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American Estates and Gardens

By BARR FERREE


This is a sumptuously illustrated volume in which for the first time, the subject of the more notable, great estates, houses and gardens in America receive adequate treatment. An effort has been made to select as great a variety as possible of the styles of architecture which have been introduced into this country, as being specially adapted to the peculiar conditions of American country life.

Although the exteriors of some of the houses shown may be familiar to a certain number of readers, few have had the privilege of a visit to their interiors, and for that reason special attention has been given to reproductions of many of the sumptuous halls and rooms of the people of wealth, and no better way can be obtained of learning how the favored few live.

The building of the great homes of America has necessarily involved the development of their surrounding grounds and gardens; the work of the landscape gardener has rivaled, in its dignity and spacious beauty, that of the architect. If little is known of our great estates, still less is known of their gardens, of which, in spite of the comparatively short period that has been given for their growth, we have some very noble instances among us, which are illustrated and described in the present volume.

This work is printed on heavy plate paper and contains 340 pages 10 1/2 x 13 1/2 inches, enriched with 275 illustrations, of which eight are in duotone. It is handsomely bound in green cloth, and stamped in black and gold, and, in addition to being the standard work on notable houses and gardens in America, unquestionably forms a most attractive gift book.

MUNN & CO., Inc., Publishers :: 361 BROADWAY, NEW YORK
THE USE AND CHARM OF STUCCO

By ALBERT MOYER

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 350 years B.C. of stuccoes made from vastly different materials than are of economical use at the present time, and we find that such plasters were almost invariably used in the warm climates where the action of frost would not tend 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 wattled 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 wattled houses was to protect an inferior building material.

To-day, stucco is used for a similar purpose, and for its 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 carry out these ideas we desire to recommend 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 finish for stucco as will cause 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 jobs the surface can be cleaned off by means of a sand blast, and on smaller work, the outside may be cleaned by means of muriatic acid in dilute solution, 1 part commercial muriatic acid, 4 to 5 parts clear water, until each grain of sand is exposed.

Where white aggregates 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; and if scrubbed when it is too soft the surface may be damaged and difficult to repair.

If the character of the available aggregates 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, 13 per cent of the volume of the cement of well hydrated lime, pulverized form, and 1 part of the volume of the cement of fine white sand. Mix with water...
You'll like it—it's well heated!

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to the consistency of cream or the ordinary cold water paint. Stir constantly and apply by using a whisk broom, throwing this 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 weekend. If necessary protect it by hanging tarpaulins and using a fine spray of water, playing on 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 stopping stone building, as the procedure at best is difficult and hardly to be recommended. Our building stone is usually an excellent material and therefore does not require either protection or covering to produce pleasant effects.

New brick may be covered with stucco very successfully. The joints should be first raked out 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 finished coat applied while the former one is damp.
out of the mortar and it will crack and disintegrate. Portland cement requires water until it has thoroughly hardened, which ultimate hardening usually takes from fourteen days to a month. It is not always necessary 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 their erection in the wall, with two coats of bituminous paint, equal to such compounds as Dehydratine, Minwax, R. I. W. or X-Hydro-Plastic. It is important to place the first coat of stucco over this paint after twenty-four hours and within six days.

The proportions for a good stucco should be one part Portland cement, two and one-half parts coarse clean sand. (If coarse clean sand is not available use only two parts of sand.) Add 10 to 15 per cent. of well hydrated lime, dry pulverized, of the volume of the cement.

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 No. 8 screen and all collected on a No. 40 screen. These different colored marble and different colored sand, where obtainable, can be used singly or in a combination. When exposed by scrubbing or the acid treatment very interesting results are obtained.

In mixing stucco, great care should be exercised to obtain the thorough incorporation of cement, sand and the other aggregates. The sand and the cement should be mixed together dry, until an even color results. This can be done by shoveling and by raking at the same time. Water should then be added, care being taken lest too much water is used at a time and the resulting mortar get too wet so that more sand or cement has to be added. Be very careful to bring this mortar up to the proper consistency for use in 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 the sand before the water is added. The addition of hydrated lime tends to thicken the mortar, thus making it more adhesive and imperious.

Another specification which we believe will prove of considerable value is that of 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, such as O11 Petrole. 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.

The color obtained by the scrubbing or acid method is limited only to the available sands or marble screenings. The color will be that of the aggregates. An excellent green can be obtained by adding 8 per cent. of the weight of the cement of chromium oxide, which should be mixed

(Continued on page vi)
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They are equipped with gas and electric fixtures, screens and shades. Decorations quaint and restful.

Prices begin at $2,900, then $3,500, $3,600, $3,700 and by easy stages up to $5,900. Also a few at from $7,400 to $9,000.

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The house contains ten rooms, three bath rooms and is newly decorated. It is heated by steam and has open fires, electric light and broad piazza. There is a garage, fruit trees, plot of an acre.

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the Sun-God began to peep out from under a big cloud, and looking down, kissed the pretty tear-stained faces and bade them be happy again.

Then all the Hollyhocks nodded and opened wide their pretty petals and glowed under the Sun-God's warm kisses, until it was almost time for him to say "Good-night."

PART II

It was that beautiful time in the evening when Grandmother loved to walk in her garden. The flowers knew she would come, they had ceased to talk and now listened, but was it she that was saying:

"How beautiful they are! You dear old-fashioned flowers, how long has it been since I saw you, a wee little girl, and Grandmother has grown you all for me."

"Not Grandmother, but our little girl that played among us so long ago."

The soft summer breeze stirred the leaves and flowers. They nodded and what wondered.

"You pretty white flower, how I love you; you are Queen of the Hollyhocks."

The soft summer breeze sighed, "She knows, she knows.

In and out she went among the flowers, talking to and caressing them.

"You are all lovely," she said, "and to-morrow you will smile back at me among the sweet grasses and ferns."

And so she passed on until she reached the pretty white flowers that grew among the sweet grasses and ferns in front of the South bay-window.

"You pretty white flower, how I love you; you are Queen of the Hollyhocks, Queen of the grasses and ferns."

The soft summer breeze lightly stirred and the leaves and flowers all listened.

"You pretty white flower, how I love you; you are Queen of the Hollyhocks, Queen of the grasses and ferns."

The soft summer breeze stirred the leaves and flowers, and each one nodded her homage.

The Sun-God, going to sleep in the West, cast her bright golden rays on the pretty white flowers, on the Queen of the Hollyhocks—Queen of the garden.

THE ORIGIN OF BULLDOGS AND PUGS

The history of most of our domestic animals is shrouded in mystery. The breeders of former times did not realize the importance of keeping records of their methods and results; or they were too ignorant to understand just what they were doing, getting results for the most part through an occasional lucky hit amidst many routine misses.

A German investigator attempts to work out the history of the bulldog and of the pugdog by studying the pedigrees of dogs, goats, pigs, and cattle that showed the characteristic shortening of the skull that distinguishes these breeds of dogs. After considerable comparative study of...
the skulls of these mammals he concludes that inbreeding is the cause of these peculiar head-formations.

This view is severely criticized by biologists, since it is a well-known fact that inbreeding never creates new characters, but only intensifies old ones. A more reasonable view is that which directs attention to the fact that many wild animals, when caught young and brought up in confinement, do not have as long heads as shown by other members of the species in the wild state. In the end they are decided shorteners, the bones of the face take place in the case of the wild dogs and the wolf. This is the beginning of the pug face. Inbreeding develops this character; the method of the case, says Prof. Hildebrandt, of Stuttgart.

This scientist finds the cause rather in the modified use of the jaws resulting from conditions of captivity. The face, he says, fails to develop the same as it would in a state of nature.

The bending of the bones of the palate in these dogs is explained by the upholder of the inbreeding theory as resulting from degeneration or rachitis ("rickets") due to the inbreeding. Prof. Hildebrandt explains this bending as due to the crowding of the teeth consequent upon the shortening of the face bones.

While it is true that inbreeding cannot cause the appearance of a new character, it is also true that we have no evidence of any character arising as a result of changed external conditions being preserved by heredity. If it is true that changes in the food have made the jaws of wild dogs under domestication fail of development, we should be able to get the original wild dog again by suitable feeding; this, however, is impossible. According to our present knowledge, the probabilities are that short-faced dogs, like short-faced varieties of other animals, arose as "sports" and were preserved through inbreeding, or even had the character intensified.

THE DISEASES OF TEA

The cultivation of the plant is making considerable progress in the Caucausus region, and although its introduction has been comparatively recent, it has already brought a good profit to the planters.

However, the tea plant is subject to maladies caused by certain parasites which prevail in these regions. A Russian scientist, M. Spiechnoff, observed twelve cryptograms, and one of them, the Dicosia Theae and the Capnodiium foetidii. This latter causes a curious disease known as the "gray malady." Here the leaves show gray spots surrounded with a border of darker color. After some time there appear small dark spots which represent the fructification of the fungi. Other dangerous species are the Dicosia Theae and the Capnodiium foetidii. This latter causes a malady known as "soot" of the tea plant, and sometimes gives much damage. Another disease is described by M. Spiechnoff, and it has the form of buff-gray spots sometimes covering all the leaves. He considers that it is caused by a cryptogram, but Duconnet and others consider that the disease is not of a parasitical nature. The gray malady and the "soot" disease attack also the leaves of evergreen plants such as the camelia, rhododendron, and magnolia, but on the contrary the former hardly ever attacks any but the Chinese tea plant, and others escape it. We may also mention that M. Voronoff observed in the Imperial plants near Batoum, a caterpillar which eats green leaves and then destroys them. With the use of Aphine, the pest was entirely destroyed. —John McCann, Superintendent Golden Gate Park, San Francisco.

I have given Aphine a very thorough trial on plants infested with aphids and find it works very successfully. In fact, I have found nothing that compares with it. I recommend it to your readers. —E. R. Wadsworth, Farmington, Maine.

Two cases were made in the plant which had the best applications of Aphine, and both plants had the pests completely destroyed. —John McKee, Superintendent Golden Gate Park, San Francisco.

I have given Aphine a very thorough trial on plants infested with aphids and find it works very successfully. I have, however, found nothing that compares with it. I recommend it to your readers. —E. R. Wadsworth, Farmington, Maine.

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Stores your ashes out of sight and does away with the necessity of attending furnace every few hours.

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Store your ashes out of sight and does away with the necessity of attending furnace every few hours.

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THE ANNUAL SMALL HOUSE NUMBER

THE May number of American Homes and Gardens will be devoted to the small house, its building, its decoration and its furnishing. The subject will be strongly featured, including a display of bungalows and small houses, which will be illustrated by exterior and interior views, and floor plans.

The small house will be given special attention, since it is the most numerous type of building in this country, and because it is a type of building that excites the widest interest and offers the largest field for helpfulness to the home builder.

There will be articles from the decorating of the home to the arrangement of flowers for the table, from the planning of the kitchen to the building of a garage, from the purchasing of a motor car to the planting of the garden and the home grounds.

Everything pertaining to the home and garden will be presented in such a form as to solve the problems which so often confront the house owner.

The various departments conducted by specialists add greatly to the value of this number, and besides these departments the magazine will contain a host of articles which will prove of great interest to our readers.

The table of contents published on page 121 in the current issue will give a synopsis of the contents for the May number of American Homes and Gardens.

THE ELM LEAF BEETLE

According to the leading State Entomologists, the indications are that the ravages of the Elm Leaf Beetle will be far more serious this year than during the past, and it is certainly a matter of vast importance for the consideration of all owners of estates in the country to do their utmost to eliminate this insect.

It is suggested that the owners of elm trees should have them sprayed as soon as the foliage develops in early May. The winter of the Elm Leaf Beetle is passed in the most improved kind for use in its perfect equipment, and includes everything that goes to make a home.

Beginning during the last days of June and continuing until the middle of July, the full grown larvae, which are less than half an inch long, crawl down the trunk and change to yellow pupae at the base of the tree and on the ground near it. Adults develop a week after the formation of pupae, and in the last part of July the summer brood of beetles is abundant. These fly to the leaves again, feed on them, deposit eggs and the life cycle of the insect is repeated. There are two broods a year.

The only effective way to control the Elm Leaf Beetle is to spray the foliage with arsenate of lead as soon as the leaves unfold. This spraying is important for the reason that if the beetles can be killed before they lay their eggs there will be no larvae to deal with later. It is this early spraying to catch the adult beetles that is suggested.

If early spraying is neglected, an application of arsenate of lead is necessary when the larvae begin to feed. This spraying, however, is not as effective as the early one. When the full grown larvae crawl down the trunks to pupate, great numbers of them collect in the crevices of the bark, at the bases of the elms, and on the ground near the trees.

At that time every owner of a tree can do his part to destroy the pest by sweeping up the caterpillars as they come down and kill them by pouring boiling hot water over them.

There are plenty of firms in practically every city, town or village who will do the spraying at a nominal cost, in case one is unable to do it himself, for it should be the pleasure of everyone to assist in the preservation of that most beautiful tree, the elm, so splendidly mentioned by Ruskin, who speaks of it as the mother of Gothic architecture.

THE REAL ESTATE AND IDEAL HOMES SHOW

The second exhibition of the Real Estate and Ideal Homes Show will be held at Madison Square Garden from April 26th to May 3d, inclusive.

The first exhibition was held last year, and, while an interest was to be expected from the public, it was not anticipated that the attendance would be so large. On account of the demands of the public it was found necessary to extend the show another week, which was a very unusual concession, and the first on record where the exhibitors made a unanimous request to the management for such a purpose.

The show was organized to afford an opportunity of studying various types of house construction, decorations, and furnishings, and includes everything that goes to make a home.

One of the principal features of the exhibition will be the presentation by real estate companies of models of suburban development. Another feature worthy of note will be the splendid collection of photographs of houses and architects' drawings, from which one may secure suggestions for home-building. The exhibits of all kinds of materials for the building of a home, the models of the most improved kind for use in its perfect equipment, and the latest designs for the decorating of the interior are features in this show, and will prove helpful to those who are interested in either the building or the improvement of the home.
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A NEW METAL FOR AEROPLANE
CONSTRUCTION
One of the chemists in the labor-
atory of Messrs. Vickers, Sons & Maxim, the well-known British
armament manufacturers, has recently per-
fected an aluminum-alloy which has the
strength of mild steel, and which is only
slightly heavier than aluminum. This new
alloy, to which the generic name "Dura-
lumin" has been applied, is especially
suitable for the frames of aeroplanes and
the cars of dirigible balloons, where com-
bined lightness, great strength and tough-
ness are so imperative; and inasmuch as
this firm is now actively engaged in the con-
struction of aerial vessels, it is being ex-
tensively utilized in connection therewith.
The alloy contains upward of 90 per cent.
of aluminum, has a specific gravity of
about 2.8, and a melting point of 650 de-
grees C. (1,202 degrees F.). Its physical
properties are exceptionally favorable under special trea-
tment which is well under control, and may
be obtained for any purpose for which it may be required with a tensile strength
of 40 tons per square inch, with very little
elongation, from 28 to 30 tons per square
inch with 15 per cent. elongation in 2 inches,
or 25 tons per square inch with an
elongation of about 20 per cent. in 2 inches.
Although primarily evolved for the rigid parts of aerial vessels, it has been
found that the alloy is eminently suited for
the fabrication of any article usually ex-
cuted in aluminum, either for military,
domestic, or commercial purposes where a
great economy in weight is of vital impor-
tance. The alloy will also take a polish
equal to nickel plating, is unaffected by
mercury, and is non-magnetic, while it is
proof against atmospheric influences and
but slightly susceptible to the action of sea
or fresh water. For electrical apparatus it
possesses many possibilities, emits when
struck a clear silver tone, and is suitable
for sound producing apparatus such as
bells, organ pipes, etc. The alloy is ob-
tainable in its finished form for whatever
purpose it may be required, such as rivets,
plates, sheets, wire, strip, and so on. but
may also be obtained for any purpose for which it
or fresh water. For electrical apparatus it
possesses many possibilities, emits when
struck a clear silver tone, and is suitable
for sound producing apparatus such as
bells, organ pipes, etc. The alloy is ob-
tainable in its finished form for whatever
purpose it may be required, such as rivets,
plates, sheets, wire, strip, and so on. but
may also be obtained for any purpose for which it

THE BRISTOL COMPANY
Waterbury, Conn.
American Homes and Gardens
for May

The Small House of To-day
There is no more interesting subject for the home-builder than that which deals with the building of the small house. Exterior and interior views, and floor plans are shown to illustrate an article written by Francis Durando Nichols, which gives a comprehensive idea of the interior treatment of each house.

Two New England Houses
Illustrations of the modern house of low cost, which have been copied from the old New England farm-houses are always interesting for the reason that they represent all that is simple, and yet combine all the features for comfort and repose. Paul Thurston has contributed an article on the subject which is illustrated by exterior and interior views, and floor plans, and it presents helpful suggestions for the one who is seeking designs for houses of interest.

Bungalows
A special number would not be complete without the presentation of the bungalow. There are some interesting ones with views and plans which illustrate the paper prepared by Robert Prescott.

A Bungalow Built of Terra-Cotta Blocks
The bungalow built for Mr. F. R. Bangs, at Wareham, Mass., was designed primarily for comfort, and its well- planned rooms and picturesque environment tend to produce the desired result. It is constructed of hollow terra-cotta blocks, which are exposed in the main living-rooms of the house. Mary H. Northend has prepared a paper on this house which is illustrated by many fine engravings, and is one that is worth knowing about on account of the material of which it is built.

Flower Arrangements for the Table
Along with the marked progress made in the larger and more important details of home-making is the attention now paid to those which are contributing to the general effect of a home. While the conventional holder for a floral centerpiece for the dining-table is some kind of vase or jar in pottery or glass, there is nothing more attractive than a shapely basket in which a bowl of water is fitted. Edith Haviland has presented an excellent article, illustrated by many engravings showing how this may be attained.

Decorative Curtain Schemes
Selecting curtains for the house is a rather hard task; not because there is so little to choose from, but for the reason that there is so much. In order to avoid mistakes and to secure the best possible hangings, that will not only give satisfaction to those who occupy the home, but pleasure to all who see them, one not skilled in the art of selection should be interested in the ideas furnished by Mabel Tuke Priestman, who presents many helpful suggestions in the furnishing of the doors and windows of a home. The article is illustrated, and shows some of the latest designs for curtain hangings.

The Modern Kitchen
We accept without question the idea that the kitchen should be both clean and sanitary, but we are not always so sure that the efficiency of this busy end of the house is a matter of vital importance to those supposed to be interested in home affairs. The kitchen is the place where nearly three-fourths of the actual housework must be performed, and the arrangement and equipment must exert more or less influence upon the whole problem of housekeeping; therefore, it is necessary that great consideration should be given to this part of the house. George E. Walsh has contributed an excellent article on this subject; one which is illustrated by engravings showing some model kitchens.

The Inexpensive Small Garage
With the increasing use of the motor car, it is becoming more and more the custom to house the machine on the premises of the owner, practically in rural and suburban places. The practice of keeping the car at home is more practical and satisfactory now than formerly, and H. P. Wilkin has prepared an excellent article on the subject, which is illustrated by many designs for a moderate price garage.

The Low-Priced Motor Car for the Man of Modest Means
The motor car has become as important and as necessary for the convenience and comfort of the man who lives in the country, as the heater which warms his house. The economic process of the building of a car has enabled many manufacturers to produce a vehicle that is within the means of the average man who lives in the country. Stanley Yale Beach has written an interesting paper on the subject, which is illustrated by many designs for houses of interest.

Planning a Seashore Garden
The first thing to consider in the making of a seaside garden is the matter of wind-breaks. These may not be over two feet in height, but in most localities they are an absolute necessity. The next important detail is to select the flowers with which to plant it. All flowers will not grow in a seashore garden, so Martha Haskell Clark tells in her article how to make a selection of the best flowers to plant, and the results that are to be expected.

The Arrangement for the Small Garden
Charles Downing Lay has prepared plans by which to illustrate his article, showing how a garden for a small place may be planted. He tells in his paper how it is possible for one to have a small garden, even though the space is limited, and points out the possibilities and the means of developing it.

Spraying the Apple Orchard
There is not a neglected "home orchard" in our country but can be brought back to a good bearing condition and made to produce perfect fruit. This is a condition that is realized by many farmers who would gladly give their trees proper attention if they knew what to do. They recognize their trouble, but do not know the cause. Benjamin W. Douglas, State Entomologist of Indiana, has prepared an exceptional article on this subject, which points out the methods to pursue in order to eliminate destructive insect pests. The article is profusely illustrated, and is one that ought to be of interest to all who possess apple trees, whether they belong to the home grounds or to the more pretentious orchard.
A perfect tree is a rare thing. Only a very small percentage of our American trees are so nearly perfect that they require but a small amount of expert work to make them completely so. In any grove of one hundred trees, native or transplanted, from ten to fifty will be found in a serious condition, as a rule—exceptions to this rule are very rarely found. Probably half of the remainder will show evidences of moderately serious conditions, when examined by experts, and other half will grade from that stage to nearly perfect.

Abuse and neglect are the two chief factors which are at work to destroy trees. If even the tiniest cavity in a tooth is neglected the inevitable result is a difficult operation in the course of a few years or the loss of the tooth. Just so with the trees—the small and innocent looking hole you see today will be greatly increased in dimensions five years hence. As the cavity grows in size, it weakens the tree and in but a few years the tree will be blown down some windy day, destroying entirely the growth of years.

While a tree is but slightly affected it is a comparatively inexpensive matter for it to be treated by the Davey experts. They will clean out the cavity, stop the decay, fill the hole skillfully and the bark will soon heal over it. The longer the tree is neglected the more its life is endangered and the more it costs to save it. It pays to take time by the forelock and give your trees really expert attention when they least need it. As the tree grows worse, treatment becomes more imperative and more expensive.

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The quality service of our experts is now available east of the Missouri river. Our corps of special representatives are making up their traveling schedules for spring and summer. It is quite possible we can arrange to have one of them make an examination of your trees without cost and obligation to you—if we hear from you at once. When you write tell us how many trees you have; what kinds and where located. We will send you booklet explaining the science of tree surgery and giving ample evidence of its practical and permanent value to trees when properly practiced.

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AMERICAN HOMES AND GARDENS for May
Queen of the Hollyhocks
Helps for the Housewife
New Books

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361 Broadway, New York

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NOTICE TO CONTRIBUTORS—The Editor will be pleased to have contributions submitted, especially when illustrated by good photographs; but he cannot hold himself responsible for manuscripts and photographs. Stamps should in all cases be included for postage if the writer desires the return of their copy.
The terrace steps lead to the garden
April, 1911

AMERICAN HOMES AND GARDENS

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The stable court

The entrance door is the most imposing feature of the house. It is located at the rear of the building and is easily accessible from the service quarters. The stable court is a large space, and is used for the storage of carriages and horses. It is also used as a place for the exercise of the horses.

The garden is delightful. It is a part of the house and is not separate from it. The garden is planted with flowers and shrubs, and is a place for the enjoyment of the family. It is also a place for the exercise of the children.

The house is built of stone and is a fine example of the architecture of the time. It is a fine example of the style of the time, and is a fine example of the craftsmanship of the time.

The hall of the house is a fine room, and is a place for the reception of guests. It is a fine example of the architecture of the time, and is a fine example of the craftsmanship of the time.

The dining-room is a large room, and is a place for the enjoyment of the family. It is a fine example of the architecture of the time, and is a fine example of the craftsmanship of the time.

The library is a large room, and is a place for the study of the family. It is a fine example of the architecture of the time, and is a fine example of the craftsmanship of the time.

The sitting-room is a large room, and is a place for the enjoyment of the family. It is a fine example of the architecture of the time, and is a fine example of the craftsmanship of the time.

The bedroom is a large room, and is a place for the rest of the family. It is a fine example of the architecture of the time, and is a fine example of the craftsmanship of the time.

The kitchen is a large room, and is a place for the cooking of the family. It is a fine example of the architecture of the time, and is a fine example of the craftsmanship of the time.

The pantry is a large room, and is a place for the storage of food. It is a fine example of the architecture of the time, and is a fine example of the craftsmanship of the time.

The servants' quarters are a large area, and are used for the housing of the servants. They are a fine example of the architecture of the time, and are a fine example of the craftsmanship of the time.

The basement is a large area, and is used for the storage of the family's clothing and household items. It is a fine example of the architecture of the time, and is a fine example of the craftsmanship of the time.

The cellar is a large area, and is used for the storage of the family's food. It is a fine example of the architecture of the time, and is a fine example of the craftsmanship of the time.

The attic is a large area, and is used for the storage of the family's belongings. It is a fine example of the architecture of the time, and is a fine example of the craftsmanship of the time.

The laundry is a large area, and is used for the washing of the family's clothes. It is a fine example of the architecture of the time, and is a fine example of the craftsmanship of the time.

The garage is a large area, and is used for the housing of the family's vehicles. It is a fine example of the architecture of the time, and is a fine example of the craftsmanship of the time.

The pool is a large area, and is used for the swimming of the family. It is a fine example of the architecture of the time, and is a fine example of the craftsmanship of the time.

The garden is delightful. It is a part of the house and is not separate from it. The garden is planted with flowers and shrubs, and is a place for the enjoyment of the family. It is also a place for the exercise of the children.

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Homes and Gardens

American


"White Lodge"

Number 4

April, 1911

Volume VIII

By Francis Burrard Nichols
April, 1911

AMERICAN HOMES AND GARDENS

The garden front

The dining-room

The den

painted white, above which they are covered with a paper showing a white floral design on a gray background. The chintz coverings of the furniture give a touch of color to the decorative scheme. The ingle-nook is the important feature of the room. It has an open fireplace, tile facings and hearth, and a mantel and overmantel. Low bookcases are also built on either side of the fireplace. The dining-room is the most pretentious room in the house. It is a splendid apartment, long and broad in its proportions. The principal feature here is the scheme for the wall decoration, which is most unusual, and it is particularly handsome, as it is carried out in harmony with the architecture of the house and illustrates the classic feeling. To describe the effect of these wall paintings upon one when entering, would be impossible. While the illustrations show the detail and outlines of the designs, they do not present the coloring, which is the most important feature of the paintings. It is in reality an "Italian Fantasee," and is the work of the well known mural painter, George Porter Fernald, of Boston, Mass. Broad doorways at one end of the room give access to it from the staircase hall, while at the opposite end of the room the broad windows furnish ample light and ventilation, and open directly onto the garden, which is built at the rear of the house. The fireplace has marble facings and hearth and a paneled over-mantel, in which is placed a painting to carry out the decorative scheme of this side of the room. Oriental rugs placed on a highly polished floor, and mahogany furniture and antique cabinets complete the furnishings of this room. The service end of the house is built in a separate wing and includes a large butler's pantry, finished in white enamel, a kitchen thoroughly equipped with every modern appliance, a servants' hall and laundry, while a private stairway leads to the servants' quarter in the second story of the extension. The second floor of the main house contains Mrs. Devens' boudoir and bedroom, which are treated with white enamel trim and gray and white striped wall covering. Mr. Devens' room has also white enamel trim and the walls covered with crimson poppies. The guest rooms are all treated in a particular color scheme. Each of the rooms connects either with a private or a general bathroom, which is tiled and furnished with all the best modern improvements. The second story porch, opening from Mrs. Devens' room, is screened and enclosed so as to be used as an outdoor sleeping-room. The garden, built at the rear of the house, was made from the clearing in the woods, and is enclosed with a terraced wall. From this garden broad vistas are obtained.
of the surrounding country, beyond which is the sea.

The garden entrance from the drawing-room is ornamented by concrete columns which are placed between the doorway and the windows, the latter built at either side of the opening.

A broad porch flanked on each side by a balustrade and seats, is marked by two ornamented urns at the step line of the porch.

Broad, sweeping steps descend to the garden wall which leads to the woods in either direction and down to the belvedere at the end of the bowling green. The terrace wall which extends around the garden is built of rock-faced stone laid up in a random manner. Vines have been planted that grow over this wall, and it is now nearly covered by their attractive spread.

Considerable planting has been done about the garden porch, which rounds out the corners between the porch and the wall. A living-porch is built at one side of the house, and it is reached from the drawing-room. It is enclosed with a green painted lattice work, and is furnished in a comfortable and harmonious fashion. The garage, which has already been mentioned, is constructed in harmony with the house. It is a square building, with three entrances surmounted by three circular arches. It is thoroughly equipped with all the modern appliances for the care of a motor car. The chauffeurs' quarters are also provided and are fitted with the necessary appointments.

This country seat with all its accessories is undeniably arranged on the lines that secure a perfect residence; one that even the most jaded taste could welcome with the relish that comes with a gratified rural appetite, for every comfort and luxury are here in very ample measure and with the buoyant adjuncts of land and sea air influences.
Fig. 1 — A Sofa sold for $230

Furniture of Our Forefathers

By Esther Singleton

Late Georgian — Part III.

ROUGHLY speaking, furniture and all forms of Decorative Art in which the curve predominated lasted from the beginning until the middle of the century, when the straight line asserted itself and triumphed. In the last days of Louis XV the reaction is already visible. Indeed, indications of the coming Louis XVI style begin between 1745 and 1750. The discoveries made in Pompeii and Herculaneum are responsible for the enthusiasm that the straight line and regular forms of Greek art exerted in certain masters of Decorative Art.

Among the precursors of the Louis XVI style and whose works are a mixture of the Louis XV and Louis XVI styles are Lucotte, Waterlet, J. B. Pierre, Dumont, Roubo, Charles de Wailly, Choffart and Neufforge. In the last particularly do we meet with the coming style; and, among the designs of Delafosse (1731), one of the chief exponents of the Louis XVI style, we find many reminiscences of the Louis XV style.

The lovers of the Classic in England were only too ready to welcome the reaction from the rococo and to stimulate the new taste for the straight line, mortuary urn, and arabesque ornamentation. The early Louis XVI was known in England as the Adam style, which is, however, unfair to a great many others who made war on the Gothic, Chinese, and rococo taste. Numerous books on architecture, ornamentation and decorative design, as well as cabinet work, were issued between 1765 and 1771; and it is noticeable that the names of many Italians appear in this list. The artists that the Adam brothers employed to work for them—Angelica Kauffman and her husband, Antonio Zucchi, Cipriani and Pergolesi—had also great influence. The last, whom they brought from Italy, is thought by Mr. Heaton to be the "unacknowledged author of most of the beautiful details of Adam's book." The Adam brothers never made furniture—they were architects and designers; and it was largely owing to their high social position that their influence was so great.

When Chippendale published his famous book of designs, the Louis XV style was on the wane. The very year of its publication—1754—Robert Adam went to Dalmatia to study the ruins of the Emperor Diocletian's palace; and, on his return to England in 1762 became royal architect. His brother, James, was identified with him in all his work. As the nobility and gentry not only patronized the Adam brothers, but received them socially, these architects and designers of furniture belong to a different class from that of Chippendale, Heppelwhite and Sheraton. They themselves said: "If we have any claim to approbation, we found it on this alone: That we flatter ourselves we have been able to seize with some degree of success the beautiful spirit of antiquity, and to transfuse it, with novelty and variety, through all our numerous works."

An English critic has aptly written: "Whatever were the architectural defects of their works, the brothers formed a style which was marked by a fine sense of proportion, and a very elegant taste in the selection and disposition of niches, lunettes, reliefs, festoons, and other classical ornaments. It was their custom to design furniture in character with their apartments, and their works of this kind are still highly prized. Among them may be specially mentioned their sideboards, with elegant urn-shaped knife boxes; but they also designed bookcases and commodes, brackets and pedestals, clock cases and candelabra, mirror frames and console tables of singular and original merit, adapting classical forms to modern uses with a success unrivalled by any other designer of furniture in England."

Among the ornaments the Adam brothers used were lozenge-shaped panels, octagons, ovals, hexagons, circles, wreaths, fans, husks, medallions, draped medallions, medallions with figures, goats, the ram's head, eagle-headed grotesques, griffins, sea-horses, the patera, the rosette, caryatids, and all other classical and mythological subjects.

Very much simpler than the furniture de luxe of the Adam brothers is that appearing in the book published in 1788 by the firm of A. Heppelwhite & Co., cabinet makers, called The Cabinet Maker and Upholsterer's Guide, or Repository of Designs for Every Article of Household Furniture in the Newest and Most Approved Taste. In some respects the patterns shown here are more character-
istically English than the
designs of either Chippendale
or Adam. Indeed, the authors of this book
claim that they have se-
lected such as will "convey
a just idea of English taste
in furniture for houses."
They also remark that
"English taste and work-
manship have, of late
years, been much sought
for by surrounding nations;
and the mutability of all
things, but more especially
of fashions, has rendered
the labors of our prede-
cessors in this line of little use." They also assert that
they have avoided all whims, or fancies, and "steadily ad-
ered to such articles only as are of general use and
service," but they also claim that their drawings are new
and follow "the latest, or most prevailing fashion."
When this book appeared, the Chippendale style was
entirely out of date; and as far as Heppelwhite is con-
cerned, neither the "Chinese" nor the
"Gothic" styles ever existed.
The general effect of Heppelwhite fur-
niture is lightness and the straight line
is insistent. The characteristic ornaments
are the bell-flower in swags or chutes, the
lotus, the rosette, the sycamore, the shell,
the urn, draped and without drapery, and
the three feathers of the Prince of Wales's
crest. These ornaments are carved, in-
laid, painted, or japanned. To all other
legs, he prefers the tapering and slender
"term" leg ending in the "spade" foot, as
shown in Fig. 12, which is very heavy for
a genuine Heppelwhite piece. The carv-
ing of the bell-flower chutes on the legs
is also heavy. The fluting on the drawers suggests Sher-
ston.
The Hepplewhite chair is famous, and two good ex-
amples appear in Figs. 6 and 11, which show the oval
and shield-shaped backs, of which this school was so fond.
Both are "elbow," or armchairs, and Fig. 11 shows a
festoon of drapery, which falls in a graceful swag from
the urn which forms the
splat to the side rails,
where it is lightly carved.
The haircloth covering on
the seat is correct and prop-
erly fastened to the frame
by brass-headed nails,
which form an ornamental
border. Generally speak-
ing, the proportions of the
Heppelwhite chair are as
follows: Height, 3 feet 1
inch; height, to seat frame
from floor, 17 inches;
depth of seat, 17 inches,
and width of seat in front,
20 inches. For the seats
Of open back and carved chairs silk, satin, and leather and
horsehair (figured, checked, plain, or striped) were used.
A table of this period appears in Fig. 5, intended for
a sideboard-table for the dining-room.
It was in Heppelwhite's time that the sideboard, with
its convenient arrangement of drawers and cupboards, with
a large flat top for the display of silver, came into fashion.
Up to this time the court cupboard, the
tall enclosed buffet, and large "sideboard
table" had been used, but Heppelwhite
turns it into a very elaborate piece of fur-
niture, with drawers and cupboards. The
Hepplewhite sideboard stands on tapering
legs ending in the "spade," or "Marlbor-
ough" foot, and is generally made of mah-
hogany and inlaid with satinwood, the
legs being ornamented with graduated
bell-flowers. Brass ring-handles are used.
Knife cases and an urn-shaped spoon case
stand, as a rule, on the slab of the side-
board with the plate.
Tea-trays, tea-tables, candle-stands and
tea-kettle stands are also to be found
among his designs. The tea-kettle stand, of which an
example of this period is shown in Fig. 7, was of great use to
the hostess. The one in the accompanying illustration has
gaps in the banister and rail for the sake of convenience
in handling the kettle.
Hepplewhite was as fond of upholstery as Chippendale.
He loved the festoon, cords and tassels, and gave explicit
directions for his elaborate draperies for beds. Pier glasses, mirrors and girandoles were carved in a great variety of designs. Many indications of the approaching Sheraton style appear among his models.

In all probability Thomas Sheraton, a journeyman cabinet-maker, who settled in London about 1790, made even less furniture than Chippendale. From the time he arrived in London until his death in 1806 he seems to have devoted all his time to writing practical books on furniture and issuing designs. It is interesting, too, to notice that he claimed very few of the models. He says that his Cabinet-Maker and Upholsterer's Drawing-Book is “intended to exhibit the present taste of furniture and at the same time to give the workman some assistance in the manufacture of it.” Moreover, he continues: “I have made it my business to apply to the best workmen in different shops to obtain their assistance in the explanation of such pieces as they have been most acquainted with. And, in general, my request has been complied with, from the generous motive of making the book as generally useful as possible.” Thus, the most fashionable furniture of the day appears in Sheraton’s books. In his early publications the designs are chiefly in the Louis XVI style, while in his Cabinet Dictionary, published in 1803 and Cabinet-Maker, Upholsterer and General Artist's Encyclopaedia, published in 1804-06, the Empire style appears in full glory.

He is particularly fond of carving and gives many graceful designs and motives for the splats and banisters of chairs and the posts of beds. He is also extremely fond of inlaid furniture and painted furniture and liked the new fashion of inlaying with brass. Satinwood he greatly admired, especially of a fine straw color, and thought zebra wood and tulip wood beautiful for cross-banding. His drawing-room furniture was of white and gold, painted and japanned, of satinwood or of rosewood. Mahogany he used only for dining-room, bedroom and library furniture and for chairs with carved and open backs. A typical chair of Sheraton’s early period appears in Fig. 8. Here we have one of his favorite square backs, the two central posts forming a round arch, the square top of which rises above the top rail of the chair. The slender, delicate and elegant urn of the Louis XVI period is surmounted by three feathers, and is carved with graceful drapery in low relief. A chair of a later period appears in Fig. 9. Here we see the square lattice-work back, the reeded legs and the twisted stumps that support the arms. The patera, or rosette, hides the joining of the side posts and back and the legs in the front. Diagonal stretchers connect the legs. Of still later period is the chair Fig. 10. This is much in the style of what he calls the Herculaneum, intended for “rooms fitted up in the antique taste.” He also recommends them for music-rooms.

Fig. 7—A tea-kettle stand  
Fig. 8—A Sheraton chair  
Fig. 9—A Sheraton chair  
Fig. 10—A Sheraton leather chair

Fig. 11—A shield-back chair sold for $330  
Fig. 12—A dining table sold for $600
American homes and gardens will admit of eight persons, one only at each end and three on each side. By the addition of another bed, twelve, with four times the room in the center for dishes. The accompanying illustration, Fig. 3, is a table of this period, each pillar ending in three claws. For the further support of the central leaf a horse has been added; but, of course, has nothing to do with the original design. When the central leaf is not needed the two halves, supported by the pillar and claw, if put together form a round table, and they can also be used to form separate pier tables, and placed against the wall in the dining-room.

Although the cellaret sideboard and sideboard with drawers, which became fashionable under Hepplewhite, were still more developed by Sheraton in his early period, in his late period he returns to the old "sideboard table" without drawers. Beneath it stood the cellaret, or wine cooler, also called by Sheraton a wine cistern. These were generally in the form of a sarcophagus and "are adapted to stand under a sideboard, some of which have covers and

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Fig. 13—A secretary
Fig. 14—A china cabinet
Fig. 15—A desk and bookcase

Until 1800, when Richard Gillow, a cabinet-maker in Oxford street, invented the telescopic table which, with its various changes, is the table in use to-day. Gillow's table is described as "an improvement in the method of constructing dining and other tables calculated to reduce the number of legs, pillars and claws and to facilitate and render easy their enlargement and reduction."

Sheraton's ideas of the dining-table are best understood by a reference to his book: "The common useful dining-tables are upon pillars and claws, generally four claws to each pillar, with brass casters. A dining-table of this kind may be made to any size by having a sufficient quantity of pillar and claw parts, for between each of these there is a loose flap, fixed by means of iron straps and buttons, so that they are easily taken off and put aside; and the beds may be joined to each other with brass straps or fork fastenings.

The sizes of dining-tables for certain numbers may easily be calculated by allowing two feet to each person sitting at table; less than this cannot with comfort be dispensed with. A table six feet by three, on a pillar and claw, will admit of eight persons, one only at each end and three on each side. By the addition of another bed, twelve, with four times the room in the center for dishes. The accompanying illustration, Fig. 3, is a table of this period, each pillar ending in three claws. For the further support of the central leaf a horse has been added; but, of course, has nothing to do with the original design. When the central leaf is not needed the two halves, supported by the pillar and claw, if put together form a round table, and they can also be used to form separate pier tables, and placed against the wall in the dining-room.

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The attractiveness of every table, whether set for luncheons, dinners, or parties, may be increased by the addition of timely centerpieces and favors, and the enjoyment of such an occasion is sure to be greater if the individual favors speak in any way the characteristics or pet hobbies of the guests. The clever hostess who realizes this will be able to adapt many of the favors illustrated to her own particular needs. The bunnies, chickens and decorated eggs belong exclusively to the Easter season and provide a wide choice and unlimited possibilities.

If rabbits have been chosen for the decoration of the Easter table, one need not consider whether or not the design in mind may be found. The favor shops supply every variety from the flat, fuzzy white ones, which sell at thirty cents a dozen for the smallest size, up to those of brown and white papier mache in all sizes, from five cents each to the full life-size bunny at eighty cents. They may be had, also, in every conceivable attitude and costume. The bunny chums, with their basket of candy eggs, are a solemn little pair who would delight the heart of any child and be welcomed by adults also. The eggs may be white sugar decorated with candy flowers, or eggshells filled with maple sugar. Their bugler brother is a sturdy figure who will do service as a bonbon box and also allow the band of his cap to be used as a place card. Another dressed figure carries a basket of wee, yellow chicks for an Easter gift, and it is a safe assumption that the child who receives the basketful is provided with amusement for a week at least.

The fuzzy, white rabbits are the surest ally, if children are to be entertained, for the soft, white bodies and pink ears are certain to delight them. The little fellows with jointed "hands" and feet are very adaptable. Those in the illustrations may be bought by the dozen and used with other trifles, such as the automobile for the guest who motors, or the harp or banjo for those whose tastes are musical. They may be used either for bonbon box decorations, or for place cards.

If chickens, or chickens and rabbits combined, are decided upon, the result will be most attractive, for the yellow chickens will brighten the table surprisingly. These may also be had in numerous sizes at ten cents or over per dozen, and may be used in quite as many ways as the rabbits. Two or three placed in natural positions on top of a bonbon box are a sufficient decoration, and one alone on the corner of a place card will make it a fit companion piece. The one shown in the illustration is rather a hapless little fellow caught in a gilded toaster with a place card dangling from the end.

A simple centerpiece for a children's party table has a nest of clean hay or straw for a foundation. Upon it is placed a hen made from a flat piece of cardboard cut in the proper shape. The sides are padded out slightly with cotton and covered with smooth paper. Upon this are pasted the crêpe paper feathers, beginning with the tail and overlapping them in irregular rows toward the head. Before the head is covered, a comb made of red flannel should be added, and the head then covered with a paper crown of a color to harmonize with the other decorations.

These favors can be bought by the dozen and arranged to suit the occasion.

These favors are made from a group of articles purchased from a toy shop.
be glued in place and the bill gilded. When the feathers are on, the eyes, made of round bits of yellow paper with ink spots in the center, may be put on.

In the same way a rooster can be made for carrying mail-bags containing Easter favors. These mail-bags may be made of buckram, in the shape of an egg which has been cut lengthwise through the middle. The top should be left open, after the manner of a wall-pocket, and the outside covered with crêpe paper. A tiny chick for each guest is attached to the ends of the favor ribbons hanging from the mail-bags. The tail feathers should be made double, with a wire between the layers, so that they may be easily curved into shape.

The egg Jack Horner is very easily made by covering an egg-shaped wire frame with crêpe paper or cotton batting. The frame is supported by four large bunnies, and chicks are attached to the ends of the favor ribbons.

A discarded toy cart decorated with flowers and colored paper or ribbon is the foundation for the chariot. It is drawn by a home-made chick, and driven by a little girl doll. If the chariot is made from a large cart, it will serve as a Jack Horner Pie, and a very small cart may be used as an individual favor.

An adaptation of "There was an old woman who lived in a shoe" is carried out in the shoe swarming with chicks and

presided over by a distracted hen, also made of flat cardboard and covered with feathers. The block shoe is easily made from buckram. The seams should be overcast together and the whole covered with crêpe paper. Short ladders made of cardboard provide a foothold for the numerous brood.

The little carriage with its doll coachman shows another use for a child’s cart. It is filled with leaves and moss and topped with flowers, and the harness is decorated in the same way. A Saturday morning sewing bee may terminate a luncheon with a beehive centerpiece. The foundation is a frame made of thin pieces of wood nailed together, with a flat board top covered with plain crêpe paper. This material, cut into strips narrow enough to look like grass, is fastened to the posts, and clusters of flowers are used for decoration. For the top of the hive use a shallow, round bandbox of a size in proportion to the base. Around the top fasten a cone of stiff paper and cover with paper rope, beginning at the bottom and winding upward, using a little paste to secure it. The rope may be made by twisting two strips of crêpe paper tightly, and then twisting the two together in the opposite direction. A few artificial bees on the hive will give a realistic touch. Under the hive, place a hen and her brood of chicks.

The accompanying illustrations show three or four ways
of using each article, but to the far-sighted hostess they will serve but as suggestions of the countless effects which may be obtained. The materials which may be used for such work are the cheapest of their kind, as, for instance, cheesecloth, crêpe paper, paper muslin, buckram, cotton batting, mosquito netting, and cardboard. These may all be utilized for different effects, and at different times of the year.

A half-dozen toys, outgrown or forgotten by the children, or selected, at five cents each, from a counter of damaged goods after the holiday season, may be repaired and freshened with glue and paint, and made to take the place of more costly favors at each plate. Often one of these toys is so appropriate for a certain guest that it is scarcely necessary to point out the fitness. An automobile that has been discarded for a locomotive may bear a small basket of almonds before the motor enthusiast; the chafing dish, which the little girl has perhaps forgotten in the joys of candy, or oval ice cups of plain white paper may be placed inside and the ices served in them.

If one can procure wire frames, or can make them, as one can do occasionally, she has a most helpful addition to her stock of materials. The Easter bell, the Easter egg, the spring bonnet which is used as a Jack Horner pie, the basket to be filled with flowers, and the beehive may all be made over wire frames. These frames, as sold, are made of stout wire that is not easily crushed out of shape, and they may be kept and used from year to year, as the foundation for Easter decorations. The color and design of the covering may, of course, be changed each year, and the accompanying favors may be so varied as to give the effect of an entirely different arrangement as occasions demand.
Nowadays much needlework is done with the evident intent of putting into it a minimum expenditure of both thought and labor, and the results are obtained by a studied blending of colors and individual treatment of design. Each piece should be a part of the whole and should not stand out asserting its right to be admired. The immense popularity of all forms of darning owes its development to the way in which it adapts itself to all kinds of decorative treatment.

The designs for darning illustrated here mark a distinct development along the lines of simple broad effects, so much denounced today in all forms of needlework. Most of the designs shown are carried out on gray, hand-woven linen. This comes fifteen inches wide; just the width for sideboard cloths and table runners. The material is most interesting both in weave and color. It is made from natural unbleached flax and varies from light grayish tan to a warm light brown. It is often found in almost silver gray and is one of the most decorative materials for needlework to be obtained. The colors used to ornament this fabric should be soft dull tones of linen floss that harmonize with the natural gray of the linen. Outline and satin stitches are used to define the lines and masses very sharply, but the designs are wrought throughout in a simple darning stitch, taken in short uneven lengths parallel with the woof threads. The fabric is allowed to show through these stitches so that the design has the effect of being an integral part of the material, having almost the appearance of hand-weaving. The charm of this work lies in the shimmering jewel-like effect that is gained by allowing the ground material to show through in broken uneven spacings between the stitches. It is worked in several colors—silver, blue and old rose, charmingly blended with soft, dull greens. There is a suggestion of the wings of a dragon-fly in this beautiful piece of needle craft. When hanging in a window with the light filtering through, the effect is most beautiful.

The other curtain is made of brown homespun linen and is darned in a conventional figure in tobacco brown. The ground color is allowed to show through, giving it a translucent effect that is most decorative.

The linen blotters vary somewhat from the other pieces in the way they have been treated. The center blotted is outlined in gold cord, couched around the design. The darning is run up and down instead of horizontally, the usual way. It is worked in heavy green with a gold outline on the gray linen. The largest blotted is almost as much blanket stitch as darning, but a very bold effect is given to it by an outline of black silk worked in embroidery stitch. The Tussore silk chair back has an insertion of curtain net matching the ground work of the silk. This is darned in medieval pattern in old gold and is very quaint and somewhat out of the ordinary. The little work bag of linen and silk is done in outline stitch and darning in several odd shades. We have seen another design on curtain net which showed a somewhat unique treatment of pillow face and darning. The cushion was covered with old rose satin and the slip consisted of ecru net ornamented with pillow lace and darning. All the threads ran horizontally and the ivory silk darning shimmered through the curtain net in a very attractive manner. The design was centered and consisted of a group of roses, one overlapping the other, with a few leaves suggested at the edges.

One of the illustrations shows somewhat unique designs. They are made of coarse unbleached linen and the decoration has been impressed with a block print. This is only partly concealed by the darning and has a most unusual and pleasing effect. The chair back in green and old rose is extremely effective. This consists of darning outlined by chain stitch. The dark green lines in the background serve to throw in relief the old rose design. The other designs show a simple treatment for shaving-tidies. One is on ivory ground while the other is almost brown and worked entirely in dark tones. The sort of design suitable for darning differs considerably from all other kinds. In order to get broad, flat masses which go to bring about the right results, an individual treatment is necessary. At the present time table runners are the latest cry in up-to-date needlework, and naturally a border treatment at either end is the most suitable. Sometimes this is run entirely across, about six inches from each end and with a line at the top and bottom.

The designs are usually based upon conventionalized plant or insect motifs, but a good many are geometrical in their formation. Satin stitch and outline are used to define the lines and masses very sharply, but
the designs themselves are worked in short darning stitch parallel with the woof threads.

A very beautiful table runner consists of a dragon-fly design. The upper and lower border lines are darned in a brilliant blue floss interspersed with uneven threads of green. The legs of the insect are worked in green and the body in art stitch in both blue and green. The eyes and wings are effect and is significant of the exquisite coloring used in darning craft.

When the design does not run right across the end, a very effective treatment is to outline the whole runner or sideboard cloth with hemstitch an inch and a-half at the sides and at least three inches wide at the ends. The design would look well with an upward growth of conventionalized flowers and a few running lines to support it below, and tulips, poinsettias, crabapples, or water lilies are all suitable. Pure white is very effective on a creamy ground. Some people prefer white to using colors for table use. The round table center is always popular and lends itself to darning; the edge may be finished with a hand-made lace, or a tiny rolled hem on the upper side of the material, which is known as a peasant roll.

Brown homespun linen is darned with brown; the design is conventional and effective

Ivory Java canvas darned with three shades of delft blue

An original treatment of darning. The loops are allowed to appear on the surface

Block printing is an important adjunct to decorative darning

A cover for a stand, with a darned border

Table cloth with a decorative center for a small stand
Huckaback toweling is a delightful material to darn on as the weave is loose and the needle can be run on the surface, catching up every other group of threads. This method of two groups of threads makes the surface of interest. Our illustration shows ivory huckaback with stitches of three shades of delft blue. A departure from darning of darning can be done very rapidly. Huckaback has become so popular for darning uses that it can now be obtained in soft pastel shades for men's waistcoats, and écru, gray, and pale green as well as ivory are seen at fancy needlework stores. It is not necessary to have a design, for the fact of varying the length of the stitch by skipping one or is allowable, as featherboning and cross stitch look well with it.

Exquisite bits of coloring, original designs and a variety of uses make darning one of the most effective needle crafts, requiring little time and skill, but a good deal of artistic perception to gain the desired results.

Big Fir Trees of the Northwest

The fir trees of the Pacific Northwest occasionally attain such proportions, especially in the territory near Puget Sound, that the stumps after the trees have been cut down are employed for novel purposes. In some portions of Washington one can see these huge stumps, which have been hollowed out and actually made into temporary homes for settlers. To make a stump house, it is only necessary to remove the material from the interior, leaving enough to form walls of suitable thickness. Then a roof of boards or shingles is put over the top of the stump; holes are cut for windows and doors, and the dwelling is practically ready for occupation. A number of these stumps have been used by settlers on what are called logged-off lands, until they have been enabled to construct larger and more convenient dwellings. After the stump home has been vacated, it is turned into a stable for the horses, or sometimes into an inclosure for chickens or hogs.

Next to the big tree of California, or sequoia as it is termed by the scientists, the fir as found in Washington and Oregon has the largest diameter of any tree in America, and probably in the world. Some have been cut down which actually measured 15 feet in diameter at the point where the incision was made. As they decay very rapidly after the timber has been removed, usually the interior can be hollowed out with little difficulty. Sometimes they are used for dancing platforms. Another custom is to turn the big stumps into playgrounds for the children, who reach the top by pieces of wood nailed against the sides or by ladders, the latter being easier of use.
HE ever-increasing demand for novelty in the ornamenting of country-seats has of late years led to pleasing results in the reproduction of the best types of Oriental gardens. Less than a decade ago an authority on landscape gardening lamented the fact that Americans are slow in appreciating the true art of gardening in regard to the idea of fitness and harmony in details, as evidenced by Japanese landscape artists; and the statement was then made, that while there have been a few attempts at copying Japanese methods, there is not a genuine Japanese garden, constructed upon true Oriental principles, to be found upon any of our noted American country-seats. Now, all this has changed. Within the past few years many famous gardens have been constructed by competent Japanese landscape artists, who have given their entire lives to the study of the religious and symbolic, as well as the picturesque features of landscape gardening, and who have carried out with painstaking care upon Occidental acres the artistic details that have made Oriental gardens of worldwide fame.

The study of Japanese manners and customs, of home decorations and gardening features, first became of prominent interest in this country in connection with the early world's fair. The Chicago fair of 1893 presented one of its most charming features in the form of a complete Japanese village, constructed and ornamented with regard to all the traditional details for which our Eastern neighbors are famous. Japanese villages then became the fad, not only for later "fairs," but Japanese tea-rooms and Japanese gardens on an elaborate scale were built as side attractions at famous summer resorts; and an increasing interest in the quaint stone lanterns, the curiously dwarfed trees, the winding rock-bound waterways crossed by novel bridges, and all the significant details of garden accessories associated with traditional and legendary lore of the Japanese attracted the attention of owners of splendid country-seats, who speedily demanded the services of Oriental landscape artists to thus decorate a portion of their extensive acres.

In some instances, of late, Japanese gardens have been transplanted bodily from a summer resort (where they have flourished for a time and then became unprofitable) to decorate a home-garden of an enthusiastic nature student, as in the case of the quaint and charming bit of old Japan now owned by Mr. Matthias Homer. In other instances, the owners of still more extensive acres have not only employed famous Japanese artists to lay out ideal gardens, but they have themselves become interested in importing the dwarfed and curiously stunted and gnarled old trees direct from the mother country to decorate their unique gardens. Mr. Charles Pilling was one of the first to follow this fad, and the century-old pines, and many novel plants and trees measuring only a foot or two in height and numbering their years by centuries, now decorate his Japanese garden nook imported by himself. Again, the owners of extensive country-seats have, given all the details of importing the paraphernalia and the construction of their Oriental gardens to the care of the Japanese craftsmen who excel in this work, while taking an intense personal interest in all the details of their new possessions, growing from year to year, like the garden of Mr. Louis Burk, in which he has watched the tedious process of construction for three years or more with ever-increasing delight (though not taking any direct part in its construction) and who is now planning to greatly increase its area. There is a fourth class who own wonderful Japanese gardens, who look upon them simply as an additional attraction for decorating a portion of their ample areas, and after being assured that the garden building is under the supervision of a practical Japanese artist, who will "do the thing up right," they give no further concern to this than they do to the Italian gardens and other formal gardens that are appropriately placed on various secluded portions of their grounds. But no matter what the object that influenced the owner to include Japanese gardening in decorating his home grounds, the interest thus evidenced has grown until many are becoming familiar with the true art of gardening in Japan.

There is still another class of enthusiasts upon this subject who have attempted to build their own Oriental gardens, fashioned after those that they have studied on their travels in Japan, or by studying the models already established in this country; but in every instance it is noted that such gardens fail to be successful unless one understands the seemingly endless details that govern true Oriental gardening. It is

Dwarf trees and water-worn rocks cover the little islands
safer if one would have it constructed on correct lines, to give the building of even the tiniest Japanese garden into the care of a native craftsman.

The American-Japanese gardens, which present interesting studies in various sections of the country to-day, almost invariably include numerous flowers with their manifold ornamental accessories—the Japanese azaleas, the dwarfed plum trees and many novel water plants being the prime favorites; but travelers in Japan frequently note the fact that the native gardens are not necessarily flower gardens, neither are they always made for the purpose of cultivating plants. In nine cases out of ten there is nothing in the smaller plots to resemble a flower-bed. Some gardens may contain merely a sprig of green; some (although these are exceptional) have nothing green at all, and consist entirely of rocks, pebbles and sand. Neither does the Japanese garden require any fixed allowance of space; it may cover one or many acres; it may be only ten feet square; it may, in extreme cases, be much less, and be contained in a curiously shaped, shallow, carved box set on a veranda, in which are created tiny hills, microscopic ponds and rivulets spanned by tiny humped bridges, while queer, we plants represent trees, and curiously formed pebbles stand for rocks. But on whatever scale, all true Japanese gardening is landscape gardening; that is, it is a living model of an actual Japanese landscape.

It is an exceptional privilege to study at first-hand the significance of all the details that go to make up the true Japanese gardens, which have now become the fad in this country. I have been informed by an excellent authority on the subject that "through long accumulation of traditional methods, the representation of natural features in a garden model has come to be a highly conventional expression, like all Japanese art; and the Japanese garden bears somewhat the same relation to an actual landscape that a painting of a view of Fuji-yama by the wonderful Hokusai does to the actual scene—it is a representation based upon actual and natural forms, but so modified to accord with accepted canons of Japanese art, so full of mysterious symbolism only to be understood by the initiated, so expressed, in a word, in terms of the national artistic conventions, that it costs the Western mind long study to learn to appreciate its full beauty and significance."

"Suppose, to take a specific example, that in the actual landscape upon which the Japanese gardener chose to model his design, a pine tree grew upon the side of a hill. Upon the side of a corresponding artificial hill in his garden he would, therefore, plant a pine, but he would not clip and trim its branches to imitate the shape of the original, but, rather, satisfied that by so placing it he had gone far enough toward the imitation of Nature, he would clip his garden pine to make it correspond as closely as circumstances might permit, with a conventional ideal pine tree shape, as though buffeted and gnarled by the fierce winds of centuries."

These native craftsmen will also assure the owners of the gardens they are constructing that there are ideal shapes not only for the
pines, but also for the mountains, lakes, waterfalls, stones, and numerous other accessories; and it is of the utmost importance that the gardener should take cognizance of a multitude of religious and ethical conventions in working out his design. They call attention to the fact that the streams must follow certain cardinal directions, that the nine spirits of the Buddhist pantheon must be symbolized in the number and disposition of the principal rocks. That the trees and stones must be carefully studied as to their relations to each other and to the general garden scheme, and only such combinations made as are regarded as "fortunate." And woe to the unhappy gardener who does not carefully study their symbolic relations and who carelessly introduces what is considered an unlucky combination.

So conscientious are the Oriental garden builders that they give the same care in regard to symbolic details to their "foreign" landscape construction on American country-seats, as in their native country. No matter what the size, form or finish—whether it is large or small, mountainous or flat, rough or elaborate—the true landscape garden must be made to contain, in some form, rocks and water and vegetation, in connection with various architectural accessories in the form of indispensable lanterns, bridges and stepping-stones, while, in the more elaborate gardens are introduced pagodas, water-basins, tea-houses, boundary fences, or hedges of bamboo, and fancifully roofed gateways.

The careful distribution of garden vegetation is considered quite as important as the arrangement of the principal rocks and stones and the contours of land and water. The Eastern travelers who have taken cognizance only of the grounds of the larger temples of Japan will probably fail to realize the significance of tree grouping in regulation landscape gardening. In the temple gardens, groves and avenues of trees are frequently planted in rows, with the same formality adopted in Western gardens, while in the true landscape gardens such formal arrangements are never resorted to. Not only are the trees arranged in open and irregular groups instead of being planted in rows—when several are planted together—but the rules for planting these clumps or groups are rigidly determined. To the uninitiated it is difficult to understand just why these tree clumps must be disposed in double, triple or quadruple combinations, while these combinations may be again regrouped according to recognized rules based upon contrasts of form, line and color of foliage; but all these rules are understood and most carefully adhered to by the student of Japanese garden craft. And it is found on comparing the grouping of tiny dwarfed trees of miniature gardens with the arrangement in larger spaces, that the same rules have been followed.

The disposition and the use of the various architectural accessories of the garden is also formally regulated, and the variety in garden building is found mainly in the form of these accessories, as the pagodas, lanterns, water-basins, wells and bridges are fashioned in many curious and beautiful designs, while the enclo-
A garden gateway
A rare Japanese dwarf tree
An ancient knotted pine tree
An antique Japanese lantern
sures on the form of unique fencing of reeds, bamboo and twigs present many pleasing forms and combinations. The famous Japanese landscape gardens that have been established on American country-seats have been sufficiently large to give a fairly good idea of Oriental landscape gardening on an extensive scale, and yet there is no reason why the owners of city homes with small backyards enclosed by ugly, high board-fences should not have them transformed by a bit of Japanese magic. Professor Morse tells, in his talks on the Japanese, of how they utilize the smallest areas of ground for garden effects. "I recall an example," he says, "of a cheap inn, where I was forced to take a meal or go hungry until late at night. The immediate surroundings indicated poverty, the house itself being poorly furnished, the mats hard and uneven, and the attendants very cheaply dressed. In the room where our meal was served there was a circular window through which could be seen a curious stone lantern and a pine tree, the branches of which stretched across the opening, while beyond the immediate surroundings indicated poverty, the house itself being poorly furnished, the mats hard and uneven, and the attendants very cheaply dressed. In the room where our meal was served there was a circular window through which could be seen a curious stone lantern and a pine tree, the branches of which stretched across the opening, while beyond, a fine view of some high mountains was to be had. From where we sat on the mats there were all the evidences of a fine garden outside; and wondering how so poor a house could sustain so fine a garden, I went to the window to investigate. What was my surprise to find that the extent of ground from which the lantern and pine tree sprung was just three feet in width! Then came a low, board-fence, and beyond this stretched the rice-fields of a neighboring farmer. At home such a strip of land would, in all likelihood, have been the receptacle for broken glass and tin-cans and a thoroughfare for erratic cats; here, however, everything was clean and neat—and this narrow plot of ground, good for no other purpose, had been utilized solely for the benefit of the room within." There is no reason why the smallest of these backyard gardens should lack any of the indispensable accessories, for all may be reproduced on a miniature scale. In fact, a great majority of city homes in Japan have very little more scope for their gardening than that contained in the brick-paved or cemented space back of the average city homes of America; and yet travelers in Japan, who have had access to private dwelling-places in the cities, as well as to the public inns, tell of wonderful "toy-gardens" in which nothing is lacking in Oriental completeness—there is a little artificial lake of pellucid brightness, a little artificial waterfall fit for a naiad's fountain, both fed by a little sandy-bottomed brook or conduit of clear, spring water; a cluster of little islands (one of them, perhaps, shaped like a tortoise) affording opportunities for impossible quaint little stone bridges, circle-backed, horseshoe-backed, or flat slabs of pretentious size, and every member of the cluster with its little stone pagoda, its quaint daimio-lantern, its toy shrine, or the fantastic bits of rock for which the Japanese pay such extravagant prices.

On the artificial promontories will stand maples—plain maples, copper maples, pink maples, variegated maples—all within the fine splintery-leaf of the Japanese maples, trained Into whimsical shapes, though not so whimsical as the fir trees (matsui) which rival the box-hedge peacocks and other armorial bearings in old English baronial gardens. In the garden of the "Golden Pavilion" (Kinkakuji) at Kyoto, there is a fir tree tortured into the similitude of a junk in full sail; and every tiny garden will display some strikingly unique form of twisted and stunted pine tree. Where the stream runs into a little lake, there will be a bed of stately purple iris, and built out into it on piles, or spanning a narrow arm as a covered bridge, a wistaria arbor, with long, purple blooms reaching down to the water in the springtime. The wild wistaria, which grows profusely in Japan, is one of the favorite garden flowers, and it is one that should figure prominently in the city gardens of this country, one that would give constant delight.

Symbolical rocks are as important as lanterns in the Japanese garden.
Handicraftsmanship

Conducted by A. Russell Bond

Home-Made Pottery—III

By W. P. Jervis

Illustrations by E. M. Harlow

The decoration of pottery by means of colored clays is capable of so much variety and yields such easy harmonies in color as to immediately commend itself to the worker in the studio. From time to time new methods of application have been found, the faience of Haviland, Rockwood pottery, Moorcroft's Floridan and the charming creations in pâte-sur-pâte by Solon and others, which have been hailed as something new, but the prototype of them all is the old slip painting of the Romans and of the medieval English potter.

The condition of the clay piece to be decorated is most important. It should be just hard enough to enable you to handle it carefully without putting it out of shape. If used any harder than this the colored slips used in its decoration will peel off in the firing. It is essential to success to keep it in this condition until completely finished. This may be done by wrapping in damp cloths when not in use, or better by keeping it in a "damp box." This can easily be constructed with very little trouble or expense by taking a box, driving in on both bottom and sides small nails or tinned tacks, leaving the heads projecting. Cover both bottom and sides with plaster of Paris, from one to one and a half inches thick according to size of box, for which the projecting nails form an anchorage. Treat the cover in the same way and as soon as the plaster is set your box is ready for use and needs only an occasional sprinkling with water to keep the plaster moist.

The colored slips are prepared by mixing certain proportions of metallic oxides or underglaze colors with white clay, and must shrink during the firing in equal ratio with the body. The first requisite is a white base, which can be compounded as follows:

<table>
<thead>
<tr>
<th>Material</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ball Clay</td>
<td>33 parts</td>
</tr>
<tr>
<td>China Clay</td>
<td>28 1/2 parts</td>
</tr>
<tr>
<td>Flint</td>
<td>14 parts</td>
</tr>
<tr>
<td>Cornish Stone</td>
<td>19 1/4 parts</td>
</tr>
<tr>
<td>Feldspar</td>
<td>5 parts</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100 parts</strong></td>
</tr>
</tbody>
</table>

This will mature at cone 1, as low a heat as is desirable to use to insure the ware holding water. When this has been prepared and lawned, dry it out on plaster bats or in molds, so that it can be accurately weighed. Before trying to decorate any pieces it is best to make trials of the colors you intend using, so that the effect of both the glaze and the firing on them may be accurately judged.

In preparing colored slips, first grind the colorant in a stone mortar and add it in the proportions given to the white clay, and stir thoroughly so as to obtain an intimate mix. Pass through a 120 mesh lawn and any residue remaining on the lawn must be again ground in the mortar so that the whole will pass through the lawn. Leave it to settle, until after pouring off the water you have a slip of about the consistency of cream, and it is then ready for use.

Coloring matter is added in the following proportions:

1. Dark blue . . . 15 parts white clay, 1 part oxide of cobalt
2. Peacock blue . . 25 parts white clay, 1 part oxide of cobalt
3. Light blue . . 35 parts white clay, 1 part oxide of cobalt
4. Dark blue, 25 parts white, 1 1/4 parts oxide of cobalt, 3/4 part French green, 1/2 part mat blue.
5. Chrome green, 7 1/2 parts white clay, 1 part oxide of chrome.
8. Copper green, 20 parts white clay, 3/4 part oxide of copper.
9. Black, 15 parts white clay, 1 part underglaze black.

The cobalt cannot be too finely ground, as otherwise it will show in flecks of darker color, occasionally not an objection for grounds. The only remedy is to grind and lawn again. These three blues can all be improved by slightly reducing the quantity of cobalt and about doubling the difference with underglaze peacock and mat blue, according to tint required. No. 1, for instance, is considerably improved by adding green and mat blue as follows:

4. Dark blue, 25 parts white, 1 1/4 parts oxide of cobalt, 3/4 part French green, 1/2 part mat blue.
5. Chrome green, 7 1/2 parts white clay, 1 part oxide of chrome.
8. Copper green, 20 parts white clay, 3/4 part oxide of copper.

Greens can be formed from either oxide of copper or chrome:

5. Chrome green, 7 1/2 parts white clay, 1 part oxide of chrome.
8. Copper green, 20 parts white clay, 3/4 part oxide of copper.

Oxide of chrome cannot be mixed with brown, yellow or orange, and any attempt to do so will result in failure. The brush, also, must be kept perfectly clean.

9. Black, 15 parts white clay, 1 part underglaze black.

Suggestion for a flower pot, tobacco jar, and a candlestick.
10. Chocolate brown, 10 parts white clay, ¾ part underglaze golden brown, ¼ part underglaze black.

11. Light brown, 10 parts white clay, 1 part underglaze golden brown.

Hancock’s Worcester black is the safest to use.

12. Fawn, 20 parts white clay, ¼ part black oxide of manganese.

Darker tints by increasing the manganese.

This palette is sufficiently large for general purposes, and is capable of considerable extension.

These slips will agree in shrinkage with the red clay previously mentioned, but as these red clays vary considerably it would, perhaps, be best to make the ware itself of the same white clay as the slips are formed from.

For your trials of color make a tile about eight inches long on which paint strokes of all your colors, numbering them to correspond with the formula for the same. At the same time it will give an added interest if you make a few small pieces, either square tiles or vases, of very simple design not more ornate than those suggested here. A little trouble taken now will save a good deal of time later on. The slips for painting should be soft enough to be easily worked on the palette with the brush.

Use flat sable brushes for the larger spaces, and pointed ones for lines or small spaces. With the end of the brush lift up from the palette as much color as you can, apply it to the desired spot and smooth it down with the tip, not the side, of the brush. If the result is not sufficiently thick allow it to set and then apply a second coat. The color should be distinctly raised from the surface. The brush soon clogs with color and must be frequently rinsed out in water. One color can be superimposed on another, light on dark or dark on light, and will kill, not mix with, the color beneath. A light color on a dark one is a good test as to whether you have attained the desired strength, and only after the glaze is fired can you be sure of this. We repeat that the great desideratum in this slip painting is that the color must be thick enough to form a clay body of itself and be evenly applied, whether in one mass or in a number of successive coats.

If you desire to cover first the whole piece with a ground, this can be done in several ways. The best and quickest is by dipping. A sufficient quantity of the desired color must be prepared so that the whole piece can be immersed in it. To do this successfully is rather a delicate operation, but with a little practice can soon be successfully accomplished. The manner of handling depends much on the shape. If by putting one hand inside and spreading out the fingers you can easily lift it up and down, it is a simple matter to immerse it in the colored slip. Let the immersion and withdrawal be done as quickly as possible, being careful not to allow any of the slip to get inside the piece, for it may cause the piece to collapse. Have ready a plaster bat on which to place it and leave it there until it hardens so that by touching it you do not disturb the color. If it happens that the slip has not quite reached the top it is practical to take the plaster bat in one hand, reverse it, and dip the top in the slip, as the color will give sufficient adhesion to allow the piece to be inserted. But this can only be done when the bat is small enough to be held in the outstretched fingers. Wide-mouthed pieces require the use of both hands, two fingers of each hand being placed directly inside, while a little pressure can be brought to bear against the resisting slip by the thumbs and little fingers resting on the edge. Practice holding the piece until you feel you can safely lift it up and down before dipping in the slip. You can obtain very nice streaks or runnings of other colors by placing on the ground slip small quantities of other colors, which should be floated on so as to rest on the top; on withdrawal these colors will attach themselves to the piece. Always be sure the slip is well stirred or the edge of the piece will be thin. A ground can also be put on with a brush or small sponge, the latter giving a granulated surface, often very effective. In both cases care must be taken to have a good body of color all over. There is another way in which a ground can be applied as follows: Before casting the ware fill the mold with a colored slip, allow it to remain there until there is about one-sixteenth of an inch adhering to the sides of the mold, empty it out and so soon as it is a little dry complete the casting with ordinary clay. The objection to this is that unless the mold is very perfectly made, the piece may very easily be marred while being trimmed. From the simple experiments and trials which have indicated the way has been paved for more important work. We urge the adoption of a conventional rather than a natural style of decoration. You may attain distinction in the one, it is not possible in the other, for pottery is not a material to paint on, whilst it is pre-eminently suitable for decoration. One more word: Try to make shapes for a purpose. If for flowers they should suggest almost at sight the particular class for which they are intended. Jugs should be wide enough to allow of easy cleaning, should pour well, and the handle must be so placed as to balance perfectly; candlesticks firm at the base, the nozzle the proper size and large enough to catch the running wax; tobacco jars wide enough to allow of the pipe to be easily filled, and so on. The useless vase of our grandmothers is no longer tolerated. To-day we demand a piece of utility which shall also satisfy our aesthetic feelings. The illustration shows how well these slip-painted pieces adapt themselves to the surroundings of an ordinary room.
Luther Burbank's Wonderful Work in Horticulture

By Charles J. Woodbury

The chronology of the Burbank creations and ameliorations has never been published. In presenting this, the reader should be informed that these survivors of their producer's rigid exactions have received during their history two and sometimes three names. At first they were merely numbered, separated from their companions by an epithet, or nicknamed for field reference. Then, when proven, they were given in the bulletins less domestic and unscientific designation; as at christening in the Roman Catholic communion a saint's name is given to the child. Finally, when turned over to the nurseryman for distribution, he gives them in his catalogue more high-sounding and generally more assuring titles, for which the originator is mistakenly held responsible by the public. For instance, that latest-appearing culture—now in controversy—the cross of the African stubble-berry (Solanum gurineus) with the Pacific coast (S. villosum) was called the "Sunberry" when it was graduated from the experiment grounds. It came advertised to the public as the "Wonderberry."

The registry begins in 1873, when Mr. Burbank, then 24, answered the demand for a potato which should yield 200 bushels to the acre, with the famous seedling from the "Early Rose" (itself from seed of a garnet Chile plant) which at once gave a yield of 435 bushels, and has since produced 525 bushels. With its proceeds, $125, Mr. Burbank arrived in Santa Rosa, California, in October, 1875. Five years of severe ordeal, poverty, starvation, discouragement well-nigh fatal awaited him. At last he was able to buy four acres of the soil for which he had crossed the continent. His own words are:

"In 1880 I began paying especial attention to the Rubus family. I had in my collection of blackberries and raspberries nearly all the popular varieties. In 1883 I began crossing. In 1884 I had about 60 hybrids, the first ever produced. The next season more extensive trials were made with many new subjects." (He now possessed 10 acres, home land.) "From hybrid seeds of the third generation, I obtained black, red and yellow raspberries, white, black, red and pink blackberries, in every possible combination of sizes, colors, qualities and flavors. Many were totally barren, some with long trailing vines, some stiff and upright as a currant bush; some thorny, others as free from thorns as currants; still others producing leaves, flowers and fruit perpetually. Then there were others growing into canes 3 to 4 inches in circumference, others 20 feet long on the ground or straight 10 feet high. But from all these were presented more radical improvements in blackberries and raspberries than had been obtained for eighteen centuries."

The list of the main species incorporated to establish these hybrids is too long to print. The photographs of the leaves of different individuals show remarkable variations and eccentricity, a few offering but a single leaf, or leaves, as reticulate as ferns; many profuse and palmate. The results in their entirety made the scientific botanists' barriers between species and varieties, to use the audacious horticulturists' word, "wobble."

1884 witnessed the announcement of the "Japanese Golden Mayberry" and the "Primus." The distinction of the former was that it led far in advance the berry season, the earliest raspberry known, ripe while yet the standards were well-nigh dormant. It was a blend of the Cuthbert with a diminutive variety of Rubus palmaetus, characterized by Mr. Burbank as "one of the most worthless, tasteless, dingy, yellow berries I have ever seen." The new fruit is large, sweet, glossy, semi-translucent, growing on bushes resembling trees, six to eight feet high. The Primus is now grown extensively in semi-tropical climates, thriving especially in the Philippines. It ripens a month before either of its parents, the wild dewberry (Rubus arcticus) and the Siberian (X Rubus corynocephalus). It produces a large and perfectly black fruit in abundance, a distinct new race of the garden berry. The seedlings of this pioneer have taken their places as standards in various localities.

In 1886 the experiments had become more extensive. He was crossing the Satsuma and other Japanese plums with the Eastern, European and California, Nevada and...
A new flowering allium

Oregon natives, many of which in size and clustering growth are grapes, rather than plums. "Some of them are of very little value," remarked Mr. Burbank, "having an unpleasantly bitter taste, reminding one of the eastern cranberry." The famous walnut hybrids are now under culture.

But, important as these successes were, they were only in a way by-products. Mr. Burbank's main business had been to entrench and establish himself. To this end, he had built up the largest and best-stocked nursery west of the Mississippi. For years he had resumed the habit begun as a boy on his fragment of soil at his home in Lunenberg, Mass., of taking the premiums at the State and county fairs; and his reputation for integrity and liberality in dealing was fully substantiated. In 1888 he sold one-half of his nursery (which was yielding a clear profit of $10,000 per annum) for $13,000, and focused on his life work the far less promising venture of plant-breeding. He purchased the large experiment grounds at Sebastopol.

The ennobling of the plum, stands perhaps foremost in Mr. Burbank's work; and the year (1890-1891) developed the first twelve of the new varieties which were to distinguish it. They were the "Burbank," so named by Prof. H. E. Vanderman, of the United States Department of Agriculture; "Sarsumu," "Botan," "Chabot," "Long Fruit," "Maru," and six other varieties under numbers as received from his collectors. The last four of these were named by P. J. Berckmans, of Augusta, Ga., president of the American Pomological Society. Prof. L. H. Bailey named the "Berckman," "Humi," "Blood," "Willard." 1891 also saw the delivery to fruitgrowers of the "Phenomenal" berry, which has since made half-acres more profitable than farms.

In the exhibition of the California Floral Society, 1892, the prominent feature was Burbank's new Gladiolus, the "California," a large double flower with a solid cone of blossom, 5½ inches expanse of petals clustered on stilt, compact low-growing stems, flowering so profusely as to hide the stem on all sides. Compared with the thinly scattered blossoms on but one side of the weak-stemmed ordinary flower, it looked like a new race. It came from the common Gardanensis type as a basis with bulbs from South Africa; and is so vital that even in the scorching sun and wind of inland California, the last flower to bloom on the stalk finds the first unwithered. The same year "Hale," and "Abundance," the latter so named from its ropes of fruit and afterward renamed "Alhambra," and the first perfect freestone of Japanese blood were added to the list of plums. In June, 1893, was published the now historic "New Creations." The stir this pamphlet made was immediate and far reaching. Its bold claim that the new fruits and flowers it described would inevitably displace present standards, the extensive biological knowledge it displayed, its high scientific character and the grace and dignity of its style, ushered it into an appreciation quite outside of the attention usually accorded to the presentations of plant-growers. It was sought by students of plant-science; received the indorsement of the authorities; was adopted as a class book in universities of this country and abroad. Its singular illustrations from actual photographs were convincing of its statement that "the life forces of plants may be combined and guided to produce results not hitherto imagined," and that "we are now standing at the gateway of scientific horticulture." Among the new
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1895, a group of hybrid lilies and the “Burbank” and “Tarrytown” cannas are announced; also the Bartlett,” “Shiro” and “October Purple” plums, the last a cross of Satsuma and a Japanese seedling, the “Giant prune and three new chestnut seedlings, “Coe,” “McFarland,” and “Hale,” offspring of the Japan Mammoth.

No more introductions were made until 1898-1899, when appeared the “Climax and new potatoes, the peculiar “Aerial”; the begonia-leaved squash and the cross-bred tomatoes. The flower lists include half a dozen new roses and as many more callas and lilies; the “Silver-Lining” poppy, a new myrtle; hybrid clematis; hybrid nicotianas, and a new family which the author names “Nicotunia,” a union of large flowering nicotianas with petunias; new amelopis veitchi; wax myrtle; seedling tigridias; new cannas, arums, amaryllis, brodias, aquilegias, asters, etc. The frontispiece is a photograph of leaves from the new walnuts, Juglans Californica x J Regia and Juglans nigra x Californica. A magnificent row of the first lines the roadway in front of the Burbank home gardens. The trees are twice the size of the ordinary walnut at double their years. They grow twice as fast as the combined growths of both parents. The latter produces prolifically nuts three times the bulk of the ordinary American or California varieties. With these is announced the Japan Mammoth Chestnuts, since named the “Hall.”


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1894, second edition of “New Creations.” Announcement of the cross-bred Japan plum “Prolific,” finest of the first crosses. Appear, also the cross-bred white blackberry “Iceberg,” the blackberry-raspberry
A Novel Rain-Water Collector

By A. Gradenwitz

O WING to the increasing adoption of water works, the rain-water collectors, which were once so much in favor, have been somewhat neglected. Still, such devices could do far better service than might be supposed at first sight. Especially in the open country, and even in small townships where water works do not pay, they would enable anybody to secure his own drinking and washing water for consumption. It is a well-known fact that rain-water is of absolute purity and far softer than any other water. On account of not being in contact with the ground it is practically free from microbes and accordingly most recommendable from a hygienic point of view. If in spite of these obvious advantages, its use now is generally discarded, it is mainly due to the impurities which attach to the collector, and thus indirectly introduced into water of so excellent a quality. In fact, on dripping from the roof, the water is bound to become mixed with dust and all kinds of animal and vegetable waste matter, so that the liquid at first collected not only is unsuitable for use, but infects the after rainfall.

A French inventor, Mr. G. H. Munier, at Ciboure, has designed a rain-water collector, which supplies an excellent drinking and washing water without any decantation, filtering or chemical cleaning.

The apparatus, as shown in the diagram, comprises two vessels, viz., the drinking water vessel A and the impure-water vessel B, above which is arranged a trough C tilting round the pivot T. At the end D of the trough the rod of a float F is fixed, dipping into the vessel B.

As the rain-water coming from the eaves H flows down the trough C, it at first enters the vessel B, which is still empty, so that the float rests on its bottom. As this vessel then is gradually filled, the float, and along with it the trough C, will rise continually, until the trough is tilted round the central pivot so as to point towards the drinking water vessel A. All the subsequent precipitation then flows into this vessel, and as the roof has been washed clean in the meantime, it can be used immediately for drinking or for washing purposes.

As the water dropping from the roof could carry along foreign objects, the mouth of the trough C is closed by a piece of metal gauze. Moreover, before entering the clean water vessel, the water has to pass through some kind of funnel consisting of a box filled with gravel, and finally the whole tilting trough is covered with metal gauze.

The apparatus should obviously be adjusted in accordance with the amount to be collected in the dirty or waste water vessel. The actual condition of the roof, and the kind and degree of its impurities should therefore be accounted for in each case. According to experiments made by the inventor a minimum of 4 liters (1.05 gallons) per square meter (10.76 square feet) is required under the most favorable, and 6-10 liters (1.6-2.6 gallons) under the most unsatisfactory circumstances.

In order to account for any interruption in the rain-fall, which is liable to give rise to a renewed deposit of dirt, a cock discharging the water in drops is arranged at the bottom of the unclean water vessel, the rate of flow being so calculated that only the amount corresponding to the possible impurities flows out each day. A modified apparatus represented herewith comprises a funnel catching the water as it drops from the roof and directing it towards a dirty-water vessel with the float. As soon as enough water has flown out to wash off any impurities, the float will direct the lower opening of the funnel towards the clean-water vessel.
Showing the pipes before the rain

Showing the pipes during the rain

A rain-water collector in the Pyrenees

Another kind of rain-water collector
CONCRETE is by no means a new material. It was used by the ancient Romans. And there are examples of concrete construction scattered about Europe which are undoubtedly quite old. But there are concretes and concretes. A modern concrete consists of three solid ingredients: Portland cement, sand, and broken rock or an equivalent. It is hoped that this material is as durable as the more ancient article. And there is some warrant for this. It will be seen at once that indestructibility is a wonderfully attractive quality in a building material. When we combine with this reasonableness of first cost, we do not have to go much further, perhaps, to understand the present popularity of concrete. But this material does have other good qualities. It is easily molded to the forms desired; it permits rapidity of construction; it is vermin proof; it can be made waterproof. But not everything that goes by the name of concrete is deserving of the name. Let me explain. There is only one ingredient in concrete which has the power of binding the whole into a single mass. This is the Portland cement. Now it so happens that this is the most expensive one as well. It can readily be understood, then, that contractors and builders are liable to be tempted to reduce the proportionate amount used or to use an inferior quality, or to do both. As with everything else, the only way to get a fine concrete is to use the best materials and in the proper proportions. Use the best Portland cement and in proper amount. You have then solved a large part of your problem. Further, when the best Portland cement is used generously, you have taken the right steps to get a waterproof material.

You can make an efficient material without using broken rock at all. A large part of its office—perhaps approximately the whole—is this: Wherever you have a piece of stone, you do not have to have cement, and so the cost can be kept down. There is sometimes this advantage in leaving out the stone: The material, on account of its uniform consistency, can be disposed in very thin sheets. Perhaps one ought not to call such material concrete, as it is more properly a cement mortar. But popular imagination may be counted on to call it concrete, nevertheless.

Down by the shore of the ocean, at Long Beach, Long Island, there is being constructed what we may perhaps be excused for calling a concrete city, although much of the material used contains no stone. Different contractors who are
doing pretty much all of the initial building, have set a minimum valuation of $7,000 on a house. Values go up, however, to $35,000, though on some parts of the property the minimum price of a house is $5,000. It will be seen from these facts that the concrete houses being constructed there do not belong to the cheap grade at all. The house must measure up to a certain minimum standard, or it is not permissible to build it. In order to insure a high grade construction, the land companies themselves have undertaken a great deal of building and their houses may very well be considered as models of what concrete construction may and should be.

The location is a sandy one, and the houses are of inconsiderable height. The foundation is secured by digging trenches in the sand to a sufficient depth and filling these with concrete. This is a simple and adequate procedure. Upon this foundation is reared the frame of the house. This consists of wood, to which is attached a covering of galvanized wire netting. Upon this surface the concrete, or rather the cement mortar, is spread. By this means it is possible to make the wall comparatively thin. The netting is sufficiently imbedded to enable it to get a good hold upon the "stucco" of mortar. The roof is constructed of red vitrified tiling. The tinting of the exterior walls can be modified to suit one's taste or the general surroundings.

We may look on these structures as one class of concrete houses. Cement construction in one form or a number has undoubtedly come to stay. It is well, then, to consider the architectural and other dispositions of the material as a problem by itself. In other words, a cement house is to be planned especially with a view to the material of construction rather than with the design of fitting in with older ideas connected with stone, brick and wooden types of buildings. Use the material in the way which will give it a natural appearance, free from imitation of other building materials.

Thus, consider Fig. 1. There is no attempt made in the treatment of the exterior surface to make it appear like something else. The house is a cement house. There is no attempt to hide the fact; and why should there be? The ceilings are high on the first floor, and there is much light and air. On the second floor the windows are particularly large.

In Fig. 2 we have the bungalow construction. There are eight rooms, besides bath and laundry. There are two partially inclosed porches at the front, to right and to left. A third porch, between these, but more to the rear, affords entrance to the house itself. One enters at once into a large living-room (17 x 26 feet.) The dining-room (15 x 23 1/2 feet) lies just back of the right-hand porch. In the corresponding position on the left is the principal bedroom. Back of it is the bath and three other bedrooms. Back of the dining-room are pantry, kitchen, laundry and servants'-room.

The general plan resembles a letter H, the living-room being the cross-piece. The servants'-room, which lies on the inside of the H, is opposite the last of the family bedrooms, but the wall of the servants'-room is not pierced by a window. Its beauty of appearance may be judged from the picture.
A very attractive house is shown in Figs. 3, 4 and 5. The entrance onto the porch and the large opening to the right, is absolutely no trimming. This house has about the same amount of household space as that of the bungalow of

Fig. 7—The red tile roof and the stucco walls mingle finely together

Fig. 8—First floor plan

are good examples of the simplicity of treatment appropriate to cement houses. It will be noticed that there

Fig. 9—Second floor plan

Fig. 2. All the bedrooms are on the second floor. The partially inclosed porch on the first floor may be provided

Fig. 10—A house of quaint construction, with fine color contrasts
Fig. 12—First floor plan
Fig. 13—Second floor plan

Fig. 11—A house built on square lines
with suitable glass protection to enable it to become a part of the living-room in winter, and is an idea worthy of imitation.
That the same general plans upon the interior may be coupled with the adjoining bedrooms and bath, can be readily cut off the rest of the second floor and would thus become serviceable use as a nursery and children's room.

Fig. 14—A house of picturesque character
with quite a difference in exterior appearance is shown by comparing Figs. 3 and 6. They are upon the same general plan within, and are charming seashore homes.
It may be added that the upper piazza on the left, together

Fig. 15—First floor plan
Fig. 16—Second floor plan

We have in Figs. 7, 8 and 9 a beautiful house. Here the of the roof and the pale hue of the cement mingle finely toge The porch is very pretty and commodious. The living-which it partly surrounds, receives light on still another

Fig. 17—A house of Spanish type
Fig. 18—First floor plan
Fig. 19—Second floor plan
Fig. 22—A design of a true concrete house

We have in Figs. 11, 12, and 13 the square house provided with a wing. There are two entrances, it will be observed. On the second floor the three master bedrooms, bath and hall are, or may be, completely cut off from two servants' bedrooms, bath and...
Fig. 29.—Lattice work is of the decorative feature

Fig. 30.—The porches are the features of this house

hall. This is a very attractive house outside and quite convenient within. It will be noticed that there are also some rooms on the third floor.

Those who go in for picturesqueness will perhaps be taken with the house shown in Figs. 14, 15 and 16. Here the roof does all sorts of things. There is a great deal of

Fig. 31.—First floor plan

porch, as may be seen by consulting the view and the plan of the first floor. As one enters the house, he finds a side hall, which affords access on the right to the living-room and the dining-room. On the second floor are four bedrooms and two baths. Still other rooms are on the third floor. The general style of this house is German.

Fig. 32.—Second floor plan

Fig. 33.—Third floor plan

In Figs. 17, 18 and 19, however, we have a Spanish idea of a home. This is a somewhat complete establishment. On the first floor we have dining-room, kitchen, and so on, together with a small corner room and a reception hall at the very front; but there is nothing of the nature of a parlor or living-room. The small room, or den, is ten by ten

Fig. 34.—The living-room

feet and is located at the corner, seen in full in the view. The reception hall has the same depth, ten feet. On the second floor there are two small bedrooms, bath and separate stairway. These are all cut off from the rest of the second floor. The main portion consists of a fine balcony, a library, and a "grand salon." This grand salon is sixteen

Fig. 35.—The dining-room
by thirty-nine feet. All master bedrooms are above, on the third floor. There are five of them, besides two baths. There is also a small balcony at the front, and two servants' bedrooms and bath at the rear. The latter is reached by a separate stairway and is entirely cut off. In fact, the three servants' rooms and bath have no connection whatever with the main portion of the home on either the second or third floors.

In the view shown in Figs. 20, 21 and 22, we have a fine example of the true concrete or cement house. There is a simplicity about the lines to suit the material. Notice particularly the heavy posts of the uncovered porches. The simple doorway admitting to the covered porch is very attractive.

The house of Figs. 23, 24 and 25 is, perhaps, a little more ornate; but there is still a restraint which goes well with the material. Observe the plainness of the main lines of the bay window portion. Ornamentation is here secured by the arrangement of the openings. Especially attractive in this house is the rise of the side walls above the roof. This is a fine concrete house.

Another admirable example is the one shown in Figs. 26, 27 and 28. Here it is the front porch which beautifies the house. The large square pillars with their continuations above to form posts on the uncovered portico, taken in connection with the intervening projecting roof of red tiling, make of the whole a charming picture—simplicity and effectiveness.

Figs. 29, 30, 31, 32, 33, 34 and 35 show a pretty home. The double windows are especially attractive. All the views of the page refer to the one house. As with all square dwellings, there is plenty of room. The side porch is not shown in the plan of the first floor. It is, however, an important addition, and is reached by a French window from the living-room. Exclusive of the two bedrooms and bath for servants on the third floor, there are eight rooms and two baths for the family and its guests. On the lower left-hand side of the page is shown the interior one end of the living-room. Very attractive, isn't it? The dining-room is shown by the picture to the right. The broad window seen here is the one which opens onto the front porch.

Figs. 36, 37, 38, and 39 show a picturesque house, from the side and rear. The bay window belongs to the dining-room. On the first floor are, in addition to a servants'-room and bath, four bedrooms and bath. A little winding stairway and the tower to which it belongs are attractive features. In the left-hand interior view, we have a portion of the living-room, and get a glimpse through the doorway to the dining-room and see the bay window belonging to the latter space. The adjoining view is that of the inside of the dining-room.

Messrs. Kirby, Petit and Green, of New York, were the architects of all of the houses illustrated in this article, except six dwellings which were designed by Mr. Louis R. Kaufman, also of New York.

In order to avoid excess in giving details, we have not treated the under features of the individual house, but have pointed out the most essential features.
# Planting Table of the Best Perennials

By Charles Downing Lay

Continued from the March number of *American Homes and Gardens*

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CRITICAL NOTES ON PLANTING

It is often difficult to explain why one scene pleases and why another fails to please, why one grouping of trees is satisfying to our taste and another grouping of the same trees not so. The landscape which displeases is "Nature" and the unsatisfactory group contains the same trees that are in the satisfactory group. It is hard in any art to explain the finer shades of feeling, but we, who work with living trees and shrubs find a new trouble; namely, the veneration for all growing things which is so thoroughly inculcated to-day. A tree is sacred and must not be spoken of without respect.

I shall try, however, to point out by means of similar but contrasting examples why one scene pleases and another is vile, at the same time taking the opportunity to speak of the means by which the results were obtained.

Figure No. 1 shows a good group of Norway spruces flanked by deciduous trees (beeches and maples) all forming an effective wind-break for the house. The spruces have been taken advantage of as a background for the large bed of rhododendrons and lilies (which are now in flower). It is a charming arrangement, good at all seasons of the year and it is just the place to plant rhododendrons and lilies. They are protected from the winter sun and yet get enough in summer. It will also be noticed that they are not planted too near the spruces, which rob the soil of fertility and moisture.

A little more variety in the height of the rhododendrons would help and it would be better to have them extend further to each side, losing themselves in the trees. As it is, they are disconnected and fill up a bay, which should be open, but with rhododendrons at the margin, linking trees and grass.

Figure No. 2 shows a scheme which is obviously insulting to any taste and needs little comment except the suggestion that the large Norway spruce to the left be cut out. The other trees would be more effective without it.

Figure No. 3 is not only a good group of hemlocks, maples and oaks, but it also shows a well located blue spruce and another which is badly located. The one in the middle is excellent. It is a magnificent tree in a good place. The smaller spruce at the right, however, detracts much from the beauty of the scene, and I should like to take out the insignificant bushes dotted on the lawn.

Figure No. 4 is the prize of our collection, and if one may judge from a photograph it is a masterful piece of work, full of charm and restraint and technically excellent. It is probably as good in color as it is in form and texture. What could be nicer than the way the rhododendrons and the taller shrubs and trees blend together? What more picturesque than the sky line of the group? Only hints of such beauty are to be found in real unspoiled "Nature."

The last note in atrocious work is found in Figure 5. The line of the path is bad, the planting is spotty even in the photograph, and in real life it must be hideous. With the naked eye I can count 57 varieties of trees and shrubs, all different tones and showing the complete range of color from yellow to blue, with small windows covered with oil paper, and the effect is in perfect harmony with the tranquil charm of the evening hour. These stone lanterns are imported from Japan, each are of different design and retail at from $25.00 to $200.00.

Pottery water kongs, large pots, bronze garden lanterns, jardinières, and benches are also to be found in The Oriental Store, all imported by us from Japan.

The bronze lanterns sell at $1,000.00, $1,500.00, $3,500.00 and $4,000.00. The water kongs are in two sizes, either round or octagonal shapes, and sell at $25.00 and $30.00.

We shall take pleasure in helping you make a selection, should you call at our store. If this is impossible, we cordially invite correspondence, and we will gladly submit sketches and give you full information.

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YOU can have Earlier and Better Garden or Sweet Peas than any of your neighbors

Use Farmogerm

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If you want to grow peas earlier than your neighbors and have them all summer long—if you want sweet peas that will grow 6 feet tall and be such a mass of blossoms as you never had before, you need to inoculate the seed with Farmogerm. The poorer the soil, the better the result can be seen. You can grow peas in coal ashes by using Farmogerm. If you expect to plant your lawn, don't fail to use some clover seed inoculated with Farmogerm. You will see the wonderful results both in the clover and the grass.

READ THESE LETTERS

R. A. PRADER, Wake, THOMAS ALLEN, N. J. C. HINE. Unless plants did not grow as well, large and strong as in our garden at home, but the peas treated with your Farmogerm grew far larger and stronger both in the field and in the pot to which they were removed. The pea plants treated with Farmogerm were 6 feet tall and much more vigorous than the dwarf or early variety. I used Farmogerm which I got from you, inoculated seed came up beautifully that were planted, all the tall or late varieties grew very rapidly and the two days later they were too vigorous and never bore that there were some peas of plants were dark, nearly in maturity in October. The peas and for the first pea and bean un inoculated seed came up beautiful that were planted, but not on a lawn! No. 6 is in a way comparable to the living pictures which one sees the stage. It is a nurseryman's catalogue done in living trees instead of type, and for completeness only lacks the price mark.

For instance, take the first items:

"Pine Magno, slow growing dwarf pine, Spreading habit. 18-24 inches. $1.25.

"Retinospora squamosa, silvery foliage. 5-10 feet. 83."}

The band of the artist can be detected no less readily in planting than in painting or sculpture. In planting, as in all arts, the greatest masters get their effects most simply and most easily. Their sound judgment and the perfection of their technique leads them at once to the easiest way of doing their work. With amateurs it is quite different. Their interest in the technique of the art unbalances their weak judgment and they overdo everything until the work becomes a catalogue of their attainments, interesting as much, perhaps, but without repose or breadth.

The crowded palette of the young painter betrays his untrained mind just as the long list of trees, shrubs and flowers on the young planter's plan betrays his uncertain
April, 1911

WILD FLOWERS WORTH GROWING

by Nathaniel S. Green

In your rambles through the woods when the ground is carpeted with a carpet of these flowers do you ever think of the possibility of transplanting some of these flowers to your garden? There are many wild flowers and ferns in every local park and shade that add much to the beauty of the scene. Many of the wild flowers that are not hardy in our region may be naturalized in the grass and drab, around the edges of woods and also on the banks of streams. The daintiest of spring flowers are the wood anemones that may be found in great profusion along overhanging banks or beside fallen tree trunks. Their delicate pink and white blossoms are as beautiful as any greenhouse flower. The bulbs are small and a dozen or more may be placed in a six-inch pot; but they are not charmed outdoors in a shady border. Here they become naturalized and bloom year after year without care. Another charming wild flower of early spring is Dicentra, or as the children call it, Dutchman's Breeches. Its clumps of tiny bulbs may be found just under the leaves, only half covered with soil. Its flowers closely resemble the cultivated "Bleeding Heart" in shape, but are smaller and white or pinkish white. The abundant lacy foliage is as attractive as the blossoms. The bulbs of Erythronium or Dog-tooth Violet, are difficult to obtain, as they are usually found six to eight inches deep, but they will repay the work of digging them out. The dark green leaves covered with blotches of bronze and purple make a charming setting for the creamy white blooms. Two varieties are found in our woodlands: Erythronium Americanum, having bright, yellow flowers an inch broad, and E. Albidum, having white or pinkish white flowers. Both make pleasing additions to the garden, or they may be naturalized in the grass and allowed to spread at will.

The large rose-colored flowers of Claytonia, or Spring Beauty, compare favorably with any of our garden blooms. The bulbs are easily obtained and grow readily if given a moist, shady spot. Violets—blue, white and yellow—give a most charming effect when planted in masses on a shady slope. Among the

Yes!—You yourself—can beautifully finish or refresh all furniture, woodwork or floors, in the latest and most artistic shades—in little time—at small expense—with

Johnson's Wood Dye and Prepared Wax

If you are interested in craftsmanship—if you want the correct finish on a piece of furniture—by using our proposition you will find the best method of finishing your wood work. Johnson's Wood Dye is made in many beautiful greens, browns, reds, etc. It is not a mere stain, but a penetrating dye which colors the wood so deeply that it becomes scratched or marred the natural color is not disclosed. It brings out the beauty of the grain without raising it, giving a soft, rich, permanent color. A coat of Johnson's Prepared Wax over the dye gives that beautiful, dull, artistic finish so much admired today. If you prefer a higher gloss than the wax gives apply a coat of UNDER-LAC over the dye and then one coat of Prepared Wax.

Johnson's Wood Finishes

Under-Lac is a thin, elastic spirit finish very much superior to shellac or varnish. It dries hard in less than an hour. Under-Lac is just what you want for your linoleum and oilcloth; it brings out the pattern, making it bright and glossy like new, protects it from wear and makes cleaning easy. It dries so the floors may be walked on in an hour.

We want you to try Johnson's Wood Finishes, so we are supplying all leading paint dealers with samples for their customers' use. If your dealers haven't samples of our Wood Dye, Under-Lac and Prepared Wax and the Instruction Book—we will send them to you postpaid for the name of your dealer in paints. In writing we mention the shade of dye you prefer and Instruction Booklet, edition A E 4.

S. C. Johnson & Son, "The Wood Finishing Authorities" Racine, Wis.
The colors are softer, richer, and more beautiful.

They are made of Creosote, "the best wood preservative known.

They wear as well as the best paint.

Can be put on twice as fast, halving the labor cost.

Cost less than half as much as paint.

Have been proved in every climate for twenty-five years.

You can be sure Cabot's Shingle Stains will last over the environment.

Ask your dealer if he carries Willowcraft; if not, write us for a fully illustrated catalogue.

For Shingles, Siding, Clapboards, Timbers, and all other outside woodwork:

THE CAROLINA HEMLOCK

Tsuga caroliniana, the most lovely and rare American conifer. Specimen trees with half from three feet to eight feet. Rhododendrons catawbiense, punctatum, and maximum, in specimen clumps up to six feet in height. Unique Catalogue and full particulars regarding all our gorgeous Native Rhododendrons, Azaleas, and Camellias.

Harlan P. Kelsey, Owner, Salem, Mass.

ON OUR NATIVE AZALEAS

are the most beautiful, hardy, and permanent of all Azaleas known to cultivation.

Our 30,000 growing at Highlands, Nurseries near the entrance to the forest during the felling operations.

The plants mentioned give only a hint of the possibilities of wild flower gardens.

There are dozens of other native plants that may be transplanted to the home grounds, where they will thrive with little care, and by judicious planting, a brilliant display may be enjoyed from early spring until the beginning of winter.

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A BERLIN inventor has recently designed a simple device for the felling of trees. The trunks are cut by the friction of a steel wire about 1 inch in diameter, which, as demonstrated by practical tests, is able to cut through a tree about 30 inches (50 centimeters) in thickness in six minutes. The wire, which is carried to and fro by an electric motor, is heated by friction on the tree to such an extent as to burn through the timber, the result being a cut which is both smoother and cleaner than that effected by saw. The wire will work satisfactorily on the thickest trees without the insertion of wedges into the cut, and the trees may be cut immediately above or below the ground. In the latter case the stump may be left safely in the soil. The motor which actuates the wire is placed outside of the range effected by the fall of the tree, and when electricity is not already available it can be generated by a portable power plant consisting of a 10 horse-power gasoline motor and dynamo, which are left at the entrance to the forest during the felling operations.

WATER COLORS

WATER colors prepared with gum or dextrin form hard, solid masses that can only be softened by prolonged rubbing with the moistened brush. To obtain water colors that will always be soft and can be readily taken up for sale like oil colors in tin capsules which the color has been rubbed down, By using thick solutions of gum, to prolong the moisture from the atmosphere, colors prepared in the manner specified by practical tests, is able to cut through a tree to such an extent as to burn through the timber, the result being a cut which is both smoother and cleaner than that effected by saw. The wire will work satisfactorily on the thickest trees without the insertion of wedges into the cut, and the trees may be cut immediately above or below the ground. In the latter case the stump may be left safely in the soil. The motor which actuates the wire is placed outside of the range effected by the fall of the tree, and when electricity is not already available it can be generated by a portable power plant consisting of a 10 horse-power gasoline motor and dynamo, which are left at the entrance to the forest during the felling operations.

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Delectable "Sweets and Sours" from Old-time Recipes

SPICED APPLE JELLY

OLD-FASHIONED housewives—especially the thrifty housekeepers of New England—held the secret of making a spicy and delicious jelly from the comparatively worthless buried-apples of early spring. We seldom taste in these days a jelly with a flavor so peculiarly rich and spicy. When the jelly closet is empty just before the fresh fruits and berries begin to appear, a thing to be reckoned with is the unpalatable condition of the keep-over fruits and their lack of flavor for jelly making. In New England they used to bury the apples in underground pits when it was desirable to keep over a quantity for use in the spring. Naturally these old apples "tasted of the earth" and those kept over in the cellars were spongy and juiceless at the approach of spring.

Some of our cold-storage apples of today that are kept till fresh apples come again are equally lacking in flavor and juiciness in the spring and early summer. Yet, when they are manipulated by the same processes as used by the old New England housewives, the jelly is even more delicious than when made in the usual manner simply as apple jelly.

For this richly spiced apple jelly, our grandmothers washed and quartered the dried apples, removing all "specks," but leaving on the skin. They were then put in a preserving kettle with sufficient liquid to keep from burning—using one part water and two parts vinegar. When boiled until thoroughly done, with all the juice and jelly substance extracted from the skins, the whole was poured into a cheese cloth bag and allowed to drip until all the clear juice was secured. This juice was then measured, an equal quantity of sugar added, with a teaspoonful of whole cloves, a teaspoonful of broken mace and one of stick cinnamon broken in small pieces for each quart of the syrup. It is important to avoid the use of ground spices for clear jelly, and even the whole cloves and other spices should be tied loosely in a bag to avoid "specking" the jelly. When boiled until ready to "jell," the spices were removed, the liquid poured into glasses, and covered when cold, and the result was a clear, red jelly, much more attractive in appearance than the usual apple jelly and of a rich, fine flavor.

For a change in making apple jellies at any season of the year, it will be pleasing to have a portion of it spiced, for variety in color and flavor; but it is especially wise to "doctor up" old apples by this process.

APPLE-LEMON JELLY

Lemons are scarce and high in the spring. It is true, but it will be desirable to include apple-lemon jelly in the emergency preserves; and, after all, very few lemons will not be found for good results when intelligently used. After preparing the apple juice as for the spiced jelly, do not add spices, but prepare the clear slightly acid jelly in the usual way. If the lemons are sufficiently plentiful one lemon may be added to two quarts of apple juice; slice the yellow rind from the lemon in small pieces, pare off and discard the white inner coating, then slice the juicy pulp, throwing away the seeds, boil up with the apples, and strain the juice through the cheesecloth bag. The picturesque part of the lemon jelly is the finishing touch, however. After the juice has jelled, and is ready for pouring into the glasses, slice fresh, juicy lemons, cutting through the rind and pulp and forming circular slices about a sixteenth of an inch thick, or as thin as can be sliced. Remove the seeds. Place a slice in each glass, and pour the hot jelly over it. The "talisman" for that slice of lemon, to be dipped in sugar and nibbled after the jelly is served.

Here is a secret that our grandmothers understood—jelly can be made from dried apples that will vie with the fresh apple jelly in quality, color and flavor. The old-time sun-dried apples were dependable for fine jellies in the spring. Naturally these old apples and their lack of flavor for jelly making, and for summer apple sauces, with a certain proportion dried without the skins—the thrifty housewives used the skins left on, for spring jelly making. Other "wind-blown and specks," as the unmarketable apples were called, were used for elder making, for immediate jelly making, and for summer apple sauce, with a certain proportion dried without the skins—the thrifty housewives using the skins from the drying apples for the fresh-apple jelly. But a goodly proportion of the dried apples were simply washed and cored, cut into drying slices, and dried in the sun. These were dependable for fine jellies in the early summer, between the season of the "kept-overs" and the "new" apples.

SPICY APPLE BUTTER

Again we can follow the thrift of the old-time housekeeper by utilizing all the apple pulp from which the jelly juice has been drained. Rub it through a fine colander to remove all skins and waste. The fresh apple pulp from the lemon jelly can simply be sweetened and served with a dash of grated nutmeg. The pulp from the spiced apples and the dried apples will form delicious apple butter or apple marmalade with additional flavoring of ground spices—equal proportions of cinnamon and nutmeg or mace—to make

AMERICAN HOMES AND GARDENS

April, 1911
McCRAY BUILT-IN REFRIGERATORS can be iced from outside. This feature is important. You don't have to be on hand during the icing of your refrigerator, nor is there a wet and foot-cracked floor to be cleaned up after the operation.

McCrays Refrigerators are made up complete at the factory, and when desired will be installed by expert workmen either in new or remodeled residences.

PERFECT REFRIGERATION

The plate-plating qualities of most foods depend upon their temperature. The positive air circulation of McCray Refrigerators imparts a cold snapiness that gives a special zest to relishes.

McCray Refrigerators are made for all purposes in a wide variety of sizes. Write for the particular book in which you are interested: No. A. H. Built-in-for-iordes, No. 57 Regular Sizes for Residences, No. 45 for Hotels, Clubs and Institutions, No. 75 for Florists, No. 47 for Grocers, No. 53 for Meat Markets.

McCrays Refrigerator Co. 207 Lake Street, KENDALLVILLE, IND.

State Your Shingles with DEXTER BROTHERS' ENGLISH SHINGLE STAIN Dip them Before Laying

Dipping paper, doesn't mean the wrong kind of water. Get through before the paper begins to curl or warp. Dexterity Brothers' English Shingle Stain is easy to use, and gives the longest durability. It soaks in thoroughly. The colors last forever. Write for sample shingle samples, so you can decide on your own colors.

Dexter Bros., Co., 113 Broad St., Boston, 2113 2nd Ave., N.Y.

HEADQUARTERS FOR BUILDER, CONSUMER, DEALER.


This stain is made to prevent future smoking of the wood and looks natural. It is made of natural colors and is easy to apply. It contains 25% shingle binder with 25% of the best glazing composition. It is supplied in 12 colors: "gum green," "oak," "ivy," "buckeye," "pine," "beech," "jasmine," "maple," "ash," "elm," "basswood," "and" "walnut." It is sold in 100-pound boxes, and is warranted to be perfect. Write for illustrated circular.

WM. M. CLARK

ARCHITECT, GRAND RAPIDS, MICH.

FREE BOOK ON THE PROPER CARE OF LAWNs Send for Free Today

This free book tells how to make and maintain a beautiful, thick, even-growing lawn. It explains the right kind of soil, how to drain it, how to prepare the seed-bed, how to keep down weeds, how to kill ants and ground moles, and covers many other important points that must be known in order to make a good lawn.

DUNHAM ROLLERS

The Dunham Roller for paths, lawns and tennis courts has automobile roller bearings and axle construction. The weights are hung on the outer ends giving two inches of friction against ten to twenty-two inches in others, making the Dunham 45% easier to operate than any other roller.

The Dunham Roller is the strongest, easiest to operate and most economical roller produced.

THE DUNHAM COMPANY

444 First Avenue, BLOOMINGTON, MINN.

Largest Manufacturers in the World of Land Rollers

Display Rooms and Agencies in all Principal Cities

FREE CATALOG OF ALL PRODUCTS

North Shore Ferneries Company,

Beverly, Massachusetts
Problems in Home Furnishing
by ALICE M. KELLOGG
A PARLOR THAT IS TOO LIGHT
A PROVIDENCE, R. l., correspondent is discouraged about her parlor, which has just been repapered. "I fear I have made a mistake," she writes, "as the room looks much worse than it did before we moved. The new paper is a warm tan-color in two tones and I find it accentuates the brightness of the room. There is a large bay with three windows, besides two windows on the side. The woodwork is painted white and the window shades and thin, net curtains are white. The room looks garish and inhospitable. Is it possible to improve it without putting on another paper?"

Under the conditions described a wall paper of gray-brown tone would be helpful in softening the light. Another suggestion would be to change the thin net curtains for cream-white scrim, trimmed with a lace edge and insertion, and hanging them across the glass. Over-curtains to hang at the side of the windows would also assist in darkening the room.

DECORATING A CEILING
A Lincoln (Neb.) reader, G. O. F., asks about decorating the ceiling of her parlor, and if it would be better to leave the plaster in the original white finish.

The ceilings of houses of moderate cost are generally treated with a water color tint, either cream or buff, rather than attempting an expensive decoration. If a wall paper must be applied to the ceiling on account of defects that cannot be covered with a tint, the design should be inconspicuous. Some wall papers have ceiling papers to match, but this is not necessary. If a considerable amount of money is expended on the interior of the house, the ceiling may be covered with the English relief material made for this purpose in various designs. This comes in plain white, and is intended to be tinted in one or more colors to suite the tones of the side wall and general color scheme.

OBJECTS FOR A PARLOR TABLE
"We have been boarding the past few years, and previous to that our furniture, then in storage, was all burned up in a fire. Consequently, on starting work again this year to make a new house we have had to buy all new furnishings. In the parlor we have a mahogany table with a round top thirty-six inches in diameter. What would you suggest as ornaments for it?"—Mrs. G. A. R., Sandusky, Ohio.

Usually, a family has odd pieces of bric-a-brac on hand to meet the need described by this Ohio correspondent. Sometimes wedding presents of one kind and another are useful. In purchasing new articles it would be well to deliberate carefully so that each one piece may be worth the attention it will receive in this consuming position.

(Continued on page xx)

Garden Work About the Home
by OLIVER INGRAHAM
WINDOW BOXES
"I WOULD like suggestions about the plants to grow in the boxes at the sides of the steps to my piazza and on the balcony above the piazza," writes a correspondent from Columbus, Ohio.

Evergreens would, of course, be the best in winter, and you might use pyramidal box bushes or red cedar trees or arborvitaes. A high tree at each end of the box and low ones in the middle would give a pleasing effect. In summer these evergreens can be planted in the back yard (if they live, which may happen) and the boxes can then be filled with flowering plants. Geraniums, nasturtiums and petunias are best because they are vigorous growers, bloom continuously and make a good show. Plants with pale colored flowers like heliotrope will not be pretty in such a situation. The foliage of carmns, caladiums and castor bean, which are sometimes used in such a situation, is too coarse and is out of scale with most buildings.

W. H. F.

The Black Walnut is a beautiful tree in some localities. It grows best in moderately rich, moist soil, as in bottom lands near rivers. I should not attempt to grow it on a rocky hillside or on a gravelly knoll.

It is one of our grandest trees, reaching a height of 75 feet, and it has a broad, open top with the foliage carried well out on the branches.

It loses its leaves early in the fall, which is sometimes an objection, but its branches are bold and strong and impressive when bare.

The gray birch is a charming tree and will grow anywhere. There is no handsomer lawn tree. It is easy to transplant when young, but the old clumps, which are so much admired, are so difficult that it does not pay to....

To recommend a course of home study in Landscape Architecture as S. D. asks would be difficult.

The course in Landscape Architecture at Harvard requires four years for completion and it must be preceded by at least two years of work in the college. Such an amount of work it would be difficult to accomplish at home, even if time is of no value.

A course of reading, however, might be arranged, which could be finished in a year or two which, with the aid of outdoor study and observation, would give one an understanding of the art and a more cultivated taste that might be a sufficient return for the labor expended.

The technical side of the art it will be difficult to match from books, but the aesthetic side may perhaps be better grasped.

Such a course of home reading should include the following books, read more or less in sequence: Bacon's Essays, "Of
Does anything in the plans and specifications for a home interest a client—especially a woman—more than the bathroom and its equipment.

It is the comfort-center of the household, and so long as houses are built to live in, the fast-sighted architect will take no chances there.

He knows that if it is not satisfactory the house will be viewed through dark glasses and mountains made of molehills.

The safe way is to specify bathroom, kitchen and laundry plumbing equipment that is manufactured throughout by one house, bearing the reputation that can be gained only one way.

That is the "WOLFF" line.

ESTABLISHED 1855

L. Wolff Manufacturing Co.

MANUFACTURERS OF

Plumbing Goods Exclusively

The Only Complete Line Made By Any One Firm

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601 to 627 W. Lake St., Chicago

DENVER TRENTO

Showrooms: 91 Dearborn Street, Chicago

BRANCH OFFICES:

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MINNEAPOLIS, Minn., 41 Northwestern Building

Cleveland, Ohio, Buildings Exchange

Kansas City, Mo., 1206 Scarritt Building

Cincinnati, Ohio, 50 Lyric Building

SAN FRANCISCO, CAL., Monadnock Building

OMAHA, Nebr., 215-217 Douglas Street

WASHINGTON, D. C., 327 Bond Building

BUFFALO, N. Y., 45 Manhattan Place

Lane’s Ball Bearing

THE BEST HOUSE DOOR HANGER

Frame ALL STEEL.

Bearing made and hardened just the same as similar bicycle parts. Hanger guaranteed in every respect. Ask any dealer or write us.

LANE BROTHERS COMPANY, Manufacturers

434-466 Prospect Street, Poughkeepsie, N. Y.

Problems in Home Furnishing

(Continued from page six)

A tall lamp or vase may be the first object secured for the center of the table. If fresh flowers cannot be kept in the vase, some of the artificial Japanese plum blossoms in white and pink may be substituted. A square of antique embroidery edged with gold braid may be laid underneath the lamp or vase as a mat. A small picture, framed with a support at the back, may stand near the edge of the table. Such a picture should have real artistic merit, or be of enough general interest to attract a visitor.

Two or three small books in good bindings (preferably with illustrations that may be enjoyed without depending on the text), and one or two pieces of glass or pottery of real beauty may complete the outfit for the table.

DESIGN FOR A CHAUFFEUR’S COTTAGE

A request comes from a New England reader, Mr. N. F. J., for a floor plan for a chauffeur’s cottage, which is to be built this summer. Only a one-story building is to be erected to meet the requirements of man and wife.

In the back numbers of this magazine will be found a variety of plans for small houses. These may be adapted to the needs specified; or, the arrangement of rooms may be as follows: Across the entire front of the house may be the livingroom, with one corner at the back used for dining purposes. A chimney may be built into the wall, facing the front door, and opening into a kitchen at the back. The rear of the house may be divided into bedroom, bathroom and kitchen.

INTRODUCING GRAY IN A COLOR SCHEME

A western reader has noticed the references in articles on house furnishing to gray as a successful color for the house.

"I would like to know if I could introduce this color in a guest room that I am fitting up. What shall I have in the room in this color? The exposure is south and west with a bay of three windows and a side window. At present there is a white Chinese matting on the floor and a brass bedstead. I can add whatever you think will make the room restful and attractive for my friends."

If you can find a large rug with a plain gray center and a border with green and yellow in it to lay over the matting it would give a keynote for the rest of the room. There is a good variety of gray wall papers from which to choose, and if pictures are to be hung in this room the pattern may be an inconspicuous one. If the picture element is lacking, a decorative wall paper introducing gray would be the better choice.

White muslin or white scrim may be made up at home with two rows of filet squares set in near the bottom as an insertion. Over-curtains may be added for winter use, selecting a plain or two-toned effect with a decorative wall paper, and a chintz or cretonne with a plain gray paper. A bedspread and pillow cover may also be made of the curtain material and seat covers for two arm willow chairs stained gray.

The bureau, side chairs and table may be of white enamel or mahogany, and the amount to be expended often determines the choice of these pieces. Either selection would accord with the color scheme suggested.
HOW BIRDS WORK TOGETHER

TURNSTONE is the name of a variety of shore-birds that are allied to the plovers and the sandpipers. This name has been given to them because of their singular manner of feeding. When with their strong bills they turn over the small stones lying in the sand of the beaches to find the insects that may be sheltered underneath. If the stone prove too heavy for the bill, they push it over by applying the breast to the upper side. Frequently a number of these birds will work together to turn over an object that is too heavy for one alone to move.

Two little workers were once seen busily endeavoring to turn over a dead fish that was fully six times their size. They were boldy pushing at the fish with their bills and then with their breasts. Their endeavors were, however, in vain, and the object remained immovable.

Then they both went round to the opposite side and began to scrape away the sand from beneath the fish. After removing a considerable quantity, they again came back to the spot where they had been, and went once more to work with their bills and breasts, but with as little apparent success as before. Nothing daunted, however, they ran round a second time to the other side and recommenced their trenching operations with a seeming determination not to be baffled in their object, which evidently was to undermine the dead creature before them in order that it might be the more easily overturned.

While they were thus employed, and after they had labored in this manner at both sides alternately for nearly half an hour, they were joined by another of their species, which came flying with rapidity from the neighboring rocks. Its timely arrival was hailed with evident signs of joy.

Their mutual congratulations being over, they all three set to work, and after laboring vigorously for a few minutes in removing the sand, they came round to the other side, and putting their breasts to the fish, succeeded in raising it some inches from the sand, but were unable to turn it over. It went down again into its sandy bed to their manifest disappointment.

Raising, however, for a space, and without leaving their respective positions, which were a little apart the one from the other, they resolved, it appeared, to give the work another trial. Lowering themselves, with their breasts close to the sand, they managed to push their bills underneath the fish, which they made to rise about the same height as before. Afterward, withdrawing their bills, but without losing the advantage which they had gained, they applied their breasts to the object. This they did with
April, 1911

Coldwell Lawn Mowers
Hand, Horse and Motor

Coldwell's Motor Lawn Mowers
Will do the work of three horse lawn mowers—and do it better

They will mow up 20 per cent grades. They leave no hoof-prints as horses do. They will roll the lawn smoothly. They do away with the expense of two men and three horses. They are of no expense when not in use. They are simple to operate and economical. They are a necessity on every large lawn.

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With the Honest Skill of Sweden
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Let us tell you how to beautify your windows and add to the comfort of your home in our "Blind Book for People Who Can See" and appreciate art and luxury in house equipment.

We'll prove the Ericsson last longer, is rigid in position, more harmonious than ever-thick, little, square, occupies small space and is removed like a sticker. Write for the "BLIND BOOK" today—NOW. It's free to "PEOPLE WHO CAN SEE." Ask for I. D. T.

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The belief was prevalent among the savants of the 17th and 18th centuries that a hermetically sealed earthen vessel dipped into the sea would fill itself with fresh water. At the present day it is difficult to say on what this belief was grounded. It surely could not have been evoked by experiment. In a similar sense Marsigli, the founder of oceanology, made in the year 1725 an experiment which effected the filtration of sea-water through a system of fifteen pots filled with washed garden-earth or sand and so placed as to let the water fall as if in a cascade. It is stated that the palate disclosed a definite diminution of the essence of salt. Similar assertions are everywhere current among seamen.

A scientific test of the endeavor to free salt from water was recently made by the French investigator Thoulet. His report, which appears in the minutes of the Académie des Sciences of Paris, states that the presence of salt can be reduced by filtration. Forty centimeters of the length of a glass tube, which was one meter long and was placed in a perpendicular position, was filled with sea-sand, and the rest of the tube was filled with sea-water; portions of the filtrate were examined at intervals of the experiment to ascertain its density and chemical composition. The result was that in the initial stage of the experiment density as well as saline content were found to be moderately reduced; very soon thereafter both recovered their original value.

The early decrease of value is explained by the mechanical attraction which every such force and to such purpose that at last it went over and rolled several yards down a slight declivity. It was followed to some distance by the birds themselves before they could recover their bearing.

TO COLOR TIN SOLDER YELLOW

Prepare first a saturated solution of blue vitriol in water, dip a polishing stick into it with which the place to be soldered is moistened. Touch the spot thus moistened with an iron or steel wire or rod. If this is frequently repeated copper will be deposited. To produce yellow color, the spot is moistened with a mixture of 1 part of saturated aqueous solution of white vitriol and 2 parts of blue vitriol solution by means of a zinc rod. The spot is to be finally rubbed with gilt- ing powder and polished with the burnisher. In the case of gilded objects, the coppered spot should be coated with a thin covering of gum or isinglass solution, dusted with bronze powder, and after drying, brushed smooth. For silver articles the coppered place is to be rubbed with silvering powder, brushed and polished.

POISONOUS PLANTS

Some of the plants of the family Cruciferae which grow in pastures are distinctly poisonous. Among these dangerous plants are various species of mustard. The field mustard, or charlock, which is very common in many parts of France, is particularly dangerous. The black mustard appears to be less irritating, but it is not free from poisonous qualities. Its seeds seriously affect the health of cows and make their milk unwholesome. The white mustard is still less poisonous, but not entirely innocent.

THE TRANSFORMATION OF SEA-WATER INTO FRESH WATER

The belief was prevalent among the savants of the 17th and 18th centuries that a hermetically sealed earthen vessel dipped into the sea would fill itself with fresh water. At the present day it is difficult to say on what this belief was grounded. It surely could not have been evoked by experiment. In a similar sense Marsigli, the founder of oceanology, made in the year 1725 an experiment which effected the filtration of sea-water through a system of fifteen pots filled with washed garden-earth or sand and so placed as to let the water fall as if in a cascade. It is stated that the palate disclosed a definite diminution of the essence of salt. Similar assertions are everywhere current among seamen.

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The early decrease of value is explained by the mechanical attraction which every
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chemically neutral body exercises on the molecules of a substance in solution as soon as the body comes in contact with the solution. In nature, too, salt fails to effect the separation of salt. Through shipwrecked seamen it became known that relatively fresh water may be found on very low and barren coral reefs in the Pacific Ocean by digging to a trilling depth in the coral sand. It is not, however, as was supposed, sea-water freed from salt through the layers of the sand, but a spring of water that is retained by a sandy stratum and by it protected from admixture with the sea-water. Similar phenomena may be observed on the European continent. They may be considered the key to the popular belief, now contradicted, that sea-water can be sweetened by filtration through sand.

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The chief feature of the narrative, however, is adventure. The imaginative writer could hardly picture more thrilling incidents and hairbreadth escapes than those that Mr. Whitney and his Eskimo companions on their hunts for bear, walrus, or musk-ox, on the trail, on the sea, or at other times when they were overtaken by the fearful storms and hurricanes characteristic of the region. Hardly a chapter but contains an unusual adventure. Mr. Whitney is a very modest and humble, and in his record he has so undervalued the hazard and peril of many of the positions in which he was placed, that one must read between the lines to fully appreciate them.

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