known as yet but rapid-growing and beautiful and deserving great popularity, closes the list of the nine very best—a list from which a selection to suit any locality may be made.

The use of two or three varieties of a species is not to be

(Continued on page 114)
How Rush Seats Are Made

GATHERING AND DRYING THE RUSHES, TWISTING AND WEAVING THEM INTO A CHAIR SEAT THAT IS AS DURABLE AS LEATHER—A PROCESS THAT BAFFLES THE MACHINE

BY LOUISE SHRIMPTON

The adoption of machinery in the manufacture of nearly every article of household furnishing has not extended to the making of rush seats. This is for the excellent reason that it is impossible to weave rush by machinery, as it is too uneven in length and in thickness to admit of being fed to even the most diabolically clever of machines. Weaving as well as harvesting must be done by hand, now as in the early days of the flag-bottomed chair. Enterprising manufacturers at one time made a spurious rush of paper, weaving it by machinery into imitation rush seats, but paper chairs proved unacceptable even to the humbug-loving American public, and our rush seats are still made of rush, preserving by necessity a very interesting hand craft.

The increasing demand for this style of chair seats during the past six or seven years is probably due to the revival of interest in old Colonial furniture and its reproductions and to the growing preference for a simple type of modern chair, for which rush is eminently suitable. As a result of this demand it is now comparatively easy to find new rush seat chairs, or men capable of mending old ones. The weaving is in the hands of a few workmen scattered throughout the country, most of them of foreign parentage. It is usually a home industry, though in some factories small groups of rush weavers are seen, surrounded by machines and their attendant workmen, the primitive and the modern in vivid contrast. While simple in its technique, rush-weaving requires strength of arm and hand, and expert work needs much practice.

Home workers usually gather their own rush. The common bulrush or cat-tail, sometimes called flag, is used. Growing on marshy lands, it is of no value to farmers, who are glad to sell for a small sum the privilege of cutting it. In the latter part of August, when the cat-tails turn a velvety brown color, is the time for harvesting the slender blue-green leaves used for chair seats. Some of the workmen spend a week or so in the marshes at this season, camping out in tents if their homes are at a distance. The cutting is done with a sickle, the men standing for hours at a time in the water, which is sometimes knee-deep where the rushes grow thickest. After the sun has thoroughly dried them, the rushes are gathered into sheaves and stored in a hay-loft or in some place that is dry and warm. A few days before they are needed they are placed in water for about ten minutes, when they are taken out, covered with cloths, and left to soften. If the rush is too wet it is spoiled for use, but it must be dampened thoroughly to render it pliable. The last step in its preparation is called “snapping the flag,” and consists in running it through a clothes-wringer. The interior of a rush leaf is filled with tiny compartments of a sponge-like character, which make the rush inflexible and hard to manage. When run through the wringer, the air is forcibly expelled from this system of compartments with a report like a pistol shot. Some workmen snap the flag over a wooden peg, but this method is hard on the hands. A hundred years ago when rush seating for Colonial chairs was a flourishing industry, big wooden rollers were used in some localities for this part of the work.

The rush is now soft and pliable, ready for use in weaving. The home worker sits in a strong light, usually in the family kitchen or living-room. On the floor in front of him is an iron standard with a frame top on which the chair to be seated is fastened upon a swivel post the weaver moistens his rushes and works around the frame.

(Continued on page 115)
Everyman’s Greenhouse

PRACTICAL SUGGESTIONS AND ALL THE DATA FOR BUILDING A GREENHOUSE
WITHIN THE MEANS OF EVERY HOME OWNER—THE COST IN DETAIL

BY F. F. ROCKWELL

Illustrations by the author and others

[It is not surprising that there are very few small greenhouses, for a little investigation will reveal the fact that even a house of very small size, when built to order in the most approved modern methods, will cost a considerable amount. Mr. Rockwell has built greenhouses for himself and knows how it can be done well and at little expense. A second article will take up the details of heating and general management.—Editor.]

Have you ever stepped from the chill and dreariness of a windy winter day, when it seemed as if the very life of all things glad and growing were shrunk to absolute desolation, into the welcome warmth and light and fragrance, the beauty and joy of a glass house full of green and blossoming plants? No matter how small it was, even though you had to stoop to enter the door, and mind your elbows as you went along, what a good, glad comfortable feeling flooded in to you with the captive sunlight! What a world of difference was made by that sheet of glass between you and the outer bitterness and blankness. Doubtless such an experience has been yours. Doubtless, too, you wished vaguely that you could have some such little corner to escape to, a stronghold to fly to when old Winter lays waste the countryside, and spreads the white tents of his regiments within the very heart of your garden. But April came with birds, and May with flowers, and months before the first dark, shivery days of the following winter would come on, with weeks of cheerless, uncomfortable weather. Or possibly you did not forget, until you had investigated the matter of greenhouse building and found that even a very small house, built to order, was far beyond your means.

Do not misunderstand me as disparaging the construction companies: they do excellent work—and get excellent prices. You may not be able to afford an Italian garden, with hundreds of dollars worth of rare plants, but that does not prevent your having a more modest garden spot, in which you have planned and worked yourself. Just so, though one of these beautiful glass structures may be beyond your purse, you may yet have one that will serve your purpose just as practically. The fact of the matter is, you can have a small house at a very small expense, which will pay a very good interest on the investment. With it you will be able to have flowers all the year round, set both your flower and vegetable garden weeks ahead in the spring, save many cherished plants from the garden, and have fresh green vegetables, such as lettuce, radishes, tomatoes and cucumbers that can readily be grown under glass. And you will be surprised, if you can give the work some personal attention, or, better still, have the fun of doing a little of the actual building yourself, at how small an outlay you could put up a substantial structure of practical size, say 20 feet by 10—of the “lean to” form.

Let us “get down to brass tacks” and by way of illustration see what the material for such a house would cost, and how to erect it. Almost every dwelling house has some sheltered corner or wall where a small glass “lean-to” could easily be added, and the shape and dimensions can be made to suit the special advantages offered. We will consider a simple house of the lean-to type, requiring a wall, to begin with, 20 feet long and 7 feet high, down to the ground, or a foot or so below it, if you can dig out. Below is listed the material such a house would require. With modern patented framing methods such a house has been estimated by greenhouse building companies to cost, for the material only, from $325 to $400. Yet you can have a wooden house that will serve your purpose at a cost of $61, and, if you do not care to put it together yourself, a labor cost of, say, one-third more.

As our north wall is already in place, we have only four surfaces to

Most people, when thinking of greenhouses, picture only the large isolated ones that are expensive to build and heat. There is another kind, within the reach of every home-owner

The plan of the lean-to type shown in section below

A sectional view of our two-bench, 10 x 20 ft. house built against the dwelling wall. If possible it would be well to gain a steeper slope for the glass and better headroom

(92)
consider, as the accompanying diagram shows—namely, south wall, gable ends, roof and openings. For the roof we will require a ridge against the wall of the dwelling house, sash-bars running at right angles to same, and a “purlin,” or support, midway of these, and a sill for the lower ends. For the south wall we will need posts, one row of glass and boards and “sheathing.” For the gable ends, a board and sheathing wall to the same height, and for the balance, sash-bars and glass. The required openings will be a door or doors, and three ventilators, to give a sufficient supply of fresh air.

For these the material required will be:

- 20 ft. 1-in. second-hand iron pipe: $1.00
- 6 boxes 24 in. x 16 in. glass, B double thick: $24.00
- 75 lbs. good greenhouse putty: 2.50
- Level off a place about 22 x 12 feet, and set in the posts as indicated in the plan on page 92. Taking care to get the lines for the ends of the house perfectly square with the wall, and exact in length. This is best done by laying out your lines first with stout string, and making your measurements accurately on these. Then put in the posts for sides and ends setting these about three feet into the ground, or, better still, in concrete. Put in the two corner posts which should be square first. Next saw off all posts level at the proper height, and put in place the 2 x 4 in. eaves plate on top of these, and the 2 x 6 in. sill just far enough below to take a 16 x 24 in. light of glass, with its upper edge snug in the groove in lower side of plate, as shown in detail of section on page 92. Fit the 2 x 6 in. sill about the posts so that the mortise on same will just clear the outside of posts.

Now put on the siding on sides and ends—a layer of rough inch-boards, a layer, single or double, of tar paper, and a second layer of boards, covering on the outside with shingles, clapboards or roofing paper. The five 7 ft. x 1 1/4 in. pipe posts may now be placed loose in their holes, and a walk dug out of sufficient depth to allow passage through the middle of the house. Rough boards, nailed to stakes driven into the ground, will hold the earth sides of this in place.

Next, after having it sawed in two perpendicularly (thus making 20 ft.), screw the ridge securely to side of house at proper height, giving a thick coat of white lead at top to insure a tight joint with house. Now put one of the end bars in place, taking care to get it exactly at right angles with ridge, and then lay down the sash-bars, enough more than 16 in. apart to allow the glass to slip into place readily. Take a light of glass and try it between every fourth and fifth bar put into position, at both ridge and eave, as this is much easier than trying to remedy an error.

(Continued on page 114)
The Service End of the House

A MARKED CHANGE THAT HAS BEEN BROUGHT ABOUT IN THE APPEARANCE OF BACK DOORS AND LAUNDRY YARDS, DUE TO A NEW MODE OF LIFE

by Russell Fisher

Photographs by Thomas W. Sears and others

The stupendous development in suburban living that has been evident throughout America for the past decade has wrought many changes in the character of our homes. Among other things it has abolished the back alley and uplifted the back door.

In the larger cities, where the houses were necessarily set cheek by jowl along the streets, an alleyway along the backs of these, serving the rear ends of the houses upon two parallel streets, was the simplest and most effective way through which to bring supplies for the household and to remove ashes and garbage. The element of beauty did not enter into the matter to any appreciable extent. The term "back yard" became one of reproach, and the gardens consisted of a long-suffering shrub or two and perhaps a bed of geraniums and coleus set in the middle of a moth-eaten lawn bounded by the high board fence.

Then people began to realize that they were moving countrywards in order to get away from just that sort of thing. An expanse of lawn came to be appreciated to such an extent that just now we are in the midst of a period of development when perhaps most of us favor the abolition of all boundary lines between building-lots, so that the eye can roam over our neighbor's plots as well as our own. The high board fence has gone, the back alley has gone and we find that from our gardens our own and our neighbor's back doors are about the most conspicuous elements in the landscape.

So the time has come when we must meet and solve this problem of making our back doors and our laundry yards either as attractive as possible or as inconspicuous as possible. We find, too, that with the greater freedom given us for design and planning upon a larger plot of ground, the service portion of the house is as likely to find itself at one end or even at one side of the front as in its time-honored place at the rear.

Indeed, since the back alley is a thing of the past and our grocer's wagon now drives up to the front of the house, it becomes evident that a service entrance at one end in most cases will permit the necessities of life to be brought in with the least amount of disturbance and effort. Now that we have attained that sanity of mind that reserves the greater privacy of the rear for our gardens and our porch or paved terrace, we must find a less important and less conspicuous place for our service portion of the house.

I remember well with what astonishment and ridicule a house, designed on a perfectly rational basis such as this was received by neighboring owners some six or eight years ago. The wing containing the kitchen and service portion projected to the front of one side of the house where it had to be passed by everyone approaching the front door. Such was the skill in design, however, in locating the service door at the far end, just around the corner, and in having high horizontal windows in the kitchen front, with no openings on the side next the front door, that the house was not only beautifully adapted to its site but crowned with distinction among its commonplace neighbors.

There are two mai...
elements to be kept in mind when arranging the service portion for its exterior appearance. One is the necessary but too frequently unsightly laundry drying yard, and the other is a suitable provision for those necessary evils that, as far as we can see, must always be with us — the ash barrel and the garbage pail.

Each of these can very easily, and at slight expense, be made unobtrusive from every point of view. A wood lattice, about seven or eight feet high, covered with vines, will hide the fluttering lines of drying garments and may even add to the architectural appearance of the house. As for the other unsightly utilities, it is the simplest thing in the world to build under or adjacent to the service porch a compartment in which these may be kept under cover. It really is astonishing, however, in spite of the simplicity of the means, how few houses are built with this compartment as an integral part of the plans. Just jog your architect's memory on this point, for it is one of those things that seem never to be added if it is not built in at the start.

And another convenience that you will do well not to overlook is an outside door for the ice supply. One does not have to build in a specially designed refrigerator in order to have the ice put in directly from the outside — though a refrigerator built in to order is a source of endless comfort. A small door in the outside wall, let in above the spot where your refrigerator is to stand, with a couple of steps leading up to within reach of it from the ground level, will save a lot of dragging of ice over the service porch or through the kitchen.
CHOOSE, THEN, BETWEEN THE MASTERPIECE OF GARDENING AND THE WORK OF NATURE; BETWEEN WHAT IS CONVENTIONALLY BEAUTIFUL, AND WHAT IS BEAUTIFUL WITHOUT RULE.—VICTOR HUGO
Some Experiences With Wild Flowers

BRINGING IN SOME OF THE MORE INTERESTING AND BEAUTIFUL NATIVE PLANTS—WHAT TO TAKE AND HOW THEY THRIVE UNDER CULTIVATION

BY H. S. ADAMS

Photographs by the author, F. A. Walter and others

FROM the time that I was a youngster I have been in the habit of occasionally bringing home a few wild plants to see how they would accommodate themselves to more or less tame circumstances. I confess that I like the fun of the thing, if I may so express what I really take quite seriously, and I presume that the habit will remain an occasional one with me the rest of my days.

I remember that I began with the Columbine (Aquilegia Canadensis). Hitherto, the walks and drives in the course of which I took my early lessons in nature study had been to the woods, meadows and uplands to the east and the south, but now my way had led to the rocky ridge to the westward, where alone for miles around grew the Columbine and, though I did not know it then, a still choicer wild flower. Doubtless it was the novelty of the thing; at any rate I carried home a few plants, of the abundant Columbine and made for them a little bed by the side of the house; in partial shade. Although this is now more than thirty years ago, I well recall that these plants alone of all that I have brought home from the wild showed any marked tendency to "improve" under cultivation. I let the seed ripen, and the next spring had a flourishing crop of youngsters that I installed in a border of their own on the north side of the house, and a year later, when they flowered profusely, I was astonished to find that the second generation was fully three times as tall as the first. As the blossoms had lost correspondingly in brilliancy of color, the departure from normal did not strike me as particularly desirable. I have since brought the wild Columbine from real mountains, but I think there will never be any quite so beautiful as those first ones from the little ridge two miles to the westward of home.

It is a striking commentary on the proverbial neglect of things close at hand that it was not until I had been to Europe three times, as well as to all four points of the compass in this country, that for the first time in my life I went to the top of the said ridge to get the view of the valley lying beyond. To a scenic revelation well worth while I added a delightful botanical discovery—coming across the veritable Harebell of the poets—Campanula rotundifolia—here and there on or near the top of the ridge. Now a Harebell, tucking itself between bits of rocks, is not easy to dig up with a penknife; but I succeeded in getting two plants that August afternoon, making sure that I did not overlook the part of the roots with the true leaves. I placed the plants in a corner of a border, with a small stone by them to make them feel at home, and rather feared that the spring would show no trace of such tiny things. But they came along vigorously, and, instead of flowering in June and July, according to Wood; they straggled along until it was the November frosts that saw the last of my "blue bells of Scotland." The smallest of all the Campanulas that I am familiar with, they are also the daintiest; and if these do not stay by me more shall come in from the wild.

Another pleasant surprise of a summer walk came to me in the great meadow a few years ago. I never thought that those vast reaches of grass held any secrets from me, but one day I saw something very white, very fuzzy and very erect, rising above the lush green. I went over to the stranger. It was too big for my knife, so I left it for the next trip—only to find that the mowers had gone over the ground and, without the white flowers as a guide, it was useless to try and find the plant. The next summer I watched out for the blossoming, located the plant and with a
heavy trowel cut away part of it, leaving the rest for nature's renewal of her stock. What I took home I divided into six pieces and put them in my little nursery, where each had made a strong plant by spring. Then five of them went into my border and one into a neighbor's. Great Burnet (Poterium Canadensis) the tall white stranger proved to be. Of the two I think the dark foliage is more attractive than the flowers, but the plant is a very good acquisition to the border. As a matter of fact it was cultivated in gardens in days gone by. In the wild it is plentiful enough in some places. Where I ran across it Burnet had never been seen before in my time, however, and the chances are that the seed came down the river in the spring flood.

Meadow Lilies, as we call Lilium Canadense, I have taken from the same locality with the aid of a trowel. It is no light task to dig the bulbs thus, but it is also no light task to lug a spade four miles of a hot summer day. The Wood Lily (Lilium Philadelphicum), which shuns our part of the state, I have dug up with a penknife and had it bloom the next season; but I can not recommend the pen-knife, often as it has been my salvation in such circumstances. Both of these lilies are excellent for the home grounds, the Philadelphicum preferably in partial shade.

I think, though, that on the whole Asters have been the most satisfactory things that I have brought home in my hands from the wild. The New England Aster (A. Novae Angliae) I began with, it being one of those nearest at hand, and in the more favorable garden conditions it has made splendid clumps that give a fine note of purple when it is most needed. From another state I have introduced the Smooth-leaved Aster (A. levigatus) with equally happy results; its blue flowers are extremely showy. These are only two of a dozen or so kinds of wild Asters that have succeeded well in my garden; a few of them altogether too well, as, unless closely watched, some of the taller ones will take possession of all the space within reach.

(Continued on page 119)
The Architectural Value of Latticework

THE PASSING OF CHICKEN WIRE AND STRING SUPPORTS FOR THE VINES THAT GROW UPON AND ABOUT THE HOUSE—WHAT WOOD LATTICE WILL DO

BY JARED STUYVESANT

Photographs by T. B. Temple and others

A MAN who is just completing the plans for his new home put this question to me: "Is this wood lattice-work, that seems to be more and more frequently used, merely a fad like so many other little 'kinks' of architectural design that one sees nowadays, or has it come to stay?" In the first place wood lattice as applied to house architecture is not a new thing, and I venture to predict that it will not prove to be merely a fad.

Wood latticework as a frank and rational support for vines is by no means a modern device. As long ago as 1700...
it appears on "Wyck," one of the finest old homes in Germantown, Pa., where it covers the entire lawn side of the white plaster house, giving, with its burden, a wonderfully beautiful chiaroscuro in green and white.

The recent popularity of lattices among the architects who are designing country and suburban homes is based on intrinsic merit rather than upon any merely temporary appeal to their decorative sense.

An architectural fad may readily be marked as such from its inception, the acid test for it being, "Is it based on an actual need and does it fulfil its function in a straightforward rational manner?" If an architectural form or detail can measure up to that test it is no more a fad than is a rain-conductor.

Now to get down to details. A lattice framework should have substantial supporting members—vertical or horizontal, or both, depending upon whether these lead up from the ground or are merely applied to the building horizontally—and this framework will bear the lath-like strips to which the vines cling. For these strips ordinary rough laths will serve well enough if they are sound, free from knots, and if they are painted with a good lead-and-oil mixture. The rough surface of a common lath is undoubtedly a more acceptable support, from the vine's point of view, than any smoothly planed strips.

Although I have never seen it done, there seems to be a very excellent reason for attaching the main framework to blocks on the wall by means of removable bolts.

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The whole scheme of the garden is to secure vistas back and forth along the zig-zag path through the growth of cedars. At the end of each vista there is some architectural feature such as the seat or the fountain shown.

A Garden of Vistas

A STRIKING EXAMPLE OF WHAT MAY BE SECURED VERY INFORMALLY BY THE JUDICIOUS CUTTING OF PATHS THROUGH A SMALL GROVE OF EVERGREENS

BY CHARLES EDWARD HOOPER

Photographs by the author

The informal garden began with Eden. Later, when man had become an independent and self-satisfied unit, he perpetrated the Japanese, Italian, English and other artificial gardens.

The little Jap bowed down to nature and said, "Most Honorable Mother, I will make my garden in thy image." And because of this and because both nature and the artificial details were a part of his religion and meant something to him, he has done far better than the rest of humanity.

The Italian hypnotized nature and produced by artifice a beautiful thing, as cold and colorless as the marble with which he overloaded it. To-day it is bearable and often pleasing, but only from the fact that nature and time have in a measure reclaimed it.

When the Englishman made his garden, he reached for an axe and started in to reform the dame. When he had hacked a rooster out of one tree, a hatbox out of another and constructed an avenue flanked by numerous strings of sausage standing on end, he rested. "See; is it not beautiful?" And his kin said, "Magnificent!"

The ordinary garden is composed of bits stolen from nature and in their ad-

The shortest vista of all is across the little pond towards a white marble seat, set like a gem against the evergreens.

The old lady is naturally wild—but friendly. Cultivate her friendship; learn her ways and whims and when she has gotten confidence enough to come and eat out of your hand, don't clap a dog collar on her and tie her up to a clothes-post in the yard. Don't try to tame her; let the relationship be one of friendship if you expect her to exert her individuality and help. Tame her, and she loses the former and is less than useless for the latter. If you expect to drive nature, you've got a balky horse, and if you want your load pulled, you'll pull it yourself, which is not what you are after. The Japanese understand this well; hence their relation is one of partnership, with nature always senior. To illustrate the point still further, let us take some old houses, abandoned, fallen to decay. Many of these old houses when new were very ugly in design. We make this assertion boldly, knowing it to be so—but, let it be never so bad and commonplace, when turned over to the master hand of Dame Nature, what happens? The ungainly detail loses its prominence; the jarring outline loses its rigidity. Gradually the thing
is transformed and
the crime of man be-
comes a masterpiece.

The foregoing is
merely to set forth a
principle; now for
the example: It was
several years ago
that the writer vis-
ted the Stevens garden at Bernardsville, N. J., and his only
records are photographic and a very pleasant memory. The plan
here shown is probably not accurate in every detail, but it is
truthful in the main and shows clearly the scheme and general
intention. As a matter of fact there never was a plan made.
The landscape architect, Mr. Daniel Langton, took off his coat,
rolled up his sleeves and waded into the problem with a gang
of Italians. Of course there was some sort of scheme in mind,
but the details were problems to deal with as they were met.

In the beginning it was but a comparatively compact cedar
grove on a gentle slope, in view of the house and separated
from it by a commodious lawn. Were you to ask for it, you
would be shown an opening in the trees, which, owing to their
color, is barely noticeable. Closer investigation would reveal a
marble sun-dial at the end of a short avenue. Following this to
its end you become
aware of a pathway
to the right, at the
end of which is a
simple fountain. An-
other step and a
long vista opens up
to the left. This is
the scheme—a series of vistas slightly varied, with some slight
artifice at their terminals. There is no general effect, but rather
a score or so of pleasant surprises. Everywhere has nature been
consulted. Such trees as by their character or size demanded
attention were respected, even if they encroached upon the
straight lines of the path. Undesirable specimens were cut out
and their place as well as other natural voids were planted with
flowers of a simple and half wild character—Golden Glow, Iris,
Phlox, Tiger Lilies, Rhododendrons, Honeysuckle, single Roses,
Ferns and the like. This apparent effort at straightening does
not effect this end; on the contrary it tends to emphasize the
irregularity. A look at the plan suggests formality at once, but
the thing itself conveys a far different impression.

Here and there one finds accidental effects such as scattered
(Continued on page 121)
The Available Violets

THOSE OF THE ONE HUNDRED FIFTY SPECIES THAT DESERVE A PLACE IN THE HOME GARDEN—GATHER THE SEEDS NOW FOR NEXT YEAR'S BLOOM

BY F. L. MARBLE

Photographs by the author

It is stated that there are 150 species of Violets, of which 40 are native of North America north of Mexico. More than twenty of them can be purchased in the horticultural market. These that I mention below are all growing in my garden. They can be purchased of a dealer, if not otherwise obtainable, though people who frequent the country can gather seeds, or slips, for themselves.

The Sweet-scented Violet, which is double in cultivation, is undoubtedly the best known. It is sometimes called the English Violet, but the florists know it by its botanical name—Viola odorata. It will grow as a border plant in a hardy garden, but it needs a light covering of leaves in the fall to withstand the rigor of a northern winter. Its flowers are very fragrant, grown in this manner, but the stems are short and the flowers hide under the leaves. It does better in a coldframe. This being the case, I turned to our common Blue Violet (Viola palmata, variety cucullata), for my thriftiest border plant. It improves wonderfully under cultivation.

The flowers are large and brilliant, growing on long stems. The leaves stand a foot high by midsummer and become rich, dark green. The cleistogamous flowers ripen their seed in August, when the white seed-pods that have been hiding under ground are raised on stout stems to crack open and distribute their burden. So August is the time to gather the seed. It can be planted at once, though it may be kept if necessary until the following spring.

Another variety of the same Blue Violet has streaks of white down the deep blue petals. It is called variety strissa. It has grown in my garden near the plain blue Violet for fifteen years, and both varieties have remained true. It also has cleistogamous flowers maturing in August. Both varieties adapt themselves to the hardy border. They multiply so fast by means of the widely distributed seeds that we give away hundreds of plants each year.

The Bird's-foot Violet (Viola pedata) grows less lustily in my garden, for it is not native to our immediate vicinity. I am mak-

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**Indigenous Devices**

Labor-saving Schemes and Short Cuts in the House and in the Garden

To Save Streaks on Walls

To clean or varnish the woodwork of a room without marring the wood, hold a strip of pasteboard flat against the wall with one hand while working with the other, sliding the strip along as the work progresses. Even better than the pasteboard is a good flat dustpan, for its handle enables it to be more easily held in place and does not get through a small opening.

This is a simple device, yet for want of it I have made many an ugly streak on papered walls (especially when cleaning baseboards), in spite of my best efforts to keep the varnish brush, the dampened cloth or the oiled rag from touching them.

By means of it I have just stained the molding around my room to match the new wall paper, doing it easily without making the slightest spot on the paper.

Marks made upon zinc with a soft black lead pencil are indelible and are even clearer after a year’s exposure to the weather than when first made. The weathering of the zinc gives a matt surface upon which the pencil marks stand out with beautiful distinctness. There is apparently some chemical reaction between the graphite and the zinc. Just how long the markings will remain distinct cannot be stated. The observed period covers several years. The probability is that they will last as long as the zinc.

W. E. P.

A Home-made Floor Wax

In about an ounce of common turpentine put a thimbleful of shaved beeswax. Melt this over a very slow fire (the tiniest burner of the gas stove, turned low, will do it), taking care to keep it from catching fire. When melted, apply to the well cleaned floor with a soft cloth and rub in well. It takes on a splendid and lasting polish.

This amount will answer for around a room 9 x 12 in an ordinary size room, although the first time applied it takes more than it does afterward. It is very inexpensive and much more satisfactory than many that cost more and require more labor.

Durable Garden Lables

A DURABLE label is very desirable in the garden for preserving the names and history of trees and plants. The one in common use, the little pine tag of the nursery people, does pretty well for the first season and then discolors and is hard to read and is never easily written on. Paper does not last through a single season. The result is that people generally do not use tags or labels and forget when things are planted, the names, and many other useful particulars.

But there is a better way, for we can have labels cheap, permanent, easy to read and easy to write upon with the common lead pencil. So permanent in fact that the record is as easily read five years after it was made as it was when first written on.

All you need is a lead pencil and sheet zinc. Common sheet zinc, even old stove board or other old zinc answers as well as new. An old pair of shears will answer for cutting it up. The iron wire nail a hole can be made in the end to take a bit of wire by which it is fastened in place. An inch wide and three inches long is a good size for single names. But in cutting up old scrap all sorts of sizes and shapes will be found convenient. Sometimes one wishes to record dates and particulars and then some space is desirable and larger pieces are useful. The tinsmith or stoveman will probably be glad to furnish pieces of scrap zinc cut to sizes for a small sum.

How to Root Cape Jasmisnes

Fill a bottle half full of sand, then fill up with water. Into this put a nice spray of jasmine, and place in the hot sun. No further care need be taken of it except to see that the bottle is filled up occasionally, emptying none of the water that is in it. When plenty of roots are growing, break the bottle, to save injuring these delicate fibres by drawing them through the neck, and plant in good, rich soil.

In the Southern States we leave this beautiful plant outdoors all winter, giving it some protection; but in colder climates it needs a sunny place inside the house. Evergreen foliage, or waxier, more fragrant blossoms.

A Better Way to Sun-dry Fruit

If we cannot have the evaporator proper, trays and a scaffold may be made that will be a great improvement over spreading the fruit on the housetop. The best trays are made of eight pieces of lumber, an inch and a half thick and as wide, making the four sides double; the bottom of the tray is made of galvanized wire cloth of No. 2 to 3 mesh; that is, the wires are half or a third of an inch apart. The wire cloth comes in different widths, probably the most convenient size for the trays being thirty inches wide and three feet long, which will hold half a bushel or more. The wire cloth is nailed between the two sets of side and end pieces so that the tray may be used either side up, and the bottom well secured. To make the tray still more substantial put a piece of wood across at the center. The best scaffold for holding these trays is a high trestle so that it is out of reach of the poultry. This trestle is made like a carpenter’s ‘horse,’ with a strip nailed from one leg to the other on each side for holding the trays. A permanent scaffold may be made by setting four posts in the ground and nailing strips of lumber from one to the other for the trays to rest on. In either case the air passes up through the fruit as well as above, causing it to dry more uniformly and quicker. To protect the half-dried fruit from dew or rain, stack the trays one on top of another and cover with a piece of oiled cloth; or the trays may be taken down and carried into the house without misplacing the fruit.

H. F. Grinstead

A Trolley Line for the Dog

It is often necessary in a city or suburb to keep a dog chained, and the poor creature suffers intensely from his limited amount of exercise, the galling collar, and the wrapping of his ropes, or chains. This may be remedied by getting a six-foot rope for him, fastening it by a slip noose to the wire clothes-line, and attaching the other end to the dog’s collar. This allows him to race back and forth the full length of the wire, with detours of many feet. He cannot get tangled up in it.

A New Use for Old Umbrellas

An old umbrella frame, opened wide and suspended by the tip, is a good form for a vine to run on. A fine wire should be run through the tip of each rib, and wound around each once, to hold the ribs an equal distance apart. When covered with the green vines, the whole presents a most attractive appearance.

Another way is to push the umbrella frame into the ground by its handle, planting sweet peas or trailing nasturtiums around the edge. They will run up the ribs, making pretty circular patches of bloom.

G. C. R.
The Flemish-bond brickwork, dark stained shingles, the plaster-and-timber gable ends, and the white trim of the windows give a broad variety of materials that needs careful handling to be effective.

THE HOME OF
MR. JOSEPH W. NORTHRUP
Bridgeport, Conn.

An ingenious arrangement of central staircase, rear stairs and passageway, by which the maid can reach the front door without passing through any room, is the most instructive feature of the first story plan.

Joseph W. Northrop
Architect

An attractive variety of mass is gained for the nearly square house by the stepped back gables in the roof and the echo of these marking the front door.
Looking along the side towards the front porch.
The projecting piers carry the window-boxes.

The entrance porch. Small cobblestones, laid in approximately horizontal courses give the unusual and interesting wall texture.

The veranda at the side of the house is screened and, as the first floor plan shows, is conveniently accessible from dining-room and butler’s pantry.

The plan indicates the Gothic spirit in which the structure has been carried out—substantial piers joined by thin curtain walls. Everything possible has been built-in—bookcases, sideboard, china and glass cabinets, and even a cigar cupboard in a corner of the den.

Upstairs the owner’s suite is particularly complete in its equipment of dressing-room and bath. A shower and a small fireplace are found in the latter, while in the bedroom itself a fireplace and built-in seat are welcome accessories.

THE HOME
OF
MR. E. D. MOENG
Rogers Park
Chicago
Ill.

Lawrence Buck
Architect

The entrance porch corner. An effective bay, covered by the broad overhang of the roof, takes in the landing of the main stairway.
Care of Rugs and Carpets

A SURPRISINGLY large proportion of persons who own fine rugs and carpets do not give a thought to their care and preservation, beyond a hard sweeping (which rugs should never have), or a hard beating (which rugs seldom survive). Dip the broom with which your dull spots in rugs or in carpets. Some-times damp soot is blown down from the chimney in a storm. If it falls on the carpet, cover the spots thickly with salt, and then brush up immediately. This will cause no injury to the carpet or rug.

A Portable Cretonne Wardrobe

A VERY attractive and convenient portable wardrobe for a summer room that has no closet may be made by having a frame constructed six feet high, three feet wide and two feet (or less) deep in measurement. Around the back and sides cretonne should be fastened at top, bottom and sides, so it will not blow with a breeze coming in at a window. Along the top hang a valance, and inside from side to side run a bar across on which dress and coat frames may be suspended.

New Willow Things

VERY attractive serving-trays in willow-ware, with cretonne bottoms, protected by a plate of glass are becoming popular for the breakfast service. These seem especially in place in Colonial dining-rooms and in the country. They may be had in round, oval, square and oblong shapes, all having handles.

Willow baskets of various shapes, sizes and for various uses decorated in relief are one of the season’s novelties.
crêpe in small patterns of one color on white is best adapted to this purpose.
Where it is necessary to combine the curtain and window-shade in one, the use of a light-weight India printed cotton has been found excellent for the purpose.
A very delicate Persian pattern printed in black on a white ground with a mere suggestion of Rose color in the outline of a flower, was chosen for a living-room where the windows were of small panes and moderate size.

I. D. B.

Mats for Kitchen and Bath

SOMETHING new in the way of kitchen and bath mats has appeared as a result of the ingenuity of manufacturers of things for the house. These kitchen and bath mats are woven from trimmings of new table oilcloths in much the same manner as the rag rug is woven, and when placed before the kitchen sink, table, stove, etc., save the linoleum or floor underneath. These mats have only to be wiped up when soiled, thus saving the labor of the cleaning necessary to many other sorts of kitchen floor coverings. For use in bathrooms it is said they are both sanitary and cleanly in appearance and do not hold dampness.
The mats come in pretty stripe and mottled effects, in dark colors on a brown warp for kitchen use and in dainty shades of blue, green, and lavender on a white warp for bath use. Moreover, they are comparatively inexpensive.

A Wistaria Bedroom

IT is now possible to obtain harmonious decorations throughout in wistaria colors and patterns for wistaria bedrooms. Very lovely new wall papers, chintzes, and printed linens, rugs and screens are at one's command for carrying out such a decorative scheme. One of the rugs now shown in New York shops has a gray ground with an all-around purpose of lavender wistaria flowers, and makes a most effective floor covering.

T. S.

How much distinction can be added to a room in a period style by consistent hardware even down to the window lifts

Bungalow Candlesticks

ONE of the newest things in candlesticks consists in an adaptation of the Japanese floor-lanterns. These stand from one to three feet high, or even higher, for floor or table, and are lacquered supports, Japanese in shape and vermilion in color, with brass mountings to hold the candle and graceful, deep globes to prevent the wind from blowing out the candle flames. They are designed for large candles, and, thus protected from air currents, burn with a fairly strong steady light for a long while. They are just the thing for the summer cottage, bungalow or camp, taking the place of hot lamps.

Color-scheme for Maple Woodwork

I HAVE two adjoining bedrooms. The woodwork in one is bird's-eye maple, and in the other light maple. Will you kindly suggest a color scheme for the decoration? The light maple room will be tinted, but the other must be papered, as it has been papered before. This room is now pink, but I have grown very tired of it. The casement windows in both rooms are very attractive and have window-seats. The floors are hard wood, and I am willing to buy new rugs. The rugs I have for both rooms are rag rugs, white with brown borders. I have one set of deep ivory tinted enamel furniture. The rooms are lighted by gas. The chandeliers are very good in pattern, but as they are wrought iron, the one in the pink room has always seemed too black. Do you send samples to your subscribers?

N. E. E.

Wistaria bedroom papers are now obtainable to carry out an effective scheme

Consistent Interior Hardware

NOW that so much more attention is being paid to consistent interior decorations, the matter of hardware fixtures and trimmings, such as door-knobs, key plates, handles, window catches, etc., are coming to be selected for their appropriateness to the plan of the whole decorative scheme. For instance, a period room in Empire style should have well-designed Empire fixtures; a room in Louis XV style, fixtures to suit, and so on. Rooms in other styles—Colonial, Craftsman, etc., may be fitted without difficulty with the proper sort of architectural hardware, and every person planning a house, particularly a small house where such matters are more often apt to receive less attention than pretentious dwellings, will have no difficulty in finding the suitable things for the place in mind.
The two illustrations shown herewith—the window-sash lift and the escutcheon-are of the Louis XVI School, evident in French art from 1774 to 1792. Hardware of this sort is obtainable in cast brass or bronze, and in finishes known as "old brass," imitation gold, oxidized silver and in genuine gold plate.
The Garden for August

THIS is a good month for potting Easter Lilies which are intended for forcing. Keep them in a cool, dark place until they are thoroughly rooted.

Such Carnations as you may have bedded outside must now be brought indoors. It will hardly be safe to leave them out longer.

If you sow Perennials at this time it will be well to sow them in coldframes so the late rains of fall will not wash them away.

Top-dress the Asparagus bed with sheep manure, and keep the bed free from weeds. Because a bed has ceased its immediate service to the table is no reason its care should be neglected. The future has always to be borne in mind.

Don't forget that your Squashes must be gathered before a frost. Store them in warm, airy places to cure. In this connection, however, the longer they remain on the vines before frost, the harder the shells will become, and the firmer the vegetables; therefore the longer they will keep.

Mulch the Strawberry plants you set out this month as soon as they are planted.

Tar-concrete garden walks, drains, etc., may be made this month, as they are best made during hot weather.

Hedge pruning may be done this month for the last time.

Transplant (in the same ground or elsewhere) bulbs that were not dug up in the spring.

Hypericum calycinum, Wichuriana Roses, Cotoneaster microphylla, are recommended by an English correspondent as excellent for planting on very steep banks which with difficulty are kept tidy.

Look carefully into the matter of the maturing Tomato plants. Arrangements for their support (racks, etc.), must be in good shape.

There may be some necessary spraying this month in the vegetable garden—Potatoes for blight and rot, and Cabbages for aphides.

Your very late crop of Celery can be provided for by setting out Celery plants at this time. They will need thorough cultivation.

Harvest all crops of vegetables as fast as they appear, and clean up the old litter. Otherwise your garden may become a breeding-place for insect and fungus pests which will do great damage next year.

Sow seeds of French Marigold, Japanese Morning Glory, Drummond Phlox, etc., now for transplanting, later, to indoor window boxes.

Pick off the seed-pods of Pansies and Violas from time to time as this will ensure a longer blooming season, and the flowers will be superior in size and color.

A plant cannot nourish seed and blossom at one and the same time successfully.

Cut out any old canes from yourCurrant bushes at this season, and canes of Blackberries may be pinched now to induce side growth for compactness.

You may still sow Lettuce for a late crop, and this is a bit of gardening you will not regret having attended to.

Potting Ferns

THERE are many lovely Ferns growing in the woods back of our pasture lot, and when the time comes I should like to take some of them up. Will you please give me directions for potting them?

Pot Ferns firmly, but remember that they dislike hard potting and will not thrive under it, or when the potting soil fills the pot up to the brim. Instead the top of the Fern root-ball should be placed...
Destroying Water Rats in Ponds

We have read with interest your article on Water Gardens in the June House & Garden, and perhaps you can help us with a problem that confronts us. We have a lovely garden pond, but water-rats are destroying the aquatic plants. What shall we do? We cannot use poison, as the pond is stocked with Goldfish.

Fortunately water-rats are easier to be rid of than stable-rats. While very destructive to plants in water gardens they do not seem to be harmful otherwise. Trapping is the only solution of the problem, unless some member of your family is a good riffle shot.

If you look around your vegetable garden you will probably find that the upright or Cos varieties of Lettuce you have planted are running to seed. Learn from this experience that the Cabbage headed varieties are the ones to depend upon for withstanding heat and drought and furnishing you with late salad heads.

Flowers by Mail

When garden flowers are shipped by mail, as now so often they are, they should be picked very early in the morning while the dew is still upon them. Then place them in water in a cool, dark cellar until night. The flowers will then have drawn up a great deal of moisture to serve them on their journey, and only a little damp Fern, Moss or Grass need to be put around their stems to ensure their freshness upon their arrival.

Fertilizing Lupins

I notice in a recent number of House & Garden a photograph of a border of Lupins. I have grown these flowers for some years but for the past two years we have been troubled with the blossoms falling off as the stems were touched. There did not seem to be any plant disease and I am wondering if you can tell me what has been the trouble.

Your soil probably does not furnish the plants with the ingredients they require for their nourishment. Try watering them several times with a solution of nitrate of soda and mulch the roots with a mulch of well rotted stable manure. A little lime may be necessary to insure a sweet soil.

Caterpillars on the Euonymus

The Euonymus hedge, which surrounds part of our garden enclosure, has been attacked by black and white caterpillars. What, besides picking them off, will drive them away? The hedge does not look as healthy as it should.

Try syringing the hedge with strong lime-water. This should rid it of the caterpillars and will do the plants no harm. Earth up the roots of the hedge occasionally with well rotted manure to bring the plants to better condition.

If you would get a season's start on Strawberries procure potted plants immediately, instead of waiting until next spring for setting out smaller plants. If you have not already established a little Strawberry bed it's worth thinking about.

Order bulbs for fall planting now, especially Madonna Lily (Lilium candidum), Spanish Irises, Bermuda Lilies and Cape Bulbs (Freesia, Oxalis, etc.), for the greenhouse, and autumn Crocuses, such as Crocus speciosus, C. sativus and C. autunnumale.

Biennials and perennials may be sown up to the middle of August in the open ground, though sowing them in coldframes instead is recommended, because better care can be taken of them in their earliest growth in this way. Pansies and English Daisies should be started this way; also Foxgloves, Canterbury Bells, and the Iceland Poppy.

Drying Bulbs

Will House & Garden kindly give me directions for drying the Hyacinth, Tulip and Daffodil bulbs I wish to take up and store, for our garden is to be made over this autumn?

Shake the soil from your bulbs and place them in dry, shallow boxes or wooden trays. Set aside in some airy place where the sun does not reach them. It is always better to procure fresh bulbs if you would depend on them for garden effects.

Rosa Rugosa

The showy heps of the Rosa Rugosa will be bright from now onwards. For a shrubbery this is the ideal Rose, the hardiest and freest from insect pests. If you do not find it in your gardens and on your lawns this year, a sight of this Rose on your neighbor's premises will probably convince you that it is worth planning for next year. As a plant taking kindly to indifferent soils Rosa Rugosa has won an especial place for itself in favor.

Scum on Lily Ponds

An article on Water Gardens in House & Garden leads me to ask you how I can prevent scum from accumulating in my little concrete water garden. I do not see why it should collect as the water is constantly running into it.

Spray the surface of the water with a solution of sulphate of copper. This destroys the spores of the scum or Blanket-weed. The amount of sulphate will depend upon the approximate number of gallons of water in the tank. To determine this multiply length, breadth and depth of the pond to find the cubic feet of water, and as there are about six and one-fourth gallons to the cubic foot you can easily determine the contents of the tank. Use about two grains of the sulphate to every fifty gallons of water in the pond.
Propagation by Cuttings

Cuttings are very much like layers, but differ from them in that they are separated from the parent plant before any roots are formed, and the whole process of root formation has therefore to be carried on independently. For this reason that are not so simple an undertaking for the beginner as layers; the latter can and, indeed, must be left alone, while cuttings require care and must, under some circumstances, be watched very closely. They may be made from both ripened and green wood and they may be taken from the root, stem or leaf of the plant. They are designated accordingly as hard or ripe and green; and as cuttings—meanings sections of the stem, root cuttings and leaf cuttings.

Green cuttings are made sometimes from the soft wood—that is, the succulent and tender, most recent growth; or from the hardened growing wood—that is, the growth which is hard, but not yet fully ripened or turned into actual wood fibre. Ripe cuttings are made from the fully matured and ripened wood.

The best authorities agree that hardwood or ripe cuttings will practically always root, though it takes longer and they are not always the finest plants when they finally "take hold" and grow; but cuttings of green or soft wood are a doubtful undertaking and are very apt to die before they are likely to be a very discouraging failure to the beginner.

Geraniums are the one great old standby that everyone has at one time or another rooted or seen rooted from "alips, and geraniums may be depended upon to live and thrive ninety-nine times out of a hundred. Commonly they are rooted by being thrust into a bottle of water, but the professional way is to use a coarse sand in flats to set them into. This is mentioned as the most familiar example to illustrate propagation by this method, rather than because directions seem necessary for increasing the number of geraniums in the world.

The practical value of cuttings lies in the possibility which they offer of turning one currant bush into a dozen in a single season, or making twenty grape vines grow where only one grew before, with absolutely no outlay. Ornamental shrubs and perennials may, of course, be multiplied in this way, though the latter are usually increased in a simpler way by division of the root clumps every two or three years.

When to Take Cuttings

Cuttings of hard wood may be taken at any time when the plants are dormant, though it is usual to prepare them after the leaves fall in the autumn and let them lie through the winter to callus. This callus is very necessary, and unless it forms no roots will appear. It is occasioned by the swelling of the inner bark at the severed end or base of the cutting; this gradually rolls out and over the entire raw surface, covering it with new tissue in practically the same way that the wound left on a tree, by pruning off a branch, is covered. Usually this process takes from two to three months, and cuttings are sometimes prepared thus, long before they are to be set into the ground. On the other hand, they may be taken from the parent plant just as all and set immediately out of doors, unless the climate is exceptionally severe.

Ripe cuttings should be 6 to 8 inches long and should contain never less than two buds or two pairs of buds—and there is no harm in having a dozen. The cut at the bottom does not have to be made immediately below a bud, though it is well to have it come at such a spot. It should slant in order to furnish as broad a diameter as possible for the sending forth of roots. Rub off all except the upper bud or pair of buds and plant with a dibble or pair of buds and plant with a dibble as a seedling is planted. Never thrust a cutting into the sand simply because it is provided with roots to take up this nourishment, and any enriching of the soil is likely to result in death to it; it will rot at the base and be destroyed by what, under other circumstances of growth, is its food.

Bore holes six inches apart in the bottom of the flat for drainage; over these lay pieces of broken pots or clam shells to keep the sand from sifting through, then cover with a layer of sphagnum moss or excelsior to aid in retaining moisture. Onto this spread the sand, up even with the top of the box; water freely to firm it and it is ready for the cuttings to take up their residence.

Hardened cuttings—that is cuttings of growing wood which is old enough to be hard without being actually turned to wood fibre—of spreas, lilacs, hydrangeas and a good many other shrubs which there is not space to name individually here, may be taken in late July or early August and rooted indoors in such flats before cold weather usually. They are more likely to live and thrive, however, if they are carried over the winter indoors than if set outside as soon as rooted.

It is most important to remember that all cuttings must be protected from strong sunlight when kept under glass—indeed, they must be shaded completely for a few days after setting; and the sand in the boxes must be kept constantly saturated with moisture. They need ventilation and pure air, too, but must be protected from wind and cool air.

Carrying Cuttings Through the Winter

Cuttings that are to lay over for the winter to callus are tied in a bundle with tarred string—"varmints" hate the tar and will avoid it—and buried a foot and a half deep, upside down, in a sandy, thoroughly drained and protected place outdoors—and then well mulched; or they may be buried in moist sand or moss in a cool cellar. When spring comes they are planted outdoors, just as directed above for those which are planted immediately after cutting, or indoors in the flat in sand. In either case they are ready to go into their

(Continued on page 123.)
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HENRY A. DREER, PHILADELPHIA

The Right Use of Evergreens
(Continued from page 90)

recommended with evergreens as with deciduous trees. They do not take kindly to mixing, and either the one variety chosen should be used in such a position which Nature herself furnishes in the Hemlock and Pine, referred to before. This, with deciduous trees interspersed, is as fine an arrangement as it is possible to make.

Wherever it is possible to make an evergreen group the background for some floral display, it is well to do so, providing the flowers do not detract from the trees. The whole should form a picture rather than either one furnishing a feature. Rhododendrons fill the requirements of such a position perfectly, being themselves evergreen and harmonizing as almost nothing else can with the dignity of the trees. It is not by any means essential, however, to carry out such an arrangement to get the best results from planting the latter, for they are sufficient unto themselves.

The form of the smaller and slower-growing species is of more importance than anything else concerning them, for these are essentially the material for small places and for formal work. Some of these are very thin and long pointed, others are broad and low and globular; selection in this instance should be guided by the style of the place, of a house and its garden, rather than by any thought for the garden's future appearance. This attitude is allowable to meet the limitations of a small place, if one plans to throw out unsuitable material as fast as it becomes unsuitable. The growth of the horticultural varieties which produce these various forms is so slow that after all changes will seldom need to be made because of increase in size, and the pruning shears will usually keep them to the lines which they are expected to fill, if they show any tendency to overstep. Usually their forms are pretty well fixed and conventional bushy Box suggests a place in the formal, stiff and precise garden, or at the entrance of the dwelling that is symmetrical in its line; the rugged and unconventional bushy Box suggests old doorways and the easy lines and pict-
uresque charm of farmhouse or cottage or the tangle of old-time gardens—suggesting at the same time its suitable environment beyond doubt or question.

Ordinarily evergreens are not regarded with any consideration for their shade, yet they offer a most restful depth of it and a cool dimness that deciduous trees do not have. The nearest trees to a dwelling, however, should be from twenty-five to thirty-five feet distant, where their shadow cannot fall upon it, for perpetual shade is highly undesirable.

Always plant them near enough together to support and defend each other under the stress of severe storms, thinning out in subsequent years when they begin to crowd. And plant always two deep at least—two deep in an irregular grouping, not two rows, one back of the other.

And, finally, place the deciduous members of a boundary group or a screen mostly in the background to allow the evergreens to show dark and well defined before and among them. Leave plenty of room between the two kinds of trees—rather more than between the trees that are the same—remembering that deciduous trees expand very much more and very much more rapidly than evergreens, therefore need a wider berth.

How Rush Seats are Made

(Continued from page 91.)

ened. The standard can be raised, lowered or turned around, so that the chair moves at a touch. At one side of the workman is placed a long, wooden trough in which the rushes are kept. A little water in the bottom is used for moistening the rush if necessary. Grooves in the trough hold the knives and mallet used in the work.

The weaver begins his task by taking a leaf of the rush and twisting it. The appearance of the finished seat depends largely upon the kind of twist used. For a small chair a tight, hard twist is employed. For a chair of massive frame, a looser and heavier twist is preferred. In general, however, modern work is of looser weave than that of a hundred years ago, and a larger twist is employed. As the rush varies greatly in width, sometimes two or more leaves are twisted together to form a strand, while sometimes a single leaf is used. When the end of the strand is nearly reached it is spliced with one or more rushes, the stub ends being left out and cut off later. The twist is first passed several times around the chair frame, then the corners are started, the work progressing towards the centre, while the chair is twisted rapidly around on its pedestal. A clever workman makes a firm, even seat, as durable as a good leather chair covering. After it is finished the seat receives a coat of shellac. This brings out the green and yellow tones of the rush, and preserves its surface from wear. Antique Colonial

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Covering the Open Stairway

I N a house where the open stairs lead directly from the living-room I recently saw a clever device.

A case of severe illness in the house, when the patient was greatly annoyed by the inevitable sounds from the living-room below, suggested the desirability of shutting out sound and odors from the upper hall.
From light wood a frame was made to fit the opening in the second floor and given an oak stain to match the trim of the hall. Over this was stretched a cover of bronze-green burlap which blended well with the paper, secured with tacks of hammered brass. This was fastened to the wall with hinges.

When lowered like a trap-door, it entirely separated the upper from the lower floor. When raised against the wall, it was not at all clumsy or ugly in appearance.

The door proved convenient, also, when the fireplace was depended upon for heat, as it prevented the warm air from rising to the upper hall where it was not required.

Even if such a door were not required for constant use, it would prove a great convenience for many occasions, and could be easily and quickly fastened in place, removing the objection that prevents many people from following the pleasing fashion of having the open stairway lead up from the living-room. Such a device would not, of course, serve in case the stairs enclose an open well between the floors.

Alice M. Ashton.

Everyman's Greenhouse

(Continued from page 93)

error when half the glass is laid. Use "finishing" nails for securing the sash bars in place, as they are easily split. Next, with chalk line mark the middle of the roof sash bars, and secure to them the one-inch pipe purlin, which will then be ready to fasten to the uprights already in place. Next, make concrete by mixing two parts Portland cement, two of sand and four of gravel or crushed stone with sufficient water to make a mixture that will pour like thick mud, and put the iron pipe posts in their permanent positions, seeing that the purlin is level and the posts upright. (If necessary, the purlin can be weighted down until the concrete sets.) Then put into place the ventilators, glazed, and the headers for same—short pieces of wood, cut to go in between the sash bars, and fit these up snugly against the lower edge of the ventilator sash.

When laying the glass in the roof, which will now be ready, use plenty of putty, worked sufficiently soft for the glass to be thoroughly "bedded" in it, and leaving no air-spaces or crevices for the rain to leak through later. If this work is carefully done, it will not be necessary to putty again on the outside of the glass, but it should be gone over with white lead and linseed oil. Be sure to place the convex surface of every light up. The panes should be lapped from 1/6 to 1/4 of an inch, and held securely in place with greenhouse glazing points, the double-pointed bent ones being generally used. The lights for the ends of the house may be "butted," that is, placed edge to edge, if you happen to strike good edges, but...
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as a general thing, it will be more satisfactory to lap them a little. The Woodward, before being put together, should all receive a good priming coat of linseed oil in which a little ochre has been mixed, and a second coat after erection. I have suggested putting the glass in roof and sides before touching the benches, because this work can then be done under shelter in case bad weather is encountered. The benches can be arranged in any way that will be convenient, but should be about waist-high, and not over four or four and a half feet across, to insure easy handling of plants, watering, etc. Rough boards will do for their construction, and they should not be made so tight as to prevent the ready drainage of water. The doors may be bought, or made of boards covered with tar paper and shingle or roofing paper.

The house suggested above is used only by way of illustration. It may be either too large or too small for the purposes of some of the readers of this magazine, and I shall therefore give very briefly descriptions of several other types of small houses, some of which may be put up even more cheaply than the above. The plainest is the sash lean-to (See diagram on page 93), which is made by simply securing to a suitable wall a ridge-piece to hold one end of the sashes for the roof, and erecting a wall, similar to the one described above, but without glass, and with a plain, 2x4 in. piece for a sill, to support the other ends. Either a single or double row of sashes may be used, of the ordinary 3x6-foot size. In the latter case, of course, a purlin and supporting posts, as shown in diagram, must be supplied. Every second or third top sash should be hinged, to open for ventilation, and by tacking strips over the edges of the sash where they come together, a very tight and roomy little house can be put up quickly, easily and very cheaply. New sash, glazed and painted one coat, can be bought for $2 to $2.50 each. Ten of these would make a very practical little house, fifteen feet long, and over ten feet wide.

Another form of lean-to where there are windows in the way is shown in another diagram. The even-span house, of which type there are more erected than any other, is also shown. The cost of such a house, say 21 feet wide, can be easily computed from the figures given in the first part of this article, the north wall, and purlin braces from the ridge posts, being the only details of construction not included there.

A simple way of greatly increasing the capacity of the ordinary holed or cold-frame, is to build it next to a cellar window, so that it will receive some artificial heat, and can be got at, from the inside, in any weather. Several sashes can be used, and the window extended to include as many of them as desired.

By all means get a little glass to use in connection with your garden this coming year. Put up one of these small

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greenhouses, if you can; if not, get a few sash, at least. Don't put it off till next spring; do it now! You can, for instance, plant lettuce now, and have a crop in your frames for Thanksgiving and Christmas.

Next month we will take up the handling of vegetables and flowers in the small greenhouse. But don't be content to read about it. It's the pleasantest kind of work—try it yourself!

Some Experiences With Wild Flowers

(Continued from page 99.)

As a ground cover the best plant that I have taken from its native haunts is the Foam-flower (Tiarella cordifolia). I have it from both the White Mountains and the Adirondacks, and under an old apple tree, with some of my Lilies, it gives the turn of a border a sort of a woody touch. Dutchman's Breeches (Dicentra cucullaria) is quite as graceful a ground cover, but loses its foliage. Some of both I have placed under shrubbery, where I have also installed of late the Fringed Polygala (P. paucifolia), the Bloodroot (Sanguinaria Canadensis), the Rue Anemone (A. thalicroides), the Rattlesnake plantain (Goodyera repens), and the Bunchberry (cornus Canadensis).

Of all the wild flowers that I have brought home, the Cranesbill (Geranium maculatum) alone has stood by me through the thirty years or so that I have been doing this sort of thing. Where I planted it in my first wild garden—a sort of rock-edged border—it still persists, though it is now fourteen years since I have given it any personal attention, the place being rented to others. Perhaps it was from that loyal colony that one day, some years ago, was carried to the angle of the piazza, near my present garden, a single seed that sprouted in the driest of soil and each year has sent out its little quota of lilac blossoms. That one Cranesbill, which has always looked too pretty to transplant to a more favorable location, and a vine of the Rutland Beauty (Calystegia sepium), were the only wild flowers that ever came to my garden of their own accord, thus earning additional affection. That Rutland Beauty, always known to us as Wild Morning-glory, was a wonder. A big, old-fashioned, round lightning rod ran up from my original wild garden, and some years after the border was first stocked, this vine made its appearance. Whether because of the unusual opportunity at hand, or to get the best of a sun that smiled on it only a very short time in the morning, I do not know; at any rate, summer after summer, it emulated Jack's beanstalk by running up thirty feet of lightning-rod and looking southward over the peak of the roof of the house. With its beautiful leaves and shell-pink flowers, the vine was a strikingly picturesque upward continuation of the wild garden. Ashes eventual-

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AUGUST, 1910

HOUSC & JARDEN

ly killed it, and similarly my flourishing colony of Mandrake (Podophyllum peltatum), met its death.

The Closed Blue Gentian (Gentiana Andrewsii), I am glad to number among my successful experiments in the border. The lovelier blue Fringed Gentian (G. aconitifolia), I sometimes bring home when it is budded and let it blossom in the garden, which it does willingly enough. It is easily raised from seed sown indoors in pans, but that sort of gardening illy accords with my restricted leisure. The Cardinal Flower (Lobelia cardinalis) thrives for me in an ordinary sunny border. It does better in a fairly moist place, however, and certainly never looks so well as in surroundings approximating the wild. Close by the Cardinal Flower thrives equally well a handsome blue member of the mint family (Salvia farinata), that I pulled up on a Virginia roadside. Coltsfoot (Tussilago farfara), that I found running wild in a great city, and Arnica from Nantucket, are neighbors that take quite as kindly to their new quarters.

Flat failures must inevitably figure in a field of gardening that perhaps never ought to be regarded as successful—one might even say allowable—when it oversteps the bounds of naturalization. Orchids I count as failures, because I have not had the time to give them the conditions without which it is not only useless, but cruel, to bring the plants home. I have tried half a dozen kinds, all with the same result; only the Yellow Lady's Slipper (Cypripedium pubescens) endured much over a year. Last January I found in the Bahamas, in the pine barrens of New Providence, Bletia verrucunda, the first of all exotic orchids to be introduced into England, and cultivated by Collinson so long ago as 1731. Though I knew that I should have to pot them, I ran the risk of digging—again with that penknife—a few of the bulbs. Doubtless the violet orchid will be another failure, but I have minimized my personal responsibility by dividing up my spoils with others who have better facilities. The Trailing Arbutus (Epigaea repens), I must also count among my failures—which have not been over-numerous, probably because I was early taught the proper care of growing things of all kinds.

My experience, as a whole, has been that while it is always best to reproduce natural surroundings, as well as soil conditions, as nearly as possible when bringing home wild plants, there is an astonishing number of them that will adapt themselves to what would seem, on first thought, really adverse circumstances. Which is not to be wondered at, inasmuch as many of the commoner cultivated perennials are growing wild in some parts of this country. Obviously, wild plants should not be rooted up indiscriminately; the best plan is to take more than one specimen where there is not an abundance.
The Architectural Value of Latticework

(Continued from page 101.)

Unless the walls are of masonry or plaster, painting will be necessary every two or three years, and this could be done far more easily and with less damage to the vines if it were possible to tilt the whole lattice frame away from the face of the wall while the painters are at work. In any case, do not have the latticework set too close against the wall. A space of two or three inches between lattice and wall should be secured, or by attaching the framework to blocks set against the wall. There is little choice in the matter of color. I doubt if it be possible to go wrong in using white-painted lattice, though green is sometimes felt to be better on white surfaces. With white, however, the lattice will be visible through the foliage, giving the apparent support that is an essential, while with green it may be lost to sight, defeating its main purpose.

One thing more. If you are planning to have a paved terrace along one side of a house, do not fail to leave two-feet-square holes (to be filled in with earth) in the terrace floor adjoining the house wall, and flanking the entrance or at other convenient points. Otherwise you will have to forego your trellis, and vines, too, on that side of the house.

A Garden of Vistas

(Continued from page 103.)

bits of flagging in the turf walk or, where the natural garden is a little steeper than usual, a few stone steps. Below these last is a small pond which is handled in a manner Japanese and makes one rather regret that the effect is not complete, and that the seat at its inner end was not a stone lantern.

Very little trimming has been resorted to. In fact, only such as was required in removing unhealthy or unsightly bits here and there or in reducing some over-intrusion on the pathway. All this has been well handled by the owner and in such a manner as to defy detection.

There is but one criticism that occurs to the writer, and that is the general out-of-placeless of the white marble accessories. To suit the scheme perfectly they should be less emphatic in color and less classic in detail. The light terracotta color of the Italian oil jar and the buff of the Romanesque pot are happier by far than the pure white, and their lack of severity in outline is self-satisfying. The former, in particular, has the appearance of utter abandon and of having been set down carelessly for a moment and forgotten; it is not even set straight.

When the garden was viewed, it was not complete, the two long paths suggesting further treatment beyond. Such

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The Available Violets

(Continued from page 104.)

would probably be of another character, as too much of the first treatment might become tiresome. Even this as set forth above might not suit every reader. Things of this sort are temperamental. Did one wish a central motive of flowers, the triangle facing the seat could be utilized and perhaps the pond could occur here also. In any event, for one who is fortunate enough to have a grove of cedars, the possibilities are unlimited and a very satisfactory effect secured for but little cost of upkeep.

The Downy Yellow Violet (*Viola pubescens*) grows a foot or more tall. It likes shade. Its short-spurred, clear yellow flowers appear sparingly all summer. This plant makes a charming backing for *Viola rotundifolia*, the Round-leafed Yellow Violet. This latter grows low in the shade. Its flowers, coming in the spring, are not large. Its leaves are its great beauty and these cluster close to the ground and form shining rosettes as the summer advances. They are a perfect foliage border for a shady bed. *Viola blanda*, the small, sweet-scented White Violet, planted with ferns in some shady, low spot, is most beautiful of all. It must be grown in large colonies to be appreciated, for it is too small a plant to hold its own in a garden alone, nor can it well be near other flowering plants if its delicate beauty is to be appreciated.

Seed from most of the varieties can be obtained in early summer after the spring flowers fade; *Viola Canadensis* and *Viola pubescens* may be found maturing seed sparingly all summer; while, as I mentioned above, cleistogamous flowers of the Blue Violets are found in August. Slips are best taken in August to start plants for the next spring. If I were purchasing plants from the florist I should do it in September, so they could be well established before cold weather. By doing this the gain on every hand would more than repay any extra effort that one has to make for purchasing plants at this time.
The Secret of Durable Stucco
(Continued from page 84.)
by means of a straight edge. Texture and color are necessary if artistic results are to follow. By using the suggestions above outlined the architect or owner is privileged to select the aggregates from which the stucco is made and has in fact as great play in the planning of the color, tone and texture as has the artist in mixing the paints on his palette.

As to the merits of the finished work, little need be added. The wall is impervious to moisture, hence free from the decay that must of necessity overtake all wooden structures. A stucco wall needs no paint as does the house built of clapboards, a fact that should be taken into consideration with the slightly greater first cost of a stucco wall over a wooden one. Few building materials give such a harmonious background and support for clinging vines, and contrast so pleasingly with the surrounding green of trees, shrubbery and the brilliant colors of flowers.

Stenciling Fabrics
(Continued from page 87.)
the dining-room by having heavy dull gold Japanese leather paper stretched on a screen frame and then stenciled in some stunning design, say of peacocks and peonies in rich low colors. A screen that is to be covered with paper should first have unbleached muslin stretched on it, and the paper pasted on that just as if it were the wall. The edges may be covered with narrow bands of leather tacked on with large-headed dull brass tacks. Grasscloth also makes an attractive screen, and there are many other fabrics that may be used.

The small accessories of any room can come under the sway of the stencil brush, and, if done well, add a personal touch that is most taking. Lamp-shades, candle-shades, desk sets, bags of different kinds, bureau sets—these are only a few of the articles that may be decorated by the clever home craftsman.

Although stenciling is rapid work compared to painting or embroidery, one must not expect to accomplish the next to impossible, and finish a whole set of curtains in a day. The kind of design chosen of course makes a deal of difference in the amount to be done, but it is steady work, and to be successful must be carefully done. The result well repays one for the trouble taken.

Plant Evergreens Now
(Continued from page 80.)

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Evergreens may be planted both for temporary and for permanent positions. Indeed, there are many Conifers, such as the Retinisporas, which often are planted solely for their decorative effect during a season or a part of a season. Such plants are often crowded together as they would not be in permanent planting.

The dimensions of the hole in which an Evergreen is to be planted ought, as the writer’s experience leads him to conclude, to be from three to four times the size of the root-ball, and fully ten inches deeper. This ensures the cultivation of the soil directly around the plant stem. Where the soil is very poor I have found that the addition of one part of well rotted barnyard manure to four parts of the soil is a valuable fertilizing agency in nourishing the young roots. This manure must be thoroughly mixed with the soil. The soil that is replaced should be very thoroughly wetted, especially if the Evergreens are set out in dry weather. In this case leave a basin of at least five inches depth around the base of the plant and fill it with water. After a day the soil will have settled and the basin can be filled up with the remaining soil mixture. Do not forget to firm the soil around the newly set out plant. A shallow basin for irrigating must, of course, be left around it.

Choose a cloudy day for transplanting if possible. Then every evening sprinkle the Evergreens. This spraying should be continued until the new growth at the tips of every branch indicates that the roots have taken hold in the new soil.

Frequent spraying and watering the roots is necessary during drought, for the leaves of Evergreens are dependent for their fresh appearance on the sap created by the moisture the roots drink in, and when the roots are dry and the plants water-starved the foliage becomes sere and yellow. Many of the little plants, such as the Japanese Cedars (the Retinispora) are often woefully neglected on this point. Especially true is this of Evergreens introduced for architectural effect and potted in tubs, shallow soils or window-boxes, where the roots soon dry out if they cannot find water, and, of course, they are not permitted any depth in which to seek it.

As to the proper distance Evergreens are to be planted apart, large-growing specimens should be distant from one another at least five feet each way. Hedge plants can be about two feet. Closer planting is only justifiable where immediate effect is required. Overcrowding, especially in hedge-growths, will cause certain of the plants to die, leaving gaps that are unsightly.

It is wonderful what beautiful effects may be obtained with the judicious selection of a few Evergreens, and although individual opinions differ as to the aesthetic qualities of this plant an, that, it must be conceded, that not only is there an Evergreen for every place but some place for
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