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Book Notes

HENRY H. SAYLOR, Editor

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CASA DEL PONTE, AN ITALIAN HOUSE AT TOKENEKE, CONNECTICUT

The summer home of two New York bachelors that was built very economically of cement by day labor. Slee & Bryson, architects.
Italian Adaptations for American Homes

BY LOUIS BOYNTON

Photographs by Julian Buckley and others

The problem of choosing an architectural style for the American country or suburban home is one of the most puzzling that confronts the home-builder. In order to bring about a better understanding of the more common types and with the idea of clarifying, as far as possible, this whole matter, we have asked a number of prominent architects to present each the case for one particular style. In the December issue Mr. Frank E. Walts, the well known authority on Colonial architecture, told why a house of that type is the only one to build. Mr. Allen W. Jackson presented in the January issue the case for the Half-timber house. In February Mr. Aymar Embury, II., added his convincing argument for the picturesque Dutch Colonial. Mr. J. Lovell Little, Jr., told the merits of English Plaster houses in March. A number of other styles will be explained and illustrated in future issues. The Editors will gladly do all in their power to answer any questions regarding style, details or construction.

Let us begin by frankly admitting that the style employed in the design of a house should be determined by the special conditions of environment, by the material used, and by the social and intellectual characteristics of the people who are to occupy it.

For instance, it is often appropriate to build a camp in Maine or in the Adirondacks of logs, and in its place this seems the most fitting material and properly influences the "style" or character of the building. However, while one may admit this, it would not make a structure built of this material with its resultant "style" seem especially appropriate or fitting on, say, Fifth Avenue, New York. It is difficult to imagine an architect who really designs his buildings saying, "Go to, let us now design a building in Tudor Gothic or Dutch Colonial," without having first studied his problem. No; a design should grow from the conditions imposed by the site, the materials to be used and the needs of the owner and his family, and the style should be determined, almost automatically, by these requirements.

Granting all this, there are still valid reasons why an adaptation of the Italian Renaissance is the logical style to use in an increasing number of cases. Undoubtedly all good design is the result of a frank use of the materials employed; and any forcing of the materials is sure to result either in a distorted design, or in what, I think, may fairly be called "building scenery," that is to say, in constructing an effect that looks like something different from what it is.

For instance, building in frame with a covering of stucco is,
to my mind, distinctly disingenuous. Stucco represents the idea of plaster on a backing of some form of masonry—stone, brick, terra cotta, or what not, but never a cover for a wood frame.

Now, there is one question which has to be considered in building, and consequently in designing, every house; and that is the question of materials. "Of what shall we build our house?" is a question that has to be settled first of all for every case. Frequently there are only two or three materials that are to be had, without undue expense, and usually the materials of the locality are the ones to use. Rightly used, they will generally give results which seem harmonious and fitting.

Of course, in this country the tradition is to build as much as possible of wood. Formerly wood was the cheapest as well as the quickest material to use, and the idea that wood is cheap is so firmly ingrained that most people are surprised to learn how little basis there is at the present time for this belief.

For some years there has been a well marked and increasing tendency among owners and architects to try to find some substitute for frame construction. This is partly to be explained by the constant advance in the price of lumber and the fact that the difference in the expense of building in wood and some incombustible material is rapidly reaching the vanishing point; and partly by the growing conviction that the risks of fire in a wooden house are too great. People are realizing more and more fully that the extra expense of building either fireproof houses, or houses where the walls at least will resist fire, is more than justified by the added security obtained. Furthermore, the reduced cost of maintenance in buildings that do not require frequent painting is a factor that appeals more and more strongly to prospective builders, especially if they have had experience with the constant drain for repairs brought about in even a well built frame house.

Now, undoubtedly, the most economical and straightforward way of building in fireproof or semi-fireproof construction is to use straight simple wall surfaces with the minimum of breaks, and to stop the wall at an even height.

An American adaptation that shows the distinctively Italian loggia treatment for an interior courtyard. Charles A. Platt, architect

A large part of the charm evident in the smaller Italian villas is due to a well considered lack of stiff symmetry

In the living-room of Casa del Ponte (see frontispiece). Slee & Bryson, architects
zontal projecting cornice or eaves, and the simple roofs which are so characteristic of the type.

It may be said, and with some truth, that the Georgian or Southern Colonial type fulfills these requirements equally well. This may be true in some cases, but, as has been frequently pointed out, the almost entire lack of flexibility in the Colonial style makes it often difficult to use without forcing a plan into a more or less arbitrary rectangle, and in so doing distorting the natural requirements of the house.

Now, unlike the other renaissance styles, and contrary to the usual impression, the Italian work, except in the later and more formal examples, is one of the freest, most flexible styles ever developed. Even the most cursory inspection of any of the well known works on Italian villas will convince the doubter of the absolute accuracy of this statement.

During a somewhat prolonged stay in Italy, the present writer made a practice of measuring and making drawings of the most important, or at least the most interesting, buildings and details that came under his observation; and it happened, not once, but so many times that it came to be almost a commonplace, that some unexpected departure from the normal, some unperceived variation from symmetry perhaps, made a second visit necessary to check the measurements. This almost invariably resulted in uncovering some perfectly frank lack of balance which had been perpetrated in so naive a way as to elude the eye of even a trained observer.

One came to feel, after a while, that there was no such thing as absolute symmetry in Italian work, and I firmly believe that a large part of the interest in this work is due to that fact. That this subtle lack of obvious balance accounts in some measure for the strange compelling charm of the style seems no more than a reasonable deduction.

But it is in the Italian villas, which correspond most nearly to our country houses, that one sees this quality carried to an extreme that seems almost incredible. The general mass of the houses is so simple and the effect so regular that the mind scarcely grasps the fact that the windows are put in where needed for use, and without any thought of absolute symmetry, but with a wonderfully subtle sense of balance; so that the effect of a rectangular facade, with a strong shadow from long horizontal projecting eaves, is of a well balanced sym-

The Villa Bondi, Florence, might well furnish a precedent for enclosed courts in American country homes.

In the Cedarhurst house shown on page 169 the view over the trees is obtained from a loggia on the third floor level.

The Italian style may be well expressed in the frank use of plain cement blocks as used in this fireproof country home. Lord & Hewlett, architects.

Nothing can approach the Italian style in a setting of cedars such as that found at Casa del Ponte.
metrical whole—an effect difficult to obtain in any other style. Of course objection is made that this is not an "indigenous style." My own impression is that except for the Pueblos and the cliff-dwellers the only "indigenous style" is the wigwam, but I do not feel myself entirely limited to this precedent.

The fact is that our modern conditions, both material and intellectual, are so far removed from even the colonial farmer that their kind of house does not fit, at least not without such serious modification as to destroy its entity. Whereas the architecture of the Italian Renaissance is the result of an activity, both intellectual and material, which is measurably reproduced in our present conditions. And the indications are very strong that we are entering on a period of aesthetic renaissance which has a very vital impulse.

Both on the score of practical economy, therefore, of adaptability to the materials, and as representing the intellectual and aesthetic status of the present generation, the Italian Renaissance seems the most reasonable starting point from which to develop our domestic architecture, especially as regards country house work.

Of course, it does not need saying that the fact that this Italian style is not necessarily formal and symmetrical, does not make it any the less well adapted to the most formal and precise type of building.

While this type of house may be executed with equal propriety in stone, marble, brick, or concrete blocks, it is peculiarly adapted to a stucco treatment. In fact a very large proportion of the buildings in Italy, even among the finest examples, are built of stucco on a rubble stone wall. The writer well recalls passing a Florentine palace near the Riccardi in the company of an educated Italian. Something was said about the building being of plaster and, surprise being expressed, my companion, with the utmost sang froid, took the end of his umbrella and broke off a good-sized piece from what looked like a heavily rusticated stone. This, however, should not be taken as an indorsement of the vicious practice of imitating stone in stucco. There is no worse crime in the somewhat extended repertoire of an architect than this same lack of frankness.

As a rule, a stucco house, unrelieved by decoration or ornament, has a cold and rather uninviting look, and it is, I believe, for this reason that half-timber work has been so often tried, unfortunately with almost uniform lack of success. Now it is quite possible to use exterior color decoration on stucco if it is done discreetly and with good judgment.

By using simple designs and quiet low-toned color, the monotony of the plaster wall may be relieved. This method of decoration is, of course, not uncommon in the north of Italy and is found even as far south as Florence, and may be perfectly well adapted to the conditions of our modern design.
Lighting the Country Home

CONVENIENT AND TRUSTWORTHY SYSTEMS FOR LIGHTING THE COUNTRY PLACE THROUGH AN INDEPENDENT PLANT GENERATING ACETYLENE, ELECTRICITY OR GASOLINE VAPOR

BY T. E. WHITTLESEY

NOT many years ago a great draw-back to country living lay in the fact that it was necessary to put up with the nuisance and disagreeable odor of kerosene lamps. To-day one can build a country home with no fear whatever of trouble on the score of proper lighting. There are numerous systems, all having their enthusiastic advocates, any one of which will do the work that is required of it.

In selecting a system there are several important considerations to be kept in mind. In the first place, the cost of installation must not be given too much weight. The initial cost of installing a thoroughly reliable generator will be distributed over many years, and if one makes his selection solely for the reason that a plant is cheap he may be disappointed in a very short time to discover that it must be torn out to make way for a new one.

The cost of maintenance, of course, includes the fuel that is used, the repairs to machinery, and the labor involved in caring for the plant. With the use of electricity, also, it must be remembered that the lamps will have to be bought from time to time—a comparatively small item.

In a case of a country place where not only a lighting problem must be solved but an adequate supply of water must be provided for daily use and for fire protection, it would probably be well to install electricity, for the reason that the same engine used for producing current through the dynamo would be coupled up to a pump for a part of the day and both of these problems solved more economically in that way.

ACETYLENE GAS

Acetylene gas is coming to be more widely and favorably known through its use in automobile head-lights as well as for lighting the isolated country home. It has the distinction of being the whitest illuminant in general use, more nearly approximating sunlight. The gas is made from calcium carbide, a product resembling in color crushed granite and made by melting together in an electric furnace ordinary lime and coke. Until brought into contact with water the carbide is non-combustible and actionless.

An acetylene generator takes the place of the ordinary gas meter that would be had in districts supplied with common illuminating gas through street mains. In this generator the carbide and the water are brought into contact to produce acetylene gas. In some forms the carbide is dropped into the water, in others the water drips upon a pile of carbide, but in all types there are three parts to the generator—the carbide receptacle, the water tank and the gas tank. And in each type there is an automatic device for bringing the carbide and the water together just fast enough to make the needed amount of gas.

From the generator, which is usually set in the basement, wrought iron pipes lead the gas to the various rooms, and the gas is delivered through a special form of burner which consumes about one-half cubic foot per hour—about one-tenth the amount burned at a common illuminating gas outlet.

Calcium carbide costs, delivered, about $4 per 100 lbs., and this amount should make from 400 to 500 cubic feet of gas. A generator of reliable make, with piping, brass fixtures, globes and burners for 35 lights, costs from $200 up, and the cost of producing a 24-candlepower light—the equivalent of one and a half ordinary 16-candlepower electric lamps—is about four-tenths of a cent per hour. West of the Rocky Mountains the increased freight charges on the carbide bring the cost up about 25 per cent.

ELECTRICITY

There is no doubt that electricity has a strong hold upon popular favor for lighting purposes. Where a public service supply is not obtainable a plant may be installed in the cellar, stable or outhouse. It consists of a dynamo, a switchboard and some form of engine to run the former.

A combination consisting of dynamo, gasoline engine, switchboard and all equipment except wiring and installation, (Continued on page xxvi)
In the rose garden of to-day we are not satisfied with the old-fashioned bedding plants; we must have a two-story display by training half the bushes on high stakes.

Roses for the Small Place

CHOOSING THE MOST SATISFACTORY ROSES TO THRIVE IN VARIOUS LOCATIONS—BEDDING, CREEPING, ARCH AND HEDGE TYPES IN RELIABLE VARIETIES AND COLORS

BY HUGO ERICHSEN

Photographs by the J. H. McFarland Co. and Nathan R. Graves

Of all the children of Flora, none is more accommodating nor can be used in so many different ways as the Rose—rightly it has been termed a plant of many parts. You may cover walls, fences, porches, pillars, poles, arches, arbors, and even make hedges with the Rose while you cannot fill bed or border with any more lovely flower.

Unfortunately the purpose for which Roses are intended does not always receive due consideration at the time they are purchased. Too frequently are these queens of flowers selected because some friend has given a chance recommendation of some varieties which may not fit the place another has for them at all, or because the buyer was beguiled into their acquisition by some of the garish pictures which occasional irresponsible dealers are wont to hypnotize their victims, instead of buying from responsible nurserymen and florists, or because a lot of "standard" roses are offered by someone at a phenomenally low price which seems to indicate a bargain, though in reality they are worthless old stock being got rid of. In all three respects I write from experience. Buying roses without careful thought of the matter or when purchasing at emporiums whose regular business is other than that of dealing in plants is very much like a game of chance. Now and then at rare intervals I have scored, as when I acquired a rose under the name of Prince Bismarck that turned out to be a magnificent Frau Karl Druschki; but more often I have failed lamentably, and plants purchased under the grandiloquent name of "American Beauty" had to be discarded from my garden because of the insignificant flowers they put forth. They scarcely bloomed at all with all the painstaking care given them.

The half-evergreen Memorial Rose (Rosa Wichuraiana) makes a beautiful cover for banks or stone walls
For this reason it is imperative that the beginner in rose-culture should limit his patronage exclusively to dealers who may be depended upon to give him a square deal, who will not resort to misrepresentation, and who will provide him with plants that are really worth growing and which will bear transplanting. Fortunately there are many such throughout the United States and so the beginner need have no discouragement in the matter of obtaining good plants if he will go about it sensibly.

At this point we are confronted by the old question whether preference should be given to a Rose grown upon its own roots or to a budded specimen. Personally I should pronounce in favor of the latter, not only on the score of economy, but also because I have found the results in my own experience to be quite as favorable, when care has been taken, as it should be, to exclude any shoots that may sprout from the roots.

In the matter of varieties, the embryo rosarian has a wide choice. But at first, I believe, it would be advisable for him to confine himself to Roses known to be floriferous and of strong growth. To mark the progress of a vigorous climbing rose, such as the Dorothy Perkins, is one of the joys of even the smallest garden.

With reference to the purpose for which they are selected Roses may be divided into Bedding, Creeping, Arch and Hedge varieties.

The list of Bedding Roses is of course especially large and includes such garden favorites as the Magna Charta, Mrs. John Laing, General Jacqueminot, Ulrich Brunner, Clothilde Soupert, Maman Cochet, La France, Catherine Mermet, Clo, Anne de Diesbach, Prince Camille de Rohan, Paul Neyron and the Francesca Kruger. Among the newer Roses in this respect I would recommend the white and pink Killarneys, Mrs. Sharman-Crawford (pink), the Lyon Rose (chrome yellow), Reliance (pink), Dr. O’Donel Brown (carmine) and the snow-white Molly Sharman-Crawford. Of Frau Karl Druschki (white) I have already spoken. In my own limited collection this Rose and the pink Killarney have made the best showing and have combined a free-flowering habit with vigorous growth. Most of the new Roses mentioned are Hybrid Teas, which are becoming more and more popular every year and have proven just as hardy in most parts of the country as the Hybrid Perpetuals.

Among the Roses that may be interspersed with shrubbery or planted in groups to advantage the two, in my opinion, most worthy of mention are the Madame Plantier (white) and Harrison’s Yellow. Both of these are commonly known as Bush Roses, a term that is indicative of their habit of growth, and should not be selected for producing flowers for cutting.

Among the Creeping Roses I would call particular attention to the hybrids of Rosa Wichuraiana, also known as the Memorial Rose, Universal Favorite, Manda’s Triumph, Gardenia, South Orange Perfection and Pink Roamer. These roses are valuable
The Anemone Rose, a hybrid of *R. Sinica* and a Tea Rose, has large light pink flowers. These roses are excellent for covering waste ground, stumps of trees, pillars, posts, trellises, rocky slopes, gravelly embankments, and will flourish where other roses could not possibly live. They are very floriferous and delightfully fragrant.

Roses adapted to arches are also useful for training over porches, pillars, or trellises, and will do well wherever they can have support. Among the old hardy Climbing Roses that are widely known in this connection are the time-honored favorites—the Baltimore Belle, Prairie Queen, Pride of Washington, and the Tennessee Belle; but no Rose was ever more highly esteemed for this purpose than the Crimson Rambler, although rosarians justly consider the Dorothy Perkins as much superior, for its flowers are much more beautiful, being of a dainty shell-pink color and they last a very long time. But when our friend the rose-grower asserts that they do not fade, I am constrained from my own experience to disagree. However, as the Crimson Rambler does the same thing I do not see that it makes any difference. 

Among the Hedge Roses, we need only consider the Japanese Rosa Rugosa and its hybrids. They combine hardiness with freedom from disease, and elegance of foliage with beauty of fruit. They make impenetrable hedges, splendid screens, and for single specimens, clumps, and cemetery decoration have no equals. The colors of these Roses are red, white, and pink.

If large flowers are desired the tyro rosarian’s choice should fall upon the Paul Neyron, Ulrich Brunner, Frau Karl Druschki, Mrs. John Laing, and the La France, whereas the reverse may be obtained by means of the aptly-named Miniature, and the Gruss an Teplitz. The latter is also sometimes marketed under the name of the Virginia R. Coxe.

A CLASSIFICATION BY COLOR

It may be desired to arrange the Roses in accordance with their colors, in which case the following lists will prove of service:

**Pink**—Magna Charta, Paul Neyron, Mrs. John Laing, Killarney, Maman Cochet, Re-lance, La France, Catherine Mermet, Clio, Baroness Rothschild, Mrs. Sharman-Crawford, and Anne de Diesbach.

**Red**—General Jacquemino, Ulrich Brunner, Prince Camille de Rohan, Gruss an Teplitz, and Dr. O’Donel Brown.

**White**—Frau Karl Druschki, Molly Sharman-Crawford, the White Killarney, and Clothilde Soupert.

**Yellow**—Franceska Kroger, Lyon, and Soleil D’Or.
The Willow and Wicker Furniture Family

AN INTRODUCTION TO WILLOW, REED, WICKER, PRAIRIE GRASS, FIBRE-RUSH AND CHINESE GRASS FURNITURE—THEIR POSSIBILITIES IN FURNISHING THE HOME

BY KATHARINE NEWBOLD BIRDSALL

Photographs by the Author and others

T is surprising to find how few home-makers are at all familiar with the various kinds of woven furniture. One hears the words wicker and willow used almost continually as though the terms were synonymous, and both are applied to furniture made of reed or prairie grass as well as in their true sense. A few words as to their respective meanings, therefore, and the characteristics of the furniture, with some detail photographs showing the texture of the various weaves, may help to clear the matter up.

The best of this woven furniture is not only suited to the country home, the bungalow, the bedroom, but in the all-year-round living-room in country or city home, its beauty and utility can scarcely be exaggerated.

The distinguishing features between willow, and reed or wicker furniture are slight to the average eye. One will find, however, on close inspection, that willow-work is always coarser than reedwork, by reason of the willow withe being the larger. Therefore the workmanship on reed furniture is more complicated and more elaborate than willow, to give the needed strength. A wicker chair will need twelve strands of reed in a border where the same style of chair made in willow will require only six or eight to make it strong and durable.

While the heavy furniture that has been popular for some years has its advantages, it has also two great disadvantages—that of its heaviness and its gloominess. Willow brings a breath of the brookside, a flash of the sunlight from the heart of the spring.

For solid comfort, combined with artistic effect and great durability, willow furniture is a great favorite. The cheapest in the end is perhaps the most expensive in the beginning, so one should be careful in selecting ready-made pieces to observe the workmanship as well as the material. Every piece of willow furniture is fashioned by hand—every article is hand-made from the raw material, with no glue and only very occasionally a nail. The harshest criticism that has ever touched willow pieces is that they occasionally "creak". Much of this creak is due to the shellac with which some manufacturers coat the furniture; and the creak wears off very soon when the...
willow is thoroughly pliable and the made furniture however, where the piece becomes acclimated. In the best workmanship exact, the creakiness ts not noticeable.

Some of the good points in the use of willow, besides its attractive appearance, are that its color may be changed as often as desired; it may be used in the natural state at the start and may be subjected to heat and cold without damage. In its natural state it may be cleaned by the application of water; and it may even be left out in the rain without damage to the wood other than a yellowing of the strands if left continually as a prey to the elements. Even then, after years of hard use, when a willow chair in its natural color has come to look sunburned, it is still as good a foundation for dye, paint or enamel, as when it was new.

To color the natural willow is a simple matter for the home decorator. This can be done effectively with a reliable Japanese stain, supplemented by a colorless varnish or shellac. It is sometimes necessary to apply only one coat of stain; at other times a second application will be needed to secure a color to suit the eye. After being carefully applied with a brush, the stain should be rubbed gently with a cloth, to remove the excess and to make a smooth surface.

Some of the dealers in willow furniture first treat the willow with a pigment of lead, then with a special mixed color, the body of which is oil, and finally with shellac, if intended for indoor use; or with spar varnish if intended for out-of-doors. For coloring in brilliant hues, an aniline dye is used, with a finish of shellac. The willow assimilates turpentine and oil, acquiring a lasting color; if an entirely dull finish is desired, the stain is carefully rubbed in by hand and the varnish omitted. Water-color dyes are not desirable, as the colors are apt to fade, and to show the effects of the weather.

From an economic viewpoint, as well as from an artistic, it is desirable to buy the willow in the natural color, use it as it is until you wish to change its aspect, and then stain it at home with good Japanese stain mixed with turpentine. If desired to match room hangings, and you buy direct from the maker, give him the sample color and he will stain the willow to match or to tone in with the shade.

The possibilities in willow are great; for the clever workman who makes the pieces weaves from a sketch only, and can make any piece to fit a special corner of your room; and he can carry out an exclusive design. Being entirely hand-made, from raw material supplied by nature, it is quite probable that no two pieces of willow furniture are ever exact duplicates. This of course lends greatly to the distinction and artistic merit of the material.

Thus far we have spoken of furniture made only of willow. There are good points to be mentioned in connection with reed, wicker, prairie grass, fibre-rush and Chinese grass furniture, and the accompanying illustrations will serve to make clear the differences in texture and general appearance between these various materials. Reed or wicker may be bought "in the white" and colored afterwards in very much the same way as willow furniture, but with the remaining materials the pieces usually are sold already stained and cannot readily be altered.

To the housekeeper who has much of her own work to do, this light furniture helps to make a game of housework that might otherwise be drudgery. Dust which will settle on the flat surfaces presented by modern furniture will miraculously disappear from the rounded surfaces of the woven natural materials.

The chairs and settees are often used without cushions, especially for summer, but may easily be made to suit any room with cushions of a color to harmonize with the walls; or, if desired, with the woven material itself colored in a harmonizing shade. Figured cretonne cushions are used extensively, for back, sides
IV. THE IMPORTANCE OF FREQUENT AND REGULAR CULTIVATION OF THE GROUND TO KEEP DOWN THE WEEDS AND TO HELP THE SOIL TO RETAIN MOISTURE

BY F. F. ROCKWELL

The experienced planter does not need to be told very much about keeping his garden clean. He knows that if his crops are cultivated as they should be the weeds will never have a chance to get a start. The frequent stirring of the soil so essential to the best growth of plant life, if it is thoroughly attended to, makes the matter of keeping down weeds a side issue. There is an enemy much more insidious than Weeds, which must be fought to a finish by the gardener who hopes to be successful. It is crusted soil, that keeps out air; crusted soil, that lets out water. And yet the Weed bugaboo is so thoroughly fixed in the general horticultural imagination that I have had to use "weeds" in the title of this article, rather than risk scaring readers away with such an abstruse statement as "Cultivate to conserve soil moisture!"

Plants need to breathe. Their roots need air. You might as well expect to find the rosy glow of happiness on the pale cheeks of a cotton-mill child slave, as to expect to see the luxuriant dark green of healthy plant life in your suffocated garden. You will look in vain—and then most likely turn away from your meagre and tasteless crops, prematurely in the sere and yellow leaf, and say unpleasant things about those deceptive magazines which inveigled you into venturing upon the sea of horticulture. The fault will be your own—the trouble not with the sea but with your leaking boat. Admit air to the roots of your plants by frequent cultivation. Though the leaves are really their lungs, still the root system requires also a certain amount of air, just as you would suffocate to death if your pores were all tightly closed.

There is another reason why the surface of your garden, especially about the plants, should be broken up, and be kept broken up, sufficiently to admit air freely. The food for plants, to a large extent, has to be what we may call predigested, that is, supplied in a very assimilable form, especially for some of the quick-maturing crops. The chief ingredients of plant food (nitrogen, phosphoric acid and potash) may be in the soil in abundance, but unless they are there in a form ready to be assimilated easily by the feeding roots of the plant, it may starve, on the principle that one would not grow very fat on a diet of frozen meat and vegetables. Air and water are both necessary to "convert", as the gentlemen with spectacles say, this raw plant food to a form in which the plants can use it. But long before they made their discovery, the man with the hoe observed that he must keep the soil nicely loosened about his growing crops, and that water was necessary, if they were to do well. Even the lanky and untutored aborigine saw to it that his squaw not only put a bad fish under the hill of maize, but plied her shell hoe over it.

Important as the question of air is, that of

Grow Your Own Vegetables

TO KEEP DOWN THE WEEDS AND TO HELP THE SOIL TO RETAIN MOISTURE

THIS is the fourth of a series of articles which will cover in a thorough and practical way the subject of amateur vegetable gardening. The aim is to furnish the information covering every detail of what to do and in such a form that it will be clear to the very beginner just how to do it. Each article and its tabular data will give the information needed at the time of its publication, so as not to confuse the home-gardener with an overwhelming quantity of detail; that is, the reader will learn what is to be done at the proper time for doing that particular thing. Those who follow the suggestions made, from the selection of seed to the storing of winter vegetables, may confidently expect a successful garden. — Editor.

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If you have a wheel hoe with the drill seeder attachment the whole process of planting can be done with little more effect than walking up and down the rows: The cost is $11.

Water ranks beside it. You may not see at first what the matter of frequent cultivation has to do with water. But let us stop a moment and look into it. Take a strip of blotting paper, dip one end in water, and watch the moisture run up hill, soak up through the blotter. The scientists have labeled that "capillary attraction"—the water crawls up little invisible tubes formed by the texture of the blotter. Now take a similar piece, cut it across, hold the two cut edges firmly together, and try it again. The wetness refuses to cross the line: the connection has been severed.

In the same way the water stored in the soil after a rain begins at once to escape again into the atmosphere. That on the surface evaporates first, and that which has soaked in begins to soak up through the soil to the surface. It is leaving your garden, through the millions of soil tubes, just as surely as if you had a two-inch pipe and a gasoline engine, pumping it into the gutter night and day! Save your garden by stopping the waste. It is the easiest thing in the world to do—cut the pipe in two. And the knife to do it with is—dust. By frequent cultivation of the surface soil—not more than one or two inches deep for most small vegetables—the soil tubes are kept broken, and a mulch of dust is maintained. Try to get over every part of your garden, especially where it is not shaded, once in every ten days or two weeks. Does that seem like too much work? You can push your wheel hoe through, and thus keep the dust mulch as a constant protection, as fast as you can walk. If you wait for the weeds, you will nearly have to crawl through, doing more or less harm by disturbing your growing plants, losing all the plant-food (and they'll take the cream) which they have consumed, and actually putting in more hours of infinitely more disagreeable work. "A stitch in time saves nine!" Have your thread and needle ready beforehand! If I knew how to give greater emphasis to this subject of thorough cultivation, I should be tempted to devote the rest of this article to it. If the beginner at gardening has not been convinced by the facts given, there is only one thing left to convince him—experience.

Having given so much space to the reason for constant care in this matter, the question of methods naturally follows. I want to repeat here, my advice of last month's article—by all means get a wheel hoe. The simplest sorts cost only a few dollars, and will not only save you an infinite amount of time and work, but do the work better, very much better than it can be done by hand. You can grow good vegetables, especially if your garden is a very small one, without one of these labor-savers, but I can assure you that you will never regret the small investment necessary to procure it.

The wheel hoe, however, will not do away entirely with the work of hand hoes and hand weeders, and to the uninitiated brief descriptions of the various forms of these, and their uses, will be of some assistance.

The iron garden rake I mention first, because it can be used within a few days after the garden is made, and several days before the little seedlings are above ground, to rake, very lightly, crossways over the rows, thus destroying the first crop of weeds, and also to prevent the soil from crusting over, as it will tend to do after a rain.

The ordinary hand hoe is familiar to everyone. It is usually constructed with a blade six to nine inches wide and half that in depth, and is still employed more universally than any other single agricultural implement, because of the wide variety of use to which it can be put. It is used to open up drills or dig out hills for seeds, to cover the seed and firm the earth over it; and when the little plants push through, to break and loosen the soil about them, and to cut off and dig out weeds. Then, later, to keep the rows between the plants loosened up and clean, and to draw moist fresh earth about such plants as require it. In the infancy of agriculture—and half a century ago it had hardly been weaned—the hoe had to be made pretty heavy to stand all the rough work required of it. But now there is a modified form, often listed in the catalogues as an "onion hoe", which is much smaller and lighter, much easier and more rapid to use, and which, for opening up drills for small seed, and cutting out small weeds about plants in the rows—after the wheel hoe has taken care of the spaces between, is in every way preferable. In my own work, even in field culture of such rank growing crops as potatoes and corn, except for heavy soils, it

Try to get over every part of your garden, especially where it is not shaded, once in every ten days to break up the surface crust.
has almost entirely supplanted the regular pattern. Then there is the "Warren" hoe, made especially for planting. Its heart-shaped blade will open up and cover furrows more rapidly, but not much better, than the ordinary hoe. The "scuffle" hoe is used for crops grown in narrow rows, especially during the latter part of their growth, but since the advent of the wheel-hoe, there is little use for it.

For some crops, such as onions, beets, carrots, and many others, you will find it necessary to use, while they are small, one of the various hand weeders on the market. This work is the most tedious connected with gardening, and will require the use of the fingers as well as the weeder, and much of the work must be done on hands and knees. But when one becomes accustomed to it, and, particularly in a small garden, it may be very pleasant work. Of the many hand weeders, personally I prefer Lang's, which has a bent solid blade, and most of our men seem to like it best too, but the individual must suit himself. They all assist in the work, and only practice can teach which may be best adapted to any one person. But whatever tool is used, the work of hand weeding must be taken in time and done thoroughly. Weeds must be pulled or cut out below the surface, or they will soon sprout again, more vigorously than ever. Every inch of the soil must be broken or stirred, or the hundreds of little weed seedlings, many of them not yet above ground, will not be destroyed, and they will mean work increased manifold a few weeks later, besides injuring the crop.

Both hoeing and hand weeding will be reduced to a minimum by the use of the wheel hoe. An attachment for hilling, or throwing the earth from the center of the row to and about the stem of the plants, may be had to go with it. The catalogues sent out by houses making these machines give many valuable points as to their various uses that lack of space prevents my describing in detail here.

The labor of both hoeing and hand weeding will be reduced to a minimum if you will spend a few dollars for a wheel hoe

With beans, the ground may be worked over more deeply than with some of the other vegetables. Hoe the earth up about them a little each time
Floor Coverings for the Summer Home

THE AVAILABLE RUGS, MATTINGS AND CARPETS IN WHICH MAY BE FOUND WEARING QUALITIES AND GOOD DESIGN AND COLOR—HARMONIOUS TREATMENT OF THE FLOOR BOARDS

BY MARGARET GREENLEAF

Photographs by H. Shobbrook Collins and others

In making the selection of floor coverings for the summer home there are two points which should be held well in mind: first, the character and color of the furnishing and decoration of the room in which the rug or carpet will be introduced; and second, the quality of the textile itself. While to many people it would seem that these points should be reversed in importance, we purposely put them in this way; every good housewife will look for quality in purchasing the fittings for her home, therefore this feature will take care of itself, while unfortunately the necessity for harmony in color and design of the floor covering with the other furnishings of the room is not always sufficiently considered.

There are manufactured to-day some excellent inexpensive domestic rugs, and these offer a much wider choice than was afforded a few years ago, when one was practically limited to matting, rag rugs, and art squares of impossible colors and patterns. One of the best all-wool rugs now made, which is well suited to a house of the bungalow type or on Craftsman lines, comes in delightful colors—rich mulberry red, golden and chocolate brown, dull blue, sage green, and mahogany. These rugs show a two-toned border effect, while the body of the rug shows the lighter tone. Some of the designs have spaced conventional figures in a lighter shade of the same color, or in ivory or black on a plain field. These rugs are hand-woven and of heavy wool and give good return for the money expended for them. In size 9 x 12 ft., the price is $36. The next stock size is 7 ft. 6 in. x 10 ft. 6 in., which costs $27.50. They may be obtained as small as 2 ft. 3 in. x 4 ft. 6 in. for $1.50. These rugs can also be made in special sizes and combinations of colors to order at about $3 a square yard. Where there is a pronounced figure in the side walls and draperies such a floor covering is particularly effective.

There is another style in all-wool rugs known as the "Scotch Art" rug. It is reversible and made in a great variety of colors, running largely to the more delicate tones, and is particularly suitable for bedrooms. These can, however, be made to order in any size or color. In size 9 x 12 ft. they cost $27.50. The smallest stock size is 1 ft. 6 in. x 3 ft., and costs $1.75.

Then, too, for bedrooms there are rugs made after the old rag rug of our grandmothers' days. These are sold under various trade names, among them the Priscilla, Pilgrim, and Rag-style rugs. These are all very good makes. The Pilgrim sells in size 9 x 12 ft. for $22.50. The Priscilla is a cheaper grade and sells in the same size for $18.

The best among the cheapest rugs to be found are those of matting made of heavy twisted straw. They come in good designs and colors, and frequently are found very effective in completing a color scheme for a summer cottage.

With the approach of the season for cool furniture coverings and the removal of heavy hangings, rid your floors of carpets, re-finish the floor boards and consider which of the many available kinds of rugs will make the floors look cool and inviting. In furnishing a modest priced bungalow, the floor coverings can be of the simplest type and yet the finished effect be thoroughly satisfying and practical.

In the large living-room, which is a usual part of the plan of such a house, if the walls are of rough plaster tinted in a shade of dull tan, the floor of yellow pine should be stained to a light brown tone and finished with a material which will supply the effect of rubbed wax, but which is more durable and does not require renewal. The hard usage to which the floors of a summer cottage—particularly in the mountains or at the seaside—are subjected makes the question of the finish given the floors an important one. A "Bungalow rug" in two shades of brown, almost matching the color of the woodwork, would look well in a room of this character.

If the size of the room requires it, this central rug may be complemented by two runners of the same weave and color. With the plain walls and the two-toned floor covering, figured draperies, cushions, etc., should be introduced.

For the dining-room, where the walls may be Delft blue in tone, and the woodwork stained a lighter shade of brown or treated with white enamel, the floor should be given the same color and
The pronounced design and vigorous coloring of this rug make plain walls a necessity. Finish as the adjoining room. Here a matting rug would fill all requirements and look well, besides being extremely inexpensive. Such a rug has also to recommend it the ease with which it may be removed on cleaning days. A design in dull blue and green of Chinese suggestion might well be selected. A good effect is obtained by using rough scrim curtains at the windows with this pattern stenciled as a border (in smaller size) reproducing the green and blue of the rug.

Where the house is old and the floors are not in condition to be exposed, matting by the piece can cover all floors attractively. A heavy padding of quilted paper should be placed beneath the matting: this preserves it, as well as making the floor covering more agreeable to the tread. With this treatment for floors, rugs may or may not be used, as desired. A beautifully cool and dainty effect is obtained where no color is introduced on the matting-covered floor. Where walls are light in color, and much gaily-flowered chintz showing a white or ivory ground is employed, the finished room is dainty and attractive.

A very special interest has been aroused recently in old Chinese rugs, as some very beautiful specimens of these have been on exhibition in New York during the past year. The wonderful tawny yellows, dull bronze, copper, blue, and gray tones these show are a revelation in color quality. The price of these rugs is prohibitive to the majority of people and their rarity makes them almost museum pieces, but it is interesting to note that some modern Oriental rugs of the Mahal family show similar colors, and while the designs in these carry only a general suggestion of the Chinese characteristics the whole effect is reminiscent of the more costly rug.

Such a rug is really a wise investment, as it lends itself well to the decoration of any room which is not too delicate in treatment. In about 13 x 15 ft. size such a rug may be purchased for $300 or a little less. These rugs, of course, are suitable to interiors fitted for all-the-year-round use or to the more elaborate summer home.

Also the Body Brussels, the Royal Wilton, the Axminster, and other good and well known makes of domestic rugs give satisfactory service in such houses. In selecting any of these, however, much care must be taken to find those of good design and soft colors, as the time has evidently not yet arrived when the maker produces only harmonious and beautiful effects in floor coverings.
Practical Talks With Home-builders

VII. SECURING AN ADEQUATE SUPPLY OF GOOD WATER—THE PROCEDURE IN CONTRACTING FOR AND DIGGING WELLS—GRAVITY TANKS AND AIR PRESSURE SYSTEMS

B Y A L E X A N D E R B U E L T R O W B R I D G E

(This is the seventh of a series of intimate, helpful talks with those who are about to build. The aim is to offer untechnical suggestions to prospective home-makers in the hope that many of the usual mistakes and difficulties may be avoided through foreknowledge. The talks are written for those of moderate means rather than for those to whom economy is no object.—Editor)

HOSE who build in the open country, outside of the water service of a town or corporation, should take the matter of water supply into consideration even before the house plans are very far advanced. No building site, however alluring, is worth considering if it is not supplied with plenty of good water.

Unless the ground is very rocky the location of a well is not dependent upon any fixed rule. Driving a well consists in forcing a 4-inch, 6-inch or 8-inch pipe into the ground by means of special machinery not unlike that of a pile-driver in operation. An ingenious form of plunger is used to remove earth, sand and gravel from the interior of the pipe. The well is brought to the spot in sections 8 feet or 10 feet long, the separate lengths being screwed together as the pipe descends into the earth. The top of the pipe is protected from the blows of the hammer by a large wooden block.

Generally it is impossible to foretell the depth at which water in abundance will be found. If wells have been driven in the near neighborhood a guess may be made which will enable a contractor to submit a definite figure for the work. Even then he takes chances, for the water-bearing stratum may slope downward from the neighboring property, thus giving him a deeper problem to solve. If a well-driver is required to give a definite bid, guaranteeing to find plenty of water, in a locality not entirely familiar to him, he will put up his price to cover a possible loss. For this reason the most satisfactory method seems to be to ask for estimates per foot of depth. The contractor will drive the pipe until he reaches a water-bearing stratum of gravel. If, in his judgment, the stratum looks favorable, he will test with a pump the quality and quantity of the water. If, then, he believes the supply is ample he is ready for a 24-hour test. This consists first, in timing the operation of filling a 50-gallon barrel. The strokes of the pump are timed and counted. At the end of 24 hours of continuous pumping the same operation of filling the barrel is tried. This time the speed of the pump is carefully kept the same as it was during the first test. If there is no apparent diminution in the supply the test for quantity may be accepted as satisfactory. For quality a chemist should be engaged to analyze the water in a laboratory and submit a signed report. It is obviously impossible for an owner or an architect to be present during the continuous 24 hours of pumping, so the word of the contractor must be accepted for a large portion of the test. It is to his interest to produce a good well, so it is not worth while to worry over the danger of being deceived in this test. The best way is to deal with a first-class contractor who has many references of satisfied owners to speak for him.

In letting a contract the specifications should cover the additional cost per foot of a brass screen which is placed in the bottom of the well to keep fine gravel and sand from getting into the water. Also it is wise to have some provision for extra pay in case rocks are encountered during the driving; otherwise you will pay a higher per-foot rate. The depth of the well may be readily measured by means of a weight and a cord, also the depth of the water in the well. In a recent case a well was driven to a depth of 70 feet and in the process the pipe went through two minor strata of gravel before the contractor believed it was time for a 24-hour test. The third stratum was about 10 feet thick. The water rose in the well to a height of 30 feet, at which point it remained approximately stationary. These figures were necessary before the stroke of the pump and the horse-power of the engine could be calculated.

The customary methods of storing the water supply are: a tank in the upper part of the house; a tank raised on a trestle or placed in a water tower; and an underground supply under air pressure. For large places, where the tank and trestle may be hidden among trees, or where a picturesque water tower may be built, the gravity system seems to be acceptable. The engine chosen to operate the pump is obliged to lift the water much higher in this system than in the underground storage system, and must, therefore, have greater horse-power. Windmills are still popular in some sections of the country, but their chief objection seems to be the danger of a protracted calm. For small places where the unsightly tank in the air cannot be considered, the pneumatic system is excellent. This consists of an air-tight iron storage tank, buried a few feet below the surface of the ground, joined to a machinery group consisting of a pump, an air compressor and an engine or motor. By means of belts, shafting, etc., the engine is coupled to the pump or to the air compressor independently or to both at the same time. When the tank is ready for use it has two-thirds of its capacity occupied by water and the top filled with air under a pressure of 40 lbs. to 60 lbs. A gauge gives the desired information as to pressure, and a glass tube tells how high the water stands in the tank. A cylinder 6 feet in diameter and 30 feet long will hold, when two-thirds full, about 4000 gallons of water. The amount of pumping needed per day varies with the family life. In summer when shower baths are popular and the laundry work is at the high-water mark, it might be necessary to pump for an hour each day, whereas a half hour would suffice in winter. If, at the end of a day, the pressure weakens by a reduction of the stored water, the air compressor may be coupled to the engine and in a few minutes the pressure will be sufficient to hold through the night. This is worth while as a safeguard against fire.

Some of the companies that make and install these pneumatic systems recommend the use of internal combustion engines in preference to electric motors. There are two sides to this question. If a house is to be used throughout the year and the pump room is not heated, there is great danger of injury to the engine through freezing of water in the cooling jacket. A draining cock must be inserted and the jacket completely drained each day. Also, the engine is hard to start in cold weather. The electric motor responds instantly to the closing of the switch and is affected by outside troubles only when the wires are down in a heavy storm. So the problem is governed largely by the character of the house, whether it is for summer use only or whether it is an "all the year" house.
One of the most natural and reasonable places to plant flowers is in a border edging the house or along a path.

The Part Flowers Play in Garden and Landscape

WHERE FLOWER BEDS MAY BE EFFECTIVELY USED AND WHERE THEY BECOME EYESORES—SUGGESTIONS FOR FLOWER BORDERS AND FOR COLOR ARRANGEMENT

BY GRACE TABOR

Photographs by Nathan R. Graves and others

[The eighth of a series of articles by Miss Tabor on the subject of landscape gardening as applied to the American home of moderate size. Preceding articles in the series have appeared under the titles: "Utilizing Natural Features in Garden Making" (Oct., 1910); "Getting Into a Place" (Nov.); "Formal or Informal Gardens" (Dec.); "Screening, Revealing, and Emphasizing Objects or Views" (Jan., 1911); "Boundary Lines and Boundary Planting" (Feb.); "Planting Trees for Air, Light and Shade" (Mar.); "Planting Shrubs for Mass Effects" (Apr.). Questions relating to further details and planting information will be gladly answered.—Editor]

I t is decidedly contrary to our American ideas, but it is nevertheless a fact that a garden may be absolutely flowerless—and yet be lovely. And on the other hand, one may have quantities of flowers and yet have no garden in the true sense. In other words flowers do not make the garden, revolutionary though the thought seems at first glance. The conception of them which immediately establishes their real place holds them to be the garden's jewels—the bright gems with which its design is embellished and "picked out" as a jeweler would say. They may be used in quite as lavish abundance with this idea prevailing as any enthusiast can wish—but they will be used quite differently from the customary fashion of planting wherever fancy strikes and the space presents itself.

However beautiful the ruby, the opal, the sapphire may be, lying unset within one's hand, none will deny that their loveliness is brought out and shines to far greater advantage when the craftsman has worked them into proper relation with each other, and with the metal that forms a clearly thought out and purposeful pattern around them, as it supports and binds them into place. And, to carry the analogy still farther, the designer gives the eye intervals of rest from the dazzle of precious stones in a piece of jewelry, which correspond exactly to the relief from color and brilliance which should be provided for it in the garden.

The rule of contrast that came in for attention when light and shade were under consideration, here presents itself again. Applied to the question in hand, it shows us at once that there must be places where no flowers bloom, in order to accent and emphasize the flowery spots—and it more than hints that the secret of brilliancy and a spirited liveliness in the garden lies in the liberal use of white-flowers—because, of course, white furnishes a much more vivid contrast with many colors than green, and contrasts more vividly with green itself. Indeed, white blossoms are, in
FLOWER BEDS

One way, the most precious of all—the diamonds of the collection, that enhance the colors of all they are brought in contact with and at the same time reconcile them one to another, when they are inclined to clash.

But this I mention only in passing; the questions that have to do with color are premature just here, for the first proposition must deal with the locating of flowers in the garden—with the manner of determining their place in any particular garden design.

FLOWER BORDERS

Sometimes it is easier to find out what to do by eliminating the things that ought not to be done, and I think this is especially true of gardening, from the landscape or pictorial side. We have grown so accustomed to doing it wrong that the habits are fixed, and we cannot oust them by the accepted plan of ignoring them and cultivating the right ones in their places. They simply will not be crowded out, even though the better ideas are acquired, but crop up continually like noxious weeds. So up by the roots let us drag them and start anew.

First, here is the flower bed habit, almost the greatest abomination of them all! It is going to die hard even with those who truly wish to kill it—and many there are who will not wish to, for its star and crescent and circle and triangle forms have so impressed themselves upon its victims that they cannot see a stretch of smooth and velvet turf without an instant temptation to fall upon it and carve some one of these figures from its heart.

But lest I seem unduly prejudiced let me hasten to say that there are places for flower beds—a few places—and that, in their place, I am not objecting to them in the least, although I have never been able to see any beauty in the gmcrackery which shapes them on the elaborate lines that good, wise old Bacon dismissed contemptuously with "They be but toys; you may see as good sights many times in tarts." He spoke of the parterre filled with colored sands instead of flowers, to be sure—but the fancy beds of to-day are the direct descendants of these sanded parterres, "knots or figures with divers-coloured earths."

A flower bed brings us again to the flowers' likeness to jewels, for properly placed, a bed occupies a position in the garden corresponding to the position of a properly used jeweled pin or buckle on a robe. (I say "properly used" to evade the dictum of fashion which is sometimes known to strain a point for the sake of adding a little extra trimming.)

A study of the costume of any well clad race will show at once that sash clasps two portions of a garment together or hold the folds of some drapery in place; that buckles buckle something. Indeed by going back to derivatives the idea can be emphasized still more, for "buckle" comes from "bocle," which is the boss at the center of the ancient skin-covered, wicker-woven buckler or shield—the meeting and gathering up of the wicker at the center being the reason for the prominence.

Here is exactly the demonstration of reasonable and proper use that we need; likening the flower bed to a jeweled buckle, it is at once apparent that the places for it must be focussing points in the general design—centers, not necessarily in the midst or middle of the general scheme, but rather points to which the strong lines of the design converge possibly, or from which paths branch. In such positions a flower bed of simple form—circular or oval or conforming to the lines which approach it—is in good taste. Elsewhere it is exactly what an elaborate jeweled buckle or pin is, when attached to a gown in some utterly and obviously useless position—a gaucherie of which one does not like to feel oneself capable.

The beds which carry out the design of a formal garden are of course exempt from this condemnation, having as they do a very real place in the design. These too, however, are of the simplest form and outline—if the designer is an artist—and are so arranged as to give the relief already spoken of which comes of suitable spacing. All other flower beds fall under the ban—or better, let them be taboo to those who want them—and who, for wanting them, deserve them.

FLOWER BORDERS

Ever and ever again recurs one question in every branch of landscape planting, and that is "Is there a reason for it?" Not simply the personal reason of liking or disliking any particular thing, but a real reason, based on logic and good sense and utility; that is the kind that must be advanced to gain the approval of the highest standards. And that is the kind that may be advanced for the garden form known as a "border." The name alone implies that.

A border follows something, borders something, ornament something; is an attribute of something greater than itself, is secondary to some more important thing, to a conception of a whole—in the case of a garden secondary to some particular portion of it, taken as a whole. Possibly it follows a walk or drive, or the side of a building, or the line of a terrace, or the margin of a lawn; it really doesn't matter what, so long as it follows something. So long as it is truly a border be sure that it cannot go wrong; the limitations of that definite name will keep it what it ought to be.

And it may be straight and narrow, like the path of virtue, or
it may dawdle along in all manner of curves, according to the thing it follows. That is a matter that settles itself; likewise its length is pre-determined and sometimes, though not always, its width. A border that can be reached from both sides can of course be wider than one which must be tended from only one.

Generally speaking, it is safe to say that walks within private grounds ought always to have a border, on one side anyway, if not on both—the exigencies of the situation will decide this—and the hedge, fence or lattice divisions between different parts of the grounds also invite such treatment, invariably. I should, however, hardly call the planting of perennials in the foreground of shrubbery, a border in themselves, for they are placed intermittently when thus used and only when they and the shrubs are considered together, does a “border” result.

COLOR AND GENERAL ARRANGEMENT

Any wild roadside border where Nature has been allowed to have her way undisturbed, is usually an unrivalled object lesson in planting, for both color and mass. One of the loveliest borders I have ever seen followed the bank of a tiny brooklet as it meandered across a meadow which lay at the foot of a gentle slope, whereon dwelt some splendid beeches. Here Nature and Art combined and from early, tender spring until the lusty autumn, color succeeded color in the magic broderie that fringed the little stream and divided the pleasance from a hay field beyond. Only the native plants and “weeds” had found lodgment there, and it was wild in the best sense of the word. One thing or another dominated it at different times during the season, but there was never an unbroken line of bloom the entire length of it. Early in the summer clumps of iris, bearing a scattered dozen blossoms, broadened suddenly here and there into great masses which presented a marvel of almost solid blue, but these gave way to long stretches of vari-colored green where no blossoms were. Later, marsh mallows spread their pink loveliness like rosy clouds at intervals; daisies flourished in dazzling whiteness, and elder and the meadow sweet; then came goldenrod, and white and purple wild aster. Each month brought its dominant note, but always there were quantities of green and plenty of white, so nothing ever clashed, though each strong color held over until its successor was well established. And the whole length of the border—several hundred feet—was always a treat for even the weariest eyes or head, every day, all summer.

Here then is one of the fundamental secrets—if secrets they be—of planting a border, or, speaking more broadly, of planting flowers. Let there be a succession of dominance, not merely a succession of bloom; let one color in different shades be repeated, here in a mass, there in a few f rugose blossoms throughout the whole. By this I do not mean that other colors are to be excluded, by any means—but everything should be secondary to blues when blues prevail, to yellows when they lead, to scarlet, to pink, to any dominant hue.

Of course this means that clumps, varying in size, of the leading varieties chosen should be planted more than once and possibly several times in the length of a border. These, blooming simultaneously, carry the color throughout the whole; then, when they have finished blossoming, they furnish the necessary intervals of green, while their neighbors, who have been their green reinforcement, go on with the procession under the color which they have to offer. White-flowered plants of one kind and another will supply blossoms to keep each delegation company, while odds and ends, planted one kind in a group here, another kind there, may fill in the “chinks” and give sufficient variation to stimulate interest.

In other words a multitude of colors may and should be present at all times, but in this multitude one should always be more in evidence than the others. It is practically the same as a color scheme in anything else: a gown, a room, a jeweled bauble, a picture—each one has its color motif. Other colors appear, complementing sometimes, contrasting or harmonizing, as the case may be, but always secondary to the leading color; and if this is not so, what a disastrous failure any one of the things mentioned is sure to be!

Certain tones dominate when used in much less quantity than others. Yellow for example comes right out and shouts wherever it appears, and for this reason less plants producing yellow flowers are needed than of any other hue. Blue, on the contrary, continually retires, consequently it must be used in profusion; this is true of the purple also, only in less degree. Red stands about midway between the yellow and blue, growing less obtrusive as it grows darker.

Remember, too, that blue is the color to use when a sense of distance in small space is to be produced, or actual space exaggerated, while yellow diminishes space in rather more than inverse ratio, bringing even remote points forward and into the picture in a sometimes startling fashion.

The kinds of flowers to plant are of course largely a matter of individual preterment. Annuals, lovely though they may be can hardly be seriously considered in a composition that must, primarily, be permanent in order to enjoy that charm which is (Continued on page xiv)
The most important requirement for growing good celery is a rich, moist soil. It is readily raised in the small back-yard garden, where adequate irrigation is easily possible.

Celery-growing for Everybody

STARTING THE PLANTS FROM SEED OR SEEDLINGS—THE REQUIREMENTS IN SOIL AND CULTIVATION TO GROW 400 BUNCHES ON TEN SQUARE FEET—A SIMPLE AND SATISFACTORY METHOD OF BLANCHING

BY DR. C. D. JARVIS

Photographs by the J. H. McFarland Co., and N. R. Graves

It is remarkable that celery should be left out of so many home gardens. Contrary to the general belief, it is not a difficult crop to grow. Success in this direction is dependent upon the supplying of a few modest needs. The most important requirement is a rich, moist soil. Celery is well adapted to growing in the back yard, for there is probably no vegetable crop that responds so readily to good treatment. During the hottest days in the summer it is greatly benefited by irrigation, and water is usually available in the small back-yard garden.

Celery is one of our hardiest vegetables, being able to withstand several degrees of frost. For early use it is set out in the field as soon as the ground can be fitted. The late crop is usually planted in July and left in the ground until the ground freezes, making its best growth in the fall when the nights are cool. There is seldom any trouble from insects and diseases. The celery worm sometimes appears but can be controlled easily by hand-picking. The disease known as rust seldom causes trouble and may be prevented by spraying the young plants with Bordeaux Mixture.

THE EARLY CROP—SOWING THE SEED.

Although many who begin this year their first celery raising will purchase the young plants all ready for setting out, it will be interesting to learn how the early crop is started, against being ready to start one’s own seedlings another season.

The seed for the early crop will have been sown about the first of February, or two months before planting time, a “flat” about twelve by eighteen inches in size having been employed to grow enough plants to supply the average family with all the celery it can use. Such flats are easily made from wooden soap boxes, which may be obtained at any grocery store. The flat, when prepared for early plants, is filled with fine rich soil. Ordinary garden soil will answer the purpose, but it is greatly improved by mixing in some well rotted stable manure or leaf-mold. The addition of sand likewise improves a heavy clay soil. The soil is sifted into the flat and the seed sown in rows about two inches apart. After dropping the seed, about a quarter of an inch of soil is sifted over them and the soil firmed down with a short piece of board or block. The flat is then watered liberally and placed in a warm position. To prevent the seeds from being washed out, a piece of moist burlap or cheese-cloth is thrown over the surface. The soil is not allowed to become hot and should never be re-watered until required. When the plants begin to push up through this ground they are placed in a window where they will get the most light.

PRICKING OUT

When about an inch above ground the little seedlings are ready to be pricked out. The object of pricking out is to give the plants more room and to encourage the development of a large root system. The seedlings are then watered and then transferred
one by one into other flats, setting them about an inch apart each way. A better root system may be formed if the tap-root is removed in every case. In about two weeks, when the plants have started to grow nicely they may be transferred to other flats again, giving them a little more room. This second pricking out is not necessary but tends to make stockier plants. About two weeks before planting time the young plants should be placed outside during the day to harden off.

**TRANPLANTING**

There are several methods of growing celery, but the one most satisfactory for small gardens is the trench method. A trench about eight or ten inches in depth is dug and about half filled with well rotted stable manure. The manure should be mixed thoroughly with about the same quantity of fine soil, leaving the trench nearly filled. The plants, after watering, are taken from the flats, and set about five or six inches apart along the trench. In setting the plants it is important to firm the soil well around the plants. The tips of the leaves are usually cut off at the time of transplanting to prevent excessive transpiration. They should be shaded from the hot sun for several days after planting. This may be done by placing boards over the trench. The plants should be shaded only when the sun is very hot. Every precaution should be taken to prevent the plants from drying out. There is danger also of having them too wet. As the plants become larger they are wet with dew or rain. The growing of the late crops for fall and winter use differs very little from that of the early crop. The seed for this purpose is usually sown about April in a hotbed in the garden and the seedlings transplanted once or twice before being set in their permanent position. The late crop of celery usually follows some other crop such as beans, peas, radishes, lettuce, or beets and is not planted until about the middle or last of July. The blanching may be done in the same way as described for the early crop, but where there is plenty of room the rows may be farther apart and the plants blanched by banking them with soil. This is done by grasping the plant with one hand and packing the soil tightly around it with the other. More soil is then banked up against the plants with a hoe. In order to get enough soil for this purpose the rows should be at least four feet apart. In small plantations, however, the necessary soil may be carried in with a wheel-barrow. To avoid so much hand work the leaves may be tied up with black twine or yarn. The string may be attached to a stake at the end of the row, twined around each plant, and the other end fastened to a stake at the other end of the row. The soil then can be banked up with a hoe without the preliminary handling. The important part about blanching is to keep the light entirely away from the leaf-stalks, leaving only the tops of the leaves exposed.

**STORING THE SURPLUS**

The most convenient way to store celery on a small scale is to cut off the bulk of the roots and pack tightly in boxes. The boxes should be about two feet deep and each supplied with three or four inches of light soil or coal ashes, into which to pack the bases of the bunches. The soil should be kept moist, not wet, by pouring water through a long-throated funnel. If any water should get on the leaves it is likely to produce disease. The boxes should be stored in a cool, dark cellar or shed. If stored in this way and kept at a uniformly low temperature, it is possible to preserve it in good shape till the following spring.

**IN CONCLUSION**

There has been a widespread impression among amateur gardeners that celery is one of the very difficult crops—one to be attempted only if one had the assistance of an expert gardener. From the foregoing instructions it will be understood, I trust, that celery-growing is a comparatively simple matter after all, and there is no doubt that the home-grown fresh product amply repays the little care expended upon it.
The windmill is not merely a decorative feature of the estate; it actually supplies...
Supplied with all its water, the thatching was done by a lately arrived Irishman.
Lyndanwalt is a splendid example of forehanded planting. Vines were started almost before the carpenters left and as a result the five-year-old house is thoroughly blended with its site. Oswald C. Hering, architect

"Lyndanwalt"

AN AMERICAN ADAPTATION OF AN ENGLISH FARM—A COUNTRY HOME NEAR GERMANTOWN, PA., THAT WAS NOT CONSIDERED FINISHED WHEN THE BUILDERS LEFT

BY OSWALD C. HERING

Photographs by R. T. Jeffcott

It is an unfortunate thing for the general appearance of our American countryside that the majority of people feel—when they have built a house—that one of their great tasks in life is finished. As a matter of fact they have at that stage of the proceedings merely laid the foundation of what can, if judiciously handled, eventually be made into all that the word home implies.

We must as a people grasp the idea that the mere piling up of bricks and mortar of stone masonry and woodwork does not make the home, any more than the reading of the lines makes the play.

Just as a comely and clever woman accentuates her loveliness by dressing in a manner becoming to her individual style, and is seen to the best advantage in surroundings reflecting her personality, so a house should have a suitable environment and a becoming dress of foliage in order to appear to best advantage. To the "atmosphere" surrounding any object is largely due the charm of the impressions received of the object itself. A painting or a piece of sculpture may be an admirable work of art, but the full force of its beauty will be felt only in an appropriate situation. In the Rijks Museum an entire wall is allotted to each of the three great Rembrandts; the light is trained upon the canvases in such a manner that none competes with the others and the observer's attention is thus fixed and held spellbound by the genius of the Dutch master.

Lyndanwalt, the country home of Mr. W. E. Hering, illustrates the point I wish to make. The house crowns the summit of one of the hills overlooking Huntington Valley, its broad terrace on the south side commanding a wonderful panorama of the gently

Unlike nearly all half-timber work in this country Lyndanwalt has been built with solid beams rather than the usual strip imitation
While the small cuttings of English Ivy were making their slow growth the broad surfaces of new masonry were temporarily covered with Virginia Creeper and Japanese Ivy which were gradually removed the rolling meadow and woodland of Eastern Pennsylvania. A thick grove of oaks, chestnuts, and spruces—all splendid old-growth specimens—forms a magnificent background for the house to the north, sheltering its main entrance. Lyndanwalt reflects clearly the personality of its owner. It portrays the home of a typical American gentleman who has fought and won the battles of business and purposes to devote his remaining years to the full enjoyment of his rural possessions. To be sure, it has cost a small fortune to achieve the result, but money alone could never have made Lyndanwalt. There is here something more than a mere house. Compare it, for instance, with some of the great country places of wealthy Americans where unlimited means have resulted merely in cold palaces or forbidding castle-like strongholds that are anything but inviting, anything but homes suited to their environment.

While the owner and architect agree that, were the problem to be solved anew, improvements could be made, there yet is about this offspring of the Elizabethan farmhouse an atmosphere that charms and that can be directly traced to the owner's enthusiastic efforts to give the building a setting both appropriate and harmonious, and that will enhance what merit the architecture itself may have. It is only by care in every detail, this indefinitely continued home-making, that a country home of distinction can be produced—and, incidentally, that is just where all the keenest pleasure in home-building comes in.

In the billiard room the frieze, painted by a well known portrait painter, represents the games, starting at the left with chess. The carved stone fireplace, beamed and molded plaster ceiling, and the dark oak wainscoting make a consistent English dining-room.
The ideal rock-garden is a shaded ravine with plenty of rocks, a brook if possible, and a light, sandy soil impregnated with decomposed limestone.

Rock-gardens and How to Make Them

BY G. A. WOOLSON

Photographs by H. H. Swift, M. D.

The successful rock-garden is one in which its maker simulates natural environment so far as he can. The ideal rock-garden is a shaded ravine, replete with rocks and a brook. Glades of this sort however, whether natural or artificial, are for the favored minority only. The majority has to content itself with far simpler gardens; but a small rock-garden, if judiciously placed, will afford more pleasure in proportion to time spent and space occupied than one can obtain from almost any other sort.

Partial shade is imperative. In the absence of trees or shrubbery, a shaded retreat may be effected with vines alone; and for this purpose there is nothing better than the Virginia Creeper (Ampelopsis quinquefolia). An alcove formed by buildings that cut off the brunt of the sunshine may answer very well in lieu of tree or vine.

In the selection of rocks, most of us have to take what we can get; given a choice, sandstone and calcareous rocks are preferable. Freshly quarried stone of any kind should never be used; the more weather-beaten the better for the place assigned. Nothing can surpass the picturesque quality of a bit of old limestone in process of disintegration. Occasionally one sees a giant cobblestone landed high and dry on a pretentious lawn—just a bald impenetrable mass without seam or depression wherein any kind of plant-life could gain a foothold. Rocks which are of no possible use and are devoid of beauty are out of place on any lawn.

Rock-plants in general require light, sandy soil, impregnated with decomposed limestone. If this is not at hand, a mixture of old mortar or brick rubbish will answer. Certain species, however, thrive best in leaf-mold, black and beautiful.

Whatever form is adopted for a rock-garden see to it that there is a soil connection through every pocket and crevice with the earth beneath, and that the top soil is firmed down to it, otherwise capillary attraction will have no better chance of keeping the earth damp than in an undrained flower-pot. This is a fundamental principle on which successful rock-work depends.

Ferns, of course, belong unmistakably to the rock-garden, and violets too.

Is your garden soil full of large stones? Rake them out and construct a rock-garden.

Give the delicate Foam Flower a corner in the rock-garden's base.
By all means have some Maidenhair Spleenwort ferns, and keep them watered

Happily, the round stone-wall abomination with dry pockets in which no respectable plant ever long survived, is of the past.

A shady corner allures the fern-grower and affords scope for a bewildering confusion of rock and fern. Individual grouping, as we often see in the open, has its merits, but an artistic sectional arrangement is better for limited space and may be as informal and picturesque as the ingenuity of the builder may suggest. Whatever the outline of the mass may be, unless in a very sheltered nook, the height should never exceed two and a half feet. No great expectations need be indulged for growth even at this height, for none of the large ferns which grow from a central crown can withstand the winds if isolated and elevated.

In building rock-work, it matters little what sort of soil is used for a foundation: if taken from stony waysides it need not be freed from minor cobbles; if from a rubbish heap, decaying vegetable matter must be removed, else the ultimate settling of the soil will cause trouble. In the construction of small rockeries part of the ground tier of stones may be laid and the filling piled high in the center, and either tamped or thoroughly wet down with the hose before the inside stones are placed—both are advisable.

Careful selection of stones gives varied outline; a curved slab of calcareous rock is highly valued, as decomposition is so far advanced that layers are easily sprung and rock-loving fern-roots inserted with perfect ease. The photograph of the structural foundation of a corner rock-garden, shaded by lilac shrubbery, draped with the American Woodbine on one side and by an eight-foot wire screen on the other, with a wire frieze across the front, both vine-laden, is shown here. The larger part of the rock-work is composed of an interesting lot of sand-rock or pudding-stone, which is strongly impregnated with lime. Quartz conglomerates are in the foreground. As this was an especially dry corner, after the ground was cleared the hose was turned on and the water allowed to play for hours before any fill-

When there is a definite architectural reason for rock-work, the addition of the proper growing things makes the ideal rock-garden

A rock-border of trillium along the shady side of a house will give you a mass of white bloom where it will be fully appreciated

A formation for an artificial rock-garden, ready for the plants. Use only weather-beaten or disintegrating stone

Do not forget the Maidenhair fern to form a background for the wild flowers

The side points. Visible joints were quickly dusted over with coarse sand and pebbles inserted. Careful selection and grouping of material are necessary, for there is a difference in color, and wave of sandstone; an equally lovely stone may look like a new patch on an old garment and spoil the beauty of the whole. Room is left for massing tall ferns outside the walls. The large pockets are designed for vigorous growers, and this whole formation is full of snug retreats.

The successful culturist observes closely and follows Nature's lead. Failures are often due to deep planting, whereas the crowns should be carried above the surface. Another common mistake is in selecting plants from deep woods for a sunny location on the lawn. Many species have so wide a range that individual plants may be found growing in the same exposure to which they are to be subjected in cultivation.

In rock-gardens variety of foliage is often more effective than color; even Jack-in-the-Pulpit (Arisaema triphyllum) may preach its gospel of good effect by contrast. Violets, white and blue, are wonderfully pretty with ferns, either as a footnote or shyly peering over the tip of the highest rock. A mass of the Foam Flower (Tiarella cordifolia) is especially pleasing. The rock-loving Columbine (Aquilegia Canadensis) loses none of its beauty if transplanted from Nature's rock-garden to ours. But the ideal accessory of ferns in rock-gardens is the Bluebell, Harebell or Bellflower (Campanula rotundifolia). Like a rare trait in a rough character they grace the rocks on which they grow. Just a foothold and the chance to swing and sway in the wind are all this flower of the air

(Continued on page xiv)
Mr. Gurd bought one of the comparatively few old Dutch Colonial stone houses in Northern New Jersey and is gradually remodeling it to conform to his needs.

At the rear of the house the land drops sharply away, giving an opportunity for an open brick-paved terrace that is reached from the back end of the central hall.

A view from the living-room into the central hall.

At the right the partition is carried up only part way between the structural members, giving greater spaciousness to the interior.

Because of the fact that most of these gambrel-roof houses were rather deficient in space on the second floor two of the bedrooms are located at one end of first floor.

There is not much of the old-fashioned character retained in the kitchen, with its modern plumbing, heating, glazed built-in cupboard and even the electric bell annunciator.

The front bedroom on the first floor has a fireplace faced with a beautiful white-painted mantel and a closet adjoining one jamb.

The living-room the large fireplace has a plastered facing without any mantel. The old structural ceiling beams, painted white, remain.

THE HOME OF MR. JOHN A. GURD, ARCHITECT, RIVER EDGE, N. J.
All plaster houses have a great advantage over wooden ones in that the walls need not be painted. The vine coverings need never be disturbed.

The main entrance is at one corner, marked by a simple hood and a small porch.

The plans indicate how a spacious interior has been gained by having few rooms—the absolute essentials. One chimney serves the furnace and two fireplaces, gas being used for cooking.

A covered veranda extends the whole length of one side, its roof supported by rough tree-trunk posts.

Looking from the dining-room into the living-room. The leaded glass windows are very effective; on the outside these are protected by casements as shown above.

Moldings and carved woodwork are conspicuous by their absence; instead, dark plain-surface woodwork is employed throughout to accent structural features.

THE HOME OF MR. LAWRENCE BUCK, ARCHITECT, ROGERS PARK, CHICAGO, ILL.
Home Forestry in a Woodlot

By J. J. Levison, M. F.,
Arboriculturist, Brooklyn Park Department

Photographs by U. S. Forest Service and others

Did you ever realize how easily you can transform your woodlot from that neglected bit of wilderness to a thriving piece of natural forest that will add a charm to your country life and an increased value to your property? To get a true idea of the conditions on your woodlot, it is quite essential that you look at it from the forester's point of view and you will then find a crowded mass of small, decrepit specimens unless you do lack of light and space. A few trees might have grown to large size, but these are probably preventing the rest from growing. With a little more effort you will be sure to find some dead and dying trees, trees infested with injurious insects and fungi and any number of diseased stumps and branches.

As time goes on, the woodlot deteriorates more and more. The dead trees become breeding places for insects and disease; the insects in the dying trees multiply and the disease spreads from tree to tree. The number of suppressed trees increases and the dominant or better trees, suffering for lack of growing space, become more lanky and thin, so that they are unable to stand upright if deprived of the support of their immediate neighbors.

You will now readily see that such woodlots require immediate attention. The remedies are simple and in general consist of two processes—intelligent cutting and proper planting.

Improvement by Cutting

The cutting should include the removal of all the undesirable trees, leaving a clean stand of well selected specimens to thrive under the favorable influence of more light and growing space. Now this does not entail any of the expensive treatments often resorted to in the care of ornamental trees. This is merely a case of intelligent cutting. It might be advisable to have an expert mark the trees which are to be removed. But once the trees are marked, the rest is mechanical and success will then depend on the care with which the trees are removed, so as not to hurt the young trees that may be growing underneath the older ones. The marking can be done in summer when the trees are growing seasonally and the marking can be done in winter. The cutting, however, can be done most advantageously in winter. The remaining brush should be withdrawn from the woodlot to prevent fire from spreading among the trees.

Improvement by Planting

But even where the trees are in good growing condition they cannot last forever, and provision must be made to have others take their place when they are dead. The majority of our woodlots are not provided with a sufficient undergrowth of desirable trees (Continued on page xv)
Garden Watering

YEAR before last during a prolonged drought we watered our garden every night by hose sprinkling, but as the garden is a large one we found, the next year, that our plants thrived much better and revived more quickly when we thoroughly watered a single section of it one evening and another section the next. In this way we demonstrated to our satisfaction that it is better to give every plant a sufficient satisfying drink once every so often than to give every plant merely a half watering every night. We are little more than beginners in gardening, but this hint may prove of service to other beginners.

W. P.

Ingenious Devices

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

A Home-made Lawn Sprinkler

THE accompanying diagram illustrates the essential points of a lawn sprinkler that not only is cheap, but economical in water besides, and you can make it from a few pipe fittings in no time.

In sowing seeds in the hotbed, plan to have the taller-growing plants at the higher end of the bed always make a diagram of the seed positions. Therefore there can be no mistake, and tall seedlings will not push up against the low front top of the sash nor low seedlings become lost in their shade at the back of the bed. The following diagram will indicate what is meant.

W. T.

Testing Seed Germination

A HOME-MADE seed tester may be made by taking a couple of soup-plates, some sand and two sheets of blotting-paper the size of the plates. Put sand in each plate to the level of its edge, wet till thoroughly saturated, place one sheet of blotting-paper over it. Then a dozen or more seeds are placed on top of the blotting-paper and the second cover put over them with a little sand sprinkled over that and the whole carefully covered with the second plate. Keep at a temperature of 50° to 60° day and 40° to 50° night temperature for tests of cabbage, beet, onion, and radish seed; and 70° to 80° day and 50° to 70° night temperature for corn, bean, pepper, and cucumber seeds.

E. D. R.

Flower Holders

A N excellent substitute for the Japanese flower holders for keeping irises, narcissi, daffodils and other bulb flowers upright in a shallow earthenware dish may be had by taking flat ribbons of lead about an inch wide which your plumber can supply and twisting them into shapes to hold the stems. The weight of the lead will hold these forms in place when they are laid edge down. Here is a diagram sketch to show how they may be bent.

Buy some strip lead from your plumber, and twist it into such forms as these for convenient flower holders.

The Garden Herbarium

L ASt year I made a collection of specimens of all the flowering plants in our garden, which I carefully pressed, arranged, and mounted on uniformly sized sheets of thick white mounting board. Then I carefully labeled each specimen with botanical and common garden names in the lower left-hand corner. In the upper left-hand corner I mounted specimen seeds, and in the upper right-hand corner I indicated by a space one inch square the color of the flowers as nearly as possible by a wash of water-color. Then in the lower right-hand corner I put a memorandum of the date of planting, the date of the first appearance of the seedling above ground, the date of flowering, and the date of seed maturity. This was less work by far than the telling of it seems, and as my entire collection fit nicely into a library pamphlet case, you will see that I had an invaluable record of my flower-garden. Indeed my neighbors have consulted it freely in planning this winter for next season’s gardens, and perhaps some of House & Garden’s subscribers would like to try something like it themselves.

M. S. J.

Here is an automatic chicken-feeder to save the chickens pecking at the hanging dummy ear and eat the corn. The hopper drops kernels when the chickens peck at the hanging dummy ear.

A Handy Remedy for Rattling Windows

D O not allow yourself to be made wakeful and nervous by rattling windows or doors when the comb on your dresser makes a perfect wedge, easily inserted and as easily removed. Especially annoying are such noises in hotels or other strange bedrooms, but even there the comb is at hand and equal to all sizes of cracks.

L. MCC.

Plan for Hotbed Growth

I HAVE often observed that beginners plant in hotbeds with little reference to the heights of various plants. When I start my hotbed planting I always make a diagram of the seed positions. Therefore there can be no mistake, and tall seedlings will not push up against the low front top of the sash nor low seedlings become lost in their shade at the back of the bed. The following diagram will indicate what is meant.

W. T.
Colonial Bedroom Fittings

THERE is this season a decided interest manifested in the fittings for Colonial bed-chambers. Some charming examples of the quaintly figured papers, chintzes and cotton prints of that period are prominently displayed in some of the leading shops. A number of these shops specialize on assembling wall covering, drapery materials, furniture and floor coverings which will be used together, thus giving the most inexperienced customer a comprehensive idea of the completed room.

A particularly interesting effect is shown where the strong blue and white of the hand-woven bedcover of Colonial times is made the color motif for the decorative scheme of the room. Here for the wall covering a striped paper in two tones of oyster white is exhibited, divided in large panels by a conventional border of blue leaves on white ground. Glazed chintz showing similar design and color, is used for pillows and slip cover for the large wing chair which is a feature of the room.

The mahogany furniture consists of reproductions along correct Sheraton lines and the floor covering shown is a closely woven blue-and-white rag rug of the "hit-and-miss" pattern. The woodwork of the room is purely white, as is the ceiling and the tamboured muslin curtains. The effect is fresh and dainty and sufficiently unusual to be interesting.

Other papers suggested for Colonial bedrooms show on a glazed background a small all-over pattern of closely set dots, intersected at intervals by a tiny yellow rose and single leaf. This design also comes in pink and a deeper rose as well. Others, carrying a suggestion of French Colonial, show formal baskets of flowers or garlands held by bow knots of ribbon. With such papers plain-colored draperies of linen, chambray, dimity, or thin silk are advised. Except in the last-named fabric a border or corner motif, showing the same design and color as the wall paper, may be appliqued to give a decorative touch. One often finds even in such inexpensive materials as art ticking—which sells for 25 cents a yard—lovely effects for this purpose. This material frequently shows two floral stripes alternating, and when cut apart will supply borders for curtains, beecovers, etc., for two bedrooms.

Colonial Lamps

WILL HOUSE & GARDEN give me a suggestion for the proper style of lamp to use in the living-room of a Colonial house? I know that it is very necessary to select the correct thing, and will be very much obliged for any suggestions you may offer.

The photograph here reproduced will show you lamps of Colonial type. The shades are particularly good and can be used on lamps less high than the ones shown in the photograph. Also they are frequently used where the crystal prisms decorate the stand of the lamp.

Desk Sets

SOME of the shops are showing very attractive desk sets, all of the pieces covered with quaint brocade and finished with a narrow dull galloon. These sets include the pad, the letter-rack, the hand blotter, the letter scale, the pen tray—glass lined, and several smaller pieces, and sell for $2.50 each.

To complete a desk in a room furnished in Colonial or French style, these find their proper setting, or if they are made from a Venetian brocade of two tones in dull mulberry red, Gobelin blue, or yellow, the set will be appropriate in a library where the paneling is of oak and the furniture on Italian or Jacobean lines, wherein the more delicate brocades above referred to would be wholly out of place.

Curtains for Casement Windows

WILL you give me some directions as to the proper way to make and hang curtains for casement windows? I find the question difficult to work out for myself.

The brass rods holding the net curtains for casement windows should be set on either side of the window frame so that the curtains will swing with the window. These curtains should be run on the brass rod by a narrow casing at the top, without frill, and finish in exact line with the window trim at the outer edge. On this the heavier material—silk, casement cloth, or whatever goods is selected—may run. These curtains should extend to the sill line, and finish with a 4-inch hem. A valance may be used if the window is very wide and the room is suitably furnished for this treatment; the valance should not be more than eight inches in depth.
Porch Furnishing

IT is interesting to note the growing enthusiasm of Americans as a nation for out-of-door living. While this is a comparatively recent development, it has evidently come to stay. The conditions which prevail to-day are in striking contrast with those of a few years ago when the narrow and restricted porch, which was all that the average house afforded, held during the summer months two or more weather-beaten and uninviting looking chairs which were rarely occupied.

Now even the simplest and smallest house has its porch and veranda of generous dimensions. These are often screened and fitted as living-room or dining-room for the summer months, and upper porches, even during the cold weather, are frequently arranged as sleeping-rooms.

Therefore to find the right furniture for the porch is a matter of interest, and the manufacturers are meeting these recent requirements with some attractive and well built wicker furniture. (See Miss Birdsal's article on another page.) Rugs are an essential part of porch furnishing, and these may show stronger colors and coarser weaves than those used in the house. The woven grass or matting rug is very satisfactory for porch use. Well cushioned canvas hammocks or swinging seats are delightful and desirable adjuncts to such furnishing.

Awnings or the split bamboo curtains which roll readily will be required where the porch is to be used as a living-room, as at some hour of the day it will be found necessary to shut out the too strong rays of the sun. Fern balls and hanging baskets, as well as growing ferns and palms, can be decoratively introduced.

Protecting Enamel Tubs

THE new porcelain enameled bath tubs which one finds so much used these days usually have a nickel-plated soap dish attached to them by two flexible metal bands. This allows them to be removed for cleaning. But the use of a dish so equipped leaves a mark from the bands on the enameled surface. I prevented this by the use of ordinary rubber bands. We also had a seat for use in the bath-tub, and here again the metal rods used in its construction rubbed the enameled surface, until I obtained some rubber tubing and easily and quickly covered them.

A Formal Room Problem

HOUSE & GARDEN has previously helped me in solving a difficult problem in fitting up my dining-room; now I need help in my parlor. This room is really a parlor and not a living-room, as it is chiefly used on formal occasions, but it looks so appealingly formal that I cannot bear to sit in it. I thought when I furnished it I wanted it in tones of gray, and bought an upper-third wall covering (the lower wall is paneled with wood), a scenic paper showing a line of gray trees with a roadway stretching between them. I had the woodwork given a coat of gray paint, and this is one great trouble. In tone it is yellow more than gray and the paper is bluish gray. My curtains are on the shades of the paper and the fabric is two-tone linen and silk damask. Unfortunately the net curtains, now that they are in place, seem almost tan in color. The carpet is blue and dark green with a little black, very small figures. The furniture is old mahogany of good form covered in black haircloth. The table has a marble top. Now what can I do to make this room more cheerful and inviting, as it is anything but that at present?

The first change to make is in your woodwork. This should be given a finish of white enameled—purely white, not blue white or ivory. In tone you will find this will bring out the best qualities in the colorscheme. The ceiling should be the same shade of white and the curtains next the glass also white. White point d'esprit net would look well for this. You might leave the straight chair in your room with seats covered with the black haircloth, but for the other pieces we would advise a covering of tapestry, showing dull blue, green and smoke gray tones. A table cover cut exactly the size and shape of your marble top could be made from a good piece of brocade with blue and old rose shades predominating, the edge to be finished with a narrow gold galloon. A wing chair covered with blue cut velvet would make a good spot of color in the room and such a chair is always useful and ornamental. We think with these changes you will find that while the room is still formal, it will be attractive and livable.

Mosquito Netting

FEW people know, when buying wire netting for mosquito frames, that it is sold with different sizes of mesh. The writer finds now that some is sold with such a large mesh that the small mosquitoes can enter through it. Look out for this when purchasing.

A Splendid Polish For Wood Or Iron

A CHEAP but most excellent polish for stained floors, furniture, or woodwork of any kind, and also for stoves or iron fixtures, is a mixture of linseed oil and benzine in equal parts. Put it on with a soft cloth, and rub dry immediately with another soft cloth. It not only polishes but cleanses and removes spots. A quart of this mixture costs but ten cents, and the oftener it is used upon a stained floor the better. It made my old grate seem like new, and left a rusty stove quite presentable. Upon fine furniture but little should be used at a time and that rubbed in immediately, though there is nothing harmful about it. Remember that the mixture is inflammable.

L. McC.
May Time

This is the month of the poets, the Queen of the Calendar. But it is none the less the month which brings happiness and inspiration to the practical Nature, dear old nurse to many of our happiest hours, has brought us to the threshold of Summer's hospitable mansion, and whispers to us of all the unfolding beauties that heaven is to spread before us. The orchards will be pink and white with a thousand fragrant temptations for the tuneful birds and the buzzing bees, the Iris will be unfurling its bannertots of royal purple, snow white and golden yellow, and at last we shall forget that Jack Frost ever tried our patience with his wintry pranks.

Things to Remember in May

Be prepared against late frosts but do not rush the season, though you should plan not to be behindhand with anything. When all danger from frost is past transplant your tender flowers and vegetables from hotbed to garden.

Look out for cut-worms that will be appearing in your garden soon. Dig them up and kill them as soon as you find any of your young plants dying without any apparent reason. Cut-worms are probably chewing at the roots.

This is a good time to think about flower-boxes for porch and windows.

Carnations may be taken from the greenhouse for outdoor planting the latter part of the month.

Plant Sunflowers, if only for the sake of such useful birds as the Goldfinch and Nuthatch.

Now is the time to plant hardy border plants, Alpines, Climbers, and especially Gladioli, Gaillardias, Pyrethrum (cut back for late flowering), Delphiniums, Chrysanthemums, Hollyhocks, Clematis, Ivies, Passion Flowers, Dahlias, Calceolarias, Phloxes, Pentstemons, Cannas. Also Potatoes, Broccoli, Brussels Sprouts, Celery and Lettuce.

Remember to spray your orchard trees as soon as the petals fall from the blossoms.

The middle of the month is the time to spray your rose bushes with whale-oil soap, and the last week in May they should receive liquid manurial stimulant.

Mulch your strawberries just before they bloom.

Now is the time to sow everything required for succession, late Peas, Beans, Cabbage for late use, Cucumber, Radish, late Broccoli, Winter Kale, Vegetable Marrow, Brussels Sprouts, Corn Carrot and Main Crop Carrots, Spinach, Turnip, Beet, Parsley, Colewort, Onion, Lettuce, Cauliflower, Parsnip, Ridge Cucumber. Also Phlox Drummondii, Marigold, Calceolaria, Ten-week Stock, Cineraria, Primula, Ornamental Grasses, Grass Seed and Aster.

Sow all hardy annuals and transplant such as you have had started in coldframes in March, which have been hardened off. It is not too late to sow tender annuals in coldframes for later transplanting.

Shift perennials, and rearrange border plants. This can be done with safety by the end of the month.

Gladioli planted this month will bloom in August.

When Small Fruits and Trees Bear

How long should it take the Blackberry, Currant, Gooseberry, Raspberry, Quince, Plum and Strawberry plants I set out last season to bear?

Blackberries, Currants, Gooseberries, Raspberries, and Strawberries should yield fruit one year from setting, and bear good crops in from two to three. It will take the Quince two years, and the Plum three years from setting to bear.
Tomato vines trained against the house, wall, or trellis yield fine fruit.

Tomato Culture

If you have only a small space in your garden for Tomatoes plan to place them where they may be grown against an upright trellis, a wall, a fence or against posts. This new mode of culture is more productive to each plant than any other.

Eggplant

LAST year I had no success in my attempts to raise Eggplant, and I shall be greatly obliged if House & GARDEN can give me some hints on setting out, soil, fertilizing, culture, etc. As our plants were insect ridden will you also tell me what precautionary measures should be taken against a recurrence of this.

As the Eggplant (Solanum Melongena) is an extremely tender annual, it is seldom cultivated north of Philadelphia, and must be started under glass except in the South. Dwarf varieties are to be recommended for short seasons. A well drained, loose sandy loam, very rich and quick, and a sunny exposure are required for satisfactory results. Two or three fruits to each vine form a good yield.

Plant out, when a foot or more in height and well hardened off, the second week in June, three feet apart in hills into each of which compost, and a fertilizer of four per cent nitrogen, eight per cent phosphoric acid, ten per cent potash have been forked. After setting, fertilize further by the application of a liquid manurial stimulant. The chief diseases to which the Eggplant is subject are leaf-blight and blight-fungus. It is difficult to meet this, but with the former destroy any infection-carrying insects and spray with Bordeaux mixture, and with the latter disease destroy affected plants before they spread their contagion. Against Aphis spray with kerosene emulsion.

Number of Plants Required

WILL you please tell me how one may know the number of plants required to the acre?

Multiply the distance apart (in feet, or fractions thereof) at which a plant is to be placed from each of two other plants at right angles to it, and divide the number of square feet an acre contains (43,560) by the product thereof. Thus, if Strawberry plants were to be placed two feet apart each way your problem would be 43,560 + (2 x 2) = 10,890 plants required; or if they were planted two feet apart in rows three feet apart your problem would be 43,560 ÷ (2 x 3) = 7,260 plants.

Tar Paper

I HAVE been told that tar paper is good to wrap around the trunks of insect-infested trees to keep pests away. How should I go about this?

If tar paper is used at all it must not be fitted tightly around tree-trunks, and in any event it should be removed before warm weather. Though it is sometimes recommended for use to prevent the attack of such insects as the borer, one should dispense with it when possible, as it also is extremely liable to injure the trees it is supposed to protect.

Remember that just after they finish blooming is the time to prune all spring-flowering shrubs.

Protecting Small Fruits

LAST year we lost a great many berries from our bushes through depredations of birds. This year we want to anticipate the nuisance. Can you suggest a way to prevent it?

One of the simplest solutions to the problem of bird invasions is to cover the bushes with mosquito-netting. It will not prove expensive where the garden owner has but a few bushes of small fruits.

Window Light

WE have just moved into a three-story house and as there are large bay windows on the southern and western sides of the house we are anxious to try our luck at window-gardening. Which of the windows should we choose? We wish to confine our house-plants to one room.

The southern window is an ideal position, although you should anticipate the glare of even winter’s mid-day suns by planning for adjustable shades. Although an abundance of light is necessary to success with most house-plants, the mid-day sun may prove too strong for “resting” plants. Palms and ferns will require such protection when the sun is high.

The common Lupin (Lupinus perennis) makes a lovely flowering border for indifferent soils.
It is astonishing that such a measure of good luck attends the garden which most of us make at supplying the needs of the soil—or to be more exact, the needs of the plants which grow in the soil—because very few really know anything about it. But of course the makers of commercial fertilizers have helped us greatly, and there are many scientifically compounded and of real value, upon the market, every pound accompanied with directions for its application to the soil. What these compounds do, however, and why they do it, and why it needs doing are details of the matter that even very advanced gardeners do not trouble to concern themselves with at least not often. The general idea is to make the soil "rich," and if one thing doesn't produce a crop luxurious enough to indicate that this has been accomplished, something else is tried—something that is hit upon somehow, somehow, that somebody says is good because it has benefited some other garden.

Of course everybody knows that the growth of a plant requires food just as much as the growth of a child or a bird or anything else in creation requires food. But the ideas about this food are very vague: "what plants eat" is an untold tale, mysterious, almost chimerical to the practical mind accustomed to seeing before believing. Let us see if we can't straighten out this little and much-needed comprehension of plant feeding; then fertilizers will not seem so deadly dull and uninterseting and incomprehensible.

The food of plants consists of thirteen "chemical elements." Nine of these are taken by the plant directly from the soil—these are the pure mineral plant foods, three are taken from water and from air, and the thirteenth and last is taken principally from decaying organic matter in the soil.

In order to understand this quite clearly let us stop just here long enough to take a look at the second classification of soil as mentioned in a preceding installment of the Beginner's Garden—that is, the chemical classification. Soil is made up of mineral matter and organic matter—two forms that are of course widely different—and to get at this composition of it in the simplest way possible we will follow the suggestion of one of the Department of Agriculture experts and magnify a cubic inch of soil, in the imagination, to a cubic mile—and then look it over. It happens that, and the necessities going on in it are plainly revealed, under such examination.

It will look like a mass of rocks and stones varying from the size of a pea to boulders several feet in diameter. These are the mineral particles—in common parlance the "dirt"—which predominate and form the foundation of all soil. Among these rocks and stones, in many of their large and small interstices, will be decaying pieces of plant roots and stems and other organic matter which appear very much like logs and pieces of logs' rotting among masses of rock and gravel. All of this organic substance will be dripping with water like a soaked sponge, while all the stones and rocks have a layer of water over their surfaces. And finally, in all the spaces where there is nothing else, there is air—indeed nearly half the volume of the whole cubic mile is air.

A plant root coming down into this magnified cubic inch of soil would be of course an enormous thing, pushing its way among the rocks and stones and decaying matter with a great, tireless, steady, resistless pressure that would move the biggest of them. Near the tip of this ever-extending and down-reaching growth, small hollow tubes—root hairs—would be seen reaching out and feeling this way and that, sucking the water from the surfaces of the rocks and from the dripping, spongy masses among them by drawing it through their thin and delicate walls.

In this water is the mineral food, dissolved off in the minutest particles from the "rocks"—and it is somewhat staggering to note, by the way, that in order to produce one pound of growth in dry matter—that is in branch and leaf, flower and fruit—from 300 to 800 pounds of water must be taken in by a plant's roots, drawn up through its stalks and branches, and discharged or "transpired" by its leaves! Think of the stupendous work being carried on by all the silent green things that we give scarce a thought to in the long, drowsy summer days.

All fertilizers present, in different forms, three essentials—phosphoric acid, potash and nitrogen. The latter is the last of the three chemical elements mentioned which feed vegetation—the one which comes principally from the decaying organic matter in the soil—and in some respects it is the most important of all. Unfortunately it is the one most easily lost through washing out, nitrates being very soluble, or exhausted in other ways; therefore it is the one which should be supplied only in sufficient quantity for the immediate use of the plants to be grown, and just at the proper time for their needs. It is usually well to wait until they are above the ground.

Surplus phosphoric acid and potash, on the contrary, will usually remain in the soil until succeeding crops use them up, so it does not matter so much if these are applied in excess. They are not wasted.

What is known as a complete fertilizer is a combination of these three in the proportion generally of one part nitrogen, two parts phosphoric acid and two and one-half to three parts potash. Such a fertilizer will meet all the requirements of the average garden, especially if the soil is treated as directed number, with lime first. Lime is not a fertilizer in the strictest sense, but it sweetens the soil as well as helps to bring about physical and other changes that make plant food available.

The sources of each of these three fertilizer ingredients are important to know and remember; for even though a complete commercial product that just suits one's garden is found, it is well to have an intelligent understanding of its composition. Many times the application of one of the three is all that is needed and where this is the case it is much better to use only the one—for gorging the soil is as bad as starving it.

Nitrogen is supplied by nitrate of soda, sulphate of ammonia, cotton-seed meal, high-grade dried blood, or green manuring (a leguminous crop such as cow peas, clover of all kinds, soy beans and others, grown and plowed under), and by stable (Continued on page xvii)
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June published May 25th

Full information given to those desiring to buy or rent a summer home cottage or bungalow. Address

Real Estate Department

HOUSE & GARDEN

449 Fourth Avenue New York City

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A woodland site on the main road—9 acres, easy of access yet secluded. Good view, best neighborhood, 1 mile from station.

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Do you want our Book of BUNGALOWS AND LOW-COST HOUSES?

Send 25 cents to Suburban Architectural Association

Equitable Building, Wilmington, Del.
Caring for Motherless Chicks

For the first twelve hours after hatching the chicks should remain in the nursery of the incubator. As they are yet subsisting upon the recently absorbed yolk of the egg, they do not immediately require food or water.

In the meanwhile the brooder should be ready, its tank filled and the lamp lighted that the hover may be warm. The essentials of a good brooder are even warmth beneath a hover separated from an outer compartment by a curtain of felt or cotton flannel, slashed at intervals to give the young chicks ready access to the warm chamber. (When soiled these curtains must be changed.) Over this chamber the tank of warm water should be located. The lamp which heats the water is usually at one side. If the hover is so wide that the chicks pack themselves in beyond the fresh air supply, they will smother, hence a long narrow hover with an outer compartment on either side will induce the chicks to distribute themselves.

The floor of the brooder must be cleaned daily and sprinkled with clean coarse sand. It is unwise to allow young chicks upon the ground the first week after hatching. The indoor brooders do not give much room for exercise and the chicks should be allowed to run upon the clean, dry, sun-warmed floor of the poultry house. An inclined run should connect this floor with the brooder and to facilitate their climbing, small strips should be tacked at intervals upon its inclined surface. Clean litter such as cut straw should be scattered upon the floor that the chicks may indulge their scratching propensity. Coarse sand supplies the necessary grit for young chicks.

Mashes or sloppy foods are unfit for poultry under five weeks. They will thrive upon oatmeal, millet seed and wheat. An excellent diet for the first week consists of oat-meal and millet seed in the morning, chopped cooked egg and cracked corn at noon, and equal parts of wheat and chopped green clover at night. Young clover is available in May and is given at one time should be about one pint to one hundred chicks.
During the second week beef scrap may be substituted for the cooked egg or should be fed in smaller proportion. About one-fifth of beef scrap to four-fifths of grain once a day is right.

At the end of the second week of growth the coarse wing feathers begin to appear—a tax upon the vitality of the chicks if conditions are not right. Bran and linseed meal are aids to feather production and should be given in the night rations in the proportion of two-thirds bran or linseed meal to one-third of wheat.

Fresh drinking water must be always accessible. A convenient fountain which at a glance indicates the supply may be improvised by inverting a thick glass tumbler of water over a saucer letting the water rise to the saucer's edge. Small chicks will not break the glass and there are no poisonous metallic properties to injure their bills.

Feeding troughs should be of smooth, hard, non-absorbent material and cleansed frequently. The heat in the brooder must be reduced as the weather grows warmer and the chicks increase in size.

Incubator chickens should not have lice, but if your brooder house has been previously inhabited by poultry and has not been disinfected the young chicks may become infested. Drooping wings, peevishness and a general air of misery proves them present; a good insect powder non-poisonous to chicks should be puffed through the feathers with small bellows.

To fumigate an infested house, close the ventilator and all other openings and banish every living thing of value. Set the ventilator and all other openings and lighted match to the edges of the paper and as the thin blue vapor arises from the paper, withdraw, closing the door tightly. The building should be left to the effects of the fumes for twenty-four hours. When the chicks are five weeks old, they may be given other quarters. Small coops with low perches are suitable for them. If more are to be had it is unnecessary to provide meat scrap.

After the chicks are six weeks of age, bran moistened with skimmed milk may be fed once a day with excellent results. Provision should be made for a change of pens when the chicks have devoured all the green food in sight. A pen sown with clover will grow a second crop when vacated, if the birds are removed when they have merely eaten the foliage.

Disease should not occur where chicks are housed and quartered under sanitary conditions, and little can be done for ailments besides isolating them.

M. ROBERTS CONOVER

In writing to advertisers please mention HOUSE AND GARDEN.
HOSUE AND GARDEN

The Rearing of Puppies

BY FRANK T. CARLTON

Mr. Carlton will gladly answer queries pertaining to individual problems connected with the care and treatment of dogs. Address "Kennel Department," and when an immediate reply is desired, please enclose a self-addressed stamped envelope.

It would be impossible in the course of an article of this length to include more than a collection of practical hints suitable for the general guidance of the average man that owns the average dog.

In the first place, if you have a puppy which you know to be well-bred, it is advisable that you buy a book treating specially of that breed, so that from the first your care and treatment shall be along the right lines. Even in puppyhood all breeds cannot be prescribed for on one line. The smaller breeds pass out of the puppy stage much earlier than the larger; for instance, a Terrier, or a Toy Dog is often a parent while a Great Dane or St. Bernard is still in the nursery and only half developed. The larger breeds are not fully matured under eighteen months or two years; while the smaller dogs complete the process in half the time.

For the amateur the wisest policy perhaps is to buy his dog at about the age of nine months, when he will have passed (as a general rule) through his infantile troubles of teething, and even distemper. It must not be thought, however, that a young dog, or a puppy, must necessarily have distemper. As a matter of fact, if you house or kennel your pet snugly, without coddling, and keep him in proper health, not only your own, but that of your pets, is not equaled by any other breed. A staunch friend and delightful companion Excel-

If you have a dog and want to know how to manage him, read this book. It tells the facts. Its instructive, readable, and not over-chatty. The illustrations are good looking, and the style is fine. The book is designed for our times, and for the average man with an average dog. It is the most complete treatise on the care and training of dogs that has ever been published. It is written by a man who is a recognized authority in the field of dog training and has done much to advance the science.

J. W. Blackwell, author of "The Dog" and "The Cat," has written a new book on the care and treatment of dogs. It is a comprehensive work, covering all phases of the subject, and is based upon the results of many years of research and experience. The book is well illustrated and is written in a clear and concise style. It is a valuable addition to the literature on the care and treatment of dogs.

The book is distributed through the usual channels. Copies may be obtained by writing to the publisher, who will be glad to supply samples.

POMERANIAN

"Chippington," Collie Kennels

For Sale

The only one of its kind in America devoted exclu-

The book is a valuable addition to the literature on the care and treatment of dogs. It is well illustrated and is written in a clear and concise style. It is a valuable addition to the literature on the care and treatment of dogs.

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FIELD AND FANCY

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Send your name and address to-day for a FREE SAMPLE COPY OF DOGDOM the oldest, largest and only high-class EXCLUSIVE DOG MAGAZINE published. Fully illustrated. Printed on enamel paper. Beautiful original cover designs. Over forty pages of dog advertisements each issue.

Price $1.00 a year which includes three premium pictures 1 x 1 inches, just enough to frame and suitable for den or study—Address DOGDOM PUBLISHING CO.

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In writing to advertisers please mention HOUSE AND GARDEN.
hot food at any time. Up to six months old let his diet be almost solely farinaceous. He likes milk puddings, boiled rice, puppy biscuits, etc.; and they are good for him. Up to that age he needs little or no flesh meat, yet as he approaches it a few dainty table scraps will give zest to his appetite and do no harm.

As the weeks go by, keep varying and strengthening the diet judiciously, introducing, for instance, a few vegetables and a little meat broth into the boiled rice or cornmeal. Usually, however, the average dog thrives on just such things as come his way from the family table.

After six months, or in the adolescent period, don’t hesitate to give your dog, especially if anything larger than a “Toy” (such as Toy Spaniels, Poms, Pugs, Poodles, etc.), a bit of raw meat occasionally. Meat gives strength and makes bone. The only danger of the meat diet is its tendency to encourage worms; still that may be risked. Clean lean meat plays a conspicuous part in the canine menu, especially in the case of the big fellows. It would be fatal to keep a young St. Bernard, for instance, on “short commons” or non-nourishing diet.

Kennel owners usually give their adult dogs a light morning meal and a good substantial repast towards evening. The ordinary house pet needs no such military regimen.

Let the puppy exercise to his full bent in the open air. Accustom him from about the fourth month to go on the lead, before retiring—this will encourage cleanliness, or any unusual distress in the puppy, are all suspicious indications. It is safe, on general principles, to give one or other of the advertised vermifuges or worm expellers every six or eight weeks during the puppy’s infancy, beginning with the weaning process itself. Any obstinate or sustained sickness is best referred to a veterinarian.

Here are a few “don’ts:”

Don’t insist that your puppy—nor to your dog at any time. They are dangerous.

Don’t neglect to give him a large bone to gnaw at. It helps the teething process.

Don’t forget salt in his food. Worms dislike it.

Don’t let him sleep in a draught.

Don’t confuse him with too many toys; he wants a rough, hard thing to chew at. It helps the teething process.

Don’t coddle him unless he is a “Toy.” Then Don’t.

Don’t restrain him from eating all the grass he wants. It is his medicine.

Don’t forget that the first three months of his growth are vital, hence feed frequently.

Don’t forget that, in everything, the puppy is father to the dog.
Distinctive Homes of Moderate Cost

EDITED BY HENRY H. SAYLOR

A Book for House-Builders and Home-Makers

We publish this book in response to an ever-increasing demand for a volume of pictures, plans and descriptions of the most charming homes in this country—not the great estates and show places, but the sort of places that most of us can look forward to building, ranging in cost from $3,000 to $20,000.

The illustrations, of which there are more than three hundred, both of the exteriors of houses and their garden settings, and of the principal rooms inside, are all from photographs of houses already built, reproduced in superb half-tone engravings, with line drawings of the floor plans.

The carefully selected contents includes country homes, seashore cottages, alluring bungalows, inexpensively re-modeled farmhouses, etc. All the desirable architectural styles are represented: Colonial, English Half-timber, Stucco, Cement, Dutch Colonial (the gambrel roof type), Swiss Chalet, etc. Chapters written by authorities cover all sides of the fascinating problem of house-building, interior decoration and furnishing. The relations between the home-builder and his architect, the matter of plans, specifications, contracts, the puzzling problem of extras and how to avoid them—all these subjects are clarified in a most comprehensive and interesting way. Throughout the text are many pages of pictures illustrating constructive, decorative and furnishing details—entrance doorways, bay windows, outside shutters, chimneys, stairways, dormer windows, built-in china-cupboards, consistently furnished interiors, porches—all grouped so that the reader may, at a glance, compare all the best types.

Important Subjects Covered

Chapter I. The Home-builder and the Architect
Chapter VII. Lighting Systems and Lighting Fixtures
Chapter II. Building Materials: Their Respective Merits, II. Built-in Conveniences, Wainscoting and Book-Defects and Cost cases
Chapter III. Constructive Details: the Roof, the Cellar, WIndows
Chapter IV. The Porch, the Terrace, Enclosed Porches and Sleeping Porches
Chapter V. The Fireplace
Chapter VI. Heating Systems and Water Supply
Chapter IX. Floors and Floor Coverings
Chapter X. Wall Coverings, Portieres and Window Draperies
Chapter XI. Furnishing and Decorating the Bedroom
Chapter XII. Furniture
Chapter XIII. Picture Hanging and Ornaments
Chapter XIV. The Garage

“Distinctive Homes of Moderate Cost” is the most complete and authoritative volume on the subject yet published. It is a sumptuous book, size 10 x 12½ inches, superbly printed on plate paper, tastefully bound. Price $2.00 net. By mail, postage 25c.

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Please send me DISTINCTIVE HOMES OF MODERATE COST, postpaid, for which I enclose $2.25

Name

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Publishers

449 Fourth Avenue, New York

In writing to advertisers please mention HOUSE AND GARDEN.
The Garden Primer will tell you the whole art of starting flowers and vegetables in the hotbed and coldframe.

Have you any desire to go out into the garden before breakfast and gather dew-wet vegetables such as money cannot buy?

With the aid of the Garden Primer you simply cannot fail to have a garden like this.

**Now Ready**

**The Garden Primer**

By Grace Tabor and Gardner Teall

An Indispensable Book for every Garden-Maker

The Garden Primer, as its title indicates, is a hand-book of practical gardening information for the beginner, covering every branch of the subject from preparing the soil to the gathering of the fruit and flowers. In it is set forth, without any confusing technicalities, just the information that will enable the amateur to grasp quickly the essentials of garden-making. The authors, in preparing this book, have drawn from their long experience, and in writing it assume on the part of the reader no knowledge of the subject, in order that it may be of the greatest value to the beginner. There has been great need of a book of this kind, yet, so far as we know, no volume has ever been published that treats the subject in this charmingly simple way. While dealing with first principles this volume has an equal interest for the advanced gardener, who will find much of value in the experiences of the authors, and in a fresh presentation of a subject which always abounds in new methods and discoveries.

Every branch of gardening is treated in a delightfully practical way—the growing of vegetables and flowers, the use of fertilizers, pruning, cultivating, spraying and the thousand-and-one things that every successful garden-maker needs to know. A profusion of illustrations, many of them of the most practical sort in explaining the various garden operations, make the text especially clear.

The matter is supplemented by carefully prepared planting tables, an invaluable guide to the beginner in gardening. The whole contents is carefully indexed, greatly simplifying it for reference; thus information on any subject contained in the book is instantly accessible.

The Garden Primer is a beautiful 16mo volume, with many half-tone illustrations. Bound in dark green cloth, tastefully decorated, with an inlaid illustration of an exquisite garden scene done in full color.

---

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440 Fourth Ave., New York

Please send me postpaid **The Garden Primer**, for which I enclose $1.06.

Name, ...........................................

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Enclose $1.06.

H. & G.—May.
The Kitchen and the Laundry

are the important workrooms of the house. They get the greatest amount of wear, the greatest amount of exposure to dampness, grease and other things that destroy all ordinary kinds of wall and floor treatments, so that the use of tile is necessary. Just how necessary and how comparatively inexpensive tile is, you can learn by reading the book, "Tiles for the Kitchen and Laundry," which is sent free to all who are interested.

Also three other books: "Tiles on the Porch Floor, "Tiles for Fireplaces," "Tiles for the Bathroom.""

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Here is one of the thousands of large, fine country homes with from twenty to fifty rooms, in high altitudes and exposed to high winds, satisfactorily and healthfully heated by the

Kelsey Warm Air Generator System

Fresh air and an abundance of it properly warmed and evenly distributed to every room, with a complete change of air all through the house every ten minutes, if so desired, is what Kelsey Heating accomplishes.

Country house owners like Kelsey Heating because there are no pipes and radiators to freeze up, and burn or leak and cause damage and vexatious delay to repair; and because the whole house can be warmed quickly at any time, and the Kelsey is always ready for business.

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ERICSSON

Illustrating Automatic Arrangement of Regulating Devices

Note These Ten Reasons Why They Are Being Universally Installed

1. It has stood its test all over Europe for over 60 years.

2. Nothing but the highest grade of material and workmanship used throughout its construction.

3. It does away with all the bad features of the common blind, lasting several times as long, can be held in a fete position by our patent fasteners on the bottom rail.

4. It obviates the unsightly outside and expensive inside shutters, replaces the shade and awning. Absolute control of light by our simple and new device.

5. It overcomes the stiffness of the common Venetian Blind by making the laths thin and of light material but still retaining the strength accomplished by secret process known to us.

6. It occupies about one-half the space and weighs one-third less than the domestic blind, consequently reduces wear on material.

7. Only one combined pulley-head and turning lath resting in iron hooks not exposed to the slightest wear. Pulling up and regulating the blinds are conveniently conducted, as the pulling cords can be drawn in any direction.

8. Can be taken down as easily as a shade roller, without aid of any tools, which is of great advantage when cleaning the blind and windows.

9. Can be taken down as easily as a shade roller, without aid of any tools, which is of great advantage when cleaning the blind and windows.

10. Practically indestructible, simplest, and nothing like it on the American market.

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Swedish Venetian Blind Co.

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Style W. Quarter Grand
In Figured Mahogany
Length, 5 ft. 5 in.
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These illustrations of Messrs. Chickering & Sons' most recent triumphs offer new evidence of the fact that

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ably represent the latest developments in the art of modern pianoforte construction, without sacrificing in the least their rare tonal power.

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If you contemplate an undertaking which involves building, remodeling, decorating, or furnishing, investigate the Hoggson Building Method.

This single contract method, originated by us, has been thoroughly tested for ten years with unqualified success—a success shared as fully by our clients as by ourselves.

We build anywhere. We are now carrying out contracts in fifteen different states.

When we name cost figures to you, you receive them. When we promise a date of completion, you may count upon it. Not a step is taken without your approval, but every step is taken in its proper order without lost motion. Other work in hand never takes you from your work; it is under your daily supervision from beginning to end.

This method is equally advantageous to the owner who builds a new residence complete and to the owner who remodels. Its logical force is felt as strongly in decoration and furnishing as in planning and construction.

A single contract with us, you place the entire responsibility for your work, both architectural and constructive, upon our shoulders.

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May, 1910

HOUSE AND GARDEN

vis), Royal Fern (Osmunda regalis), Wood Fern (Dryopteris Goldieana), Narrow-leaved Spleenwort (Asplenium spectabilis). Those ferns of medium height are: Maidenhair (Adiantum pedatum), Shield Fern (Aspidium spinulosum, A. spinulosum var. intermedium, A. marginale), Christmas Fern (Polystichum acrostichoides and P. acrostichoides var. Braunii); those of still lower growth, —

*Ebony Spleenwort (Asplenium platyneuron) Bladder Fern (Cystopteris bulbifera), Fragile Bladder Fern (C. fragilis).*Purple Cliff Brake (Pellaea atropurpurea), Broad Beech Fern (Phegopteris Dryopteris), Long Beech Fern (P. polypodioides), Polypody (Polypodium vulgare), *Woodsia (Woodsia obtusa), Hart's-tongue (Scolopendrium vulgare); low growers — Maidenhair Spleenwort (Asplenium trichomanes), *Wall Rue (A. ruta-muraria) and Rusty Woodsia (Woodsia Ilvensis). Those marked with an asterisk are sun-loving ferns.

Home Forestry in a Woodlot

(Continued from page 198)

to take the place of the older ones. The open gaps, too, must be covered with trees to prevent the soil from deteriorating.

The usual idea that it costs a great deal to plant several thousand young trees is erroneous, and the ordinary woodlot could be stocked with a well selected number of young trees at a cost less than the price generally paid for a dozen good specimen trees on the front lawn. It is not necessary to underplant the woodlot with big trees. The existing big trees are there to give character to the forest and the new planting should be done principally as a future investment and as a means of perpetuating the life of the woodlot.

The young plants should be two to three years old and may be bought from well known reputable dealers who specialize in raising seedlings and selling them at the low cost of three to five dollars per thousand. In applying this idea to municipal park management, the writer set out last spring 40,000 seedlings, from two or three years old, at a cost of a little over one cent per tree, including the labor of planting. Young trees are even more desirable for such planting than the older and more expensive ones. The young trees will adapt themselves to the local soil and climatic conditions more easily than the older plants. Their demand for food and moisture is more easily satisfied, and because of their small cost, one can even afford to lose a large percentage of them after planting.

Great care must be taken to select the species most suitable for the particular soil, climatic and light conditions of the woodlot. The species of trees which are native to the locality and are found thriftily growing on the woodlot, are the ones

NABISCO

Sugar Wafers

One is never at a loss what to offer guests for refreshment, dessert or after dessert — if NABISCO Sugar Wafers are always kept in the home. The most delightful confection ever conceived.

in 10 cent Tins. Also in Twenty-five cent Tins. TRY CHOCOLATE TOKENS—Another unique confection enclosing the enticing goodness of Nabisco within a shell of rich, mellow chocolate.

NATIONAL BISCUIT COMPANY

A Butler's Pantry Door
should swing both ways; should close gently and without noise and stop at once at the centre without vibrating. The only way to accomplish this is to use the "BARDLSEY" CHECKING HINGE. It goes in the floor under the door and there are no ugly projections on the door.

JOSEPH BARDLSEY
147-151 Baxter Street New York City

In writing to advertisers please mention HOUSE AND GARDEN.
that have proven their adaptability to the local conditions and should therefore be the principal ones to be favored for underplanting. A list from which to select the main stock would, therefore, comprise the usual hardy trees like the red, pin and scarlet oaks, the red, sugar and Norway maples, the tulip, sycamore, sweet gum and locust among the deciduous trees and the white, Austrian, red, pitch and Scotch pines among the conifers.

With the main stock well selected one can then add a number of species that will enrich the woodland scene with pleasing colors at all seasons. The brilliant tints of the autumnal leaves of the sassafras, pepperidge, viburnum, juneberry and sumac will produce this effect. The flowering dogwoods along the drives and paths will add a charm in June and an occasional group of white birch will have the same effect among a lot of evergreens.

Two or three years' growth will raise these plants above all grass and low vegetation and then a liberal sprinkling of native wild flowers and ferns as a ground cover will put the finishing touches to the forest scene.

Grow Your Own Vegetables
(Continued from page 181)

Broccoli, Brussels Sprouts, Cauliflower, Kale and Lettuce will want a thorough working, both between the rows and around the plants. At the second hoeing draw the earth up well around all of these, except the lettuce. As the little heads of Broccoli and Cauliflower begin to form, keep the leaves, or thin paper tied over them, in order that the "heads" may be kept white and tender. Immediately before the second hoeing will be a good time to give them a light dressing of nitrate (see April article).

Celery, Endive, Leek, Parsley and second sowings of Cabbage, Cauliflower, Lettuce and other succession crops (see April article) which have been made in the seed-bed should be kept at all times perfectly clear of weeds, and thinned out as soon as well up, in order to get sturdy, well-developed plants for transplanting as soon as possible.

Cucumber, Muskemelon, Pumpkins and Squashes will require hand weeding in the hills, and should be watched daily for the appearance of striped beetle and squash bug. Cover the hills and plants with land plaster or sifted coal ashes, and pick off the intruders. If you can, have made bottomless boxes two feet square by eight inches deep, covered with cheese cloth or fine mosquito netting, and keep these over the hills. As soon as the third or fourth leaf appears, thin out to three or four plants in each hill. Don't let the weeds between the hills get a start. It is easier to kill them now than later, and besides they will be stealing water and plant food.

In the next article we will take up succession crops and fighting drought and insect pests.

IN THE BALMY DAYS OF SPRING
when every household is undergoing the renovating process, it is then that Crex Carpets and Rugs are forcefully suggested as the most convenient, durable and attractive floor covering. Using Crex Rugs avoids the heavy part of house cleaning, besides cutting the time in half. No tacking or stretching.


Rugs In all sizes of exclusive designs and beautiful colors. Selected colors—all striped carpet tiles—in all widths.

Caution: Avoid Imitations—The genuine bears the Crex label. Sold by all up-to-date Carpet and Department Stores. Send for Free Booklet No. 46. Beautifully illustrated. Crex Carpet Company 377 Broadway, New York

THE BEST SASH CORD MADE

SILVER LAKE A

THE STANLEY WORKS

Mystie Street, New Britain, Conn.

New York Office: 79 Chambers Street

In writing to advertisers please mention House and Garden.
Fertilizers
(Continued from page 204)
manure. No fertilizer is better than the latter if properly handled and all fertilizers should be supplemented by it for the humus that it carries into the soil.

Potash is furnished by muriate and sulphate of potash—the latter is preferable as it can be used on all plants while the former cannot—by a crude German product called kainite, and by unleached wood ashes. These of course yield it in a much less degree for a given bulk, but they are invaluable as a fertilizer.

Phosphoric acid comes in "floats"—that is in South Carolina rock from the phosphatic beds of that state, in what are known as superphosphates, and in the various kinds of plain bone meal and ground bone "flours" that are on the market.

The work of these three elements is divided of course, but generally speaking nitrogen promotes luxuriant growth of leaf and branch, hence is the greatest stimulant to vegetables, especially those of which we eat the tops or leafy portions; potash builds up and strengthens wood and fruit; while phosphoric acid seems to be the especial food which flowering plants, whether shrubby or herbaceous, most appreciate.

Learn to watch your garden and find out from the plants and the way they grow just what it is that they need. Do not, for instance, give nitrogen when top growth is rank and luxuriant but fruit of poor quality and not abundant, for the former cannot—by a crude German fertilizer—do so much good. Of course all the elements should be present in order to make the proportions right, as already mentioned. The trick is to find out which one.

It is largely a matter of common sense, once you know what is what—and without knowing this no amount of directions will be any real help. It is necessary to realize what is going on down in the ground where the roots are doing their work—how they are gathering up one substance and another in the tiniest and most minute particles—in order to realize that a very little too much of one thing or a very little deficiency of the other will actually work ill to a plant.

Finally, there is one other thing about the soil that I should like to mention, partly for the reason that it is so generally overlooked in all that is said or written about soil, good or bad; and partly because it is interesting. It is a phase of soil fertility that does not enter perhaps into the beginner's gardening; but who can tell what moment the beginner, inspired by success and other things, is going to branch out and become a real scientific agriculturist who wants to know everything? And then, besides, who can know too much, even though he is but a beginner?
It is only recently, comparatively, that investigators have been led to believe that plants give off certain organic substances during the processes of growth which, accumulating in the soil, are harmful to the successive growth of plants of the same kind. This may be the reason, or one of the reasons, why the benefit of crop rotation is so marked; the soil is free from the toxic matter in the three or four years during which other crops are grown upon it. Sometimes—not often to be sure, but sometimes—poor and sterile soil may be poor and sterile because thus poisoned. But that is a big subject and such a condition will hardly occur in even a very advanced beginner's garden.

To Make Cement Work White and Waterproof

The cause of the different shades of color in cement blocks, which range from a light to a very dark gray, is that some blocks are more porous than others and take up dampness quicker and retain it longer. The fact that cement blocks collect and retain dampness is one great drawback to their universal use, as it makes cellars and houses damp.

A solution has been discovered that overcomes every disadvantage of cement blocks for building purposes. It is a white fluid, that is applied to the outside of the cement blocks with a brush, like paint. It dries in a short time and leaves a finish that is snow white, similar to white marble. It unites with the cement, becomes as hard as granite and excludes dampness. The solution is as easily made as whitewash and costs but little more. All the ingredients can be procured in any locality.

To make the cement coating compound, take: Ground silica, 2 parts; hydrated lime, 1 part; portland cement, 1 part. Mix thoroughly by stirring all together and then sift through a close mesh sieve. Put the mixture into a suitable vessel and stir clear water into it until it has the consistency of thin fresh paint, or so that it will not leave brush marks when applied.

Carefully brush all the cement surface to be coated with a stiff broom or coarse brush and then apply a thin coat of the solution. After this has dried, apply a second coat, which may be slightly thicker. Large surfaces may be coated with a whitewash brush and smaller surfaces with a wide paint brush. The solution must be kept thoroughly mixed and stirred up from the bottom, and all brush marks carefully rubbed out when appearing. The ingredients are inclined to settle and thicken after mixing, and water may be added from time to time as becomes necessary. Mix only in quantities that can be used up at once, as it cannot be left standing. Best results are obtained by mixing in an ordinary gal.

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A solution has been discovered that overcomes every disadvantage of cement blocks for building purposes. It is a white fluid, that is applied to the outside of the cement blocks with a brush, like paint. It dries in a short time and leaves a finish that is snow white, similar to white marble. It unites with the cement, becomes as hard as granite and excludes dampness. The solution is as easily made as whitewash and costs but little more. All the ingredients can be procured in any locality.

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In writing to advertisers please mention HOUSE AND GARDEN.
A waterproofing solution for cement work is made of: Gasoline, 1 gallon; Paraffin wax, 1/2 pounds. Reduce the paraffin to shavings, then put it into the gasoline; warm to about 88 degrees and the paraffin will slowly dissolve. To warm it you can place the can in hot water, or in hot weather, set it in the sun. When dissolved, it is ready for use. Apply with a brush. Very dry cement work should first be moistened with water before the waterproofing is put on as it will then take less of the solution and produce better results. It is important that all surfaces be thoroughly covered with waterproofing.

The solution penetrates the tiny pores of the cement, and fills them with paraffin, thus rendering the work permanently waterproof. Being carried into the pores, it does not show on the surface. The can holding the solution should be kept tightly sealed to prevent evaporation. As gasoline is explosive it should not be used around fire or flame.

For cisterns, water reservoirs, etc., apply two or three coats of waterproofing. The solution should not be used very warm nor should it be applied to very warm work. Instead of gasoline, wood alcohol or denatured alcohol may be used, but gasoline is cheapest.

Louis A. Hemming

Southern Garden Operations for May

By A. B. McKay,
Professor of Horticulture, Agricultural College, Mississippi

In the Southern garden May is a month of simultaneous sowing and reaping; a time when every fruit and vegetable in the list of garden crops is demanding its allotted area and its share of attention; a season of the year when every foot of ground should be occupied and the entire garden looking its very best.

May 1st finds us in the middle of strawberry harvest. Other small fruits are now ready or nearly ready for market. It is not unusual for strawberry picking to cover a period of sixty to eighty days. This is especially true within one to two hundred miles of the Gulf. While strawberries, dewberries, raspberries and blackberries follow in succession, the one overlapping harvest with the other, and together covering a period of three to four months, it is during the present month that the four fruits named may be had each day fresh from the garden. With care in the selection of varieties and with proper attention bestowed in the cultivation of these fruits no other portion of equal area in the garden yields such quantities of health-giving and delicious food. Near the Gulf the raspberry needs some petting. The other berries named are at home throughout the Southern States.

First plantings of English peas, turnips, beets, radishes, and the like, should be sown in order to secure a crop for the beginning of the season. Beans, cucumbers, melons, and many of the other vegetables which can be set out during this period, should be planted in the space vacated by the early maturing fruits.

M. P. DURABLE FLOOR VARNISH

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Exhaustive tests conducted during many years show this varnish to be the most durable and elastic Floor Varnish on the market. It is impervious to water and does not mar nor scratch white. It is light in color, thus preserving the natural beauty of the grain. It can be used with equally good results over painted or grained surfaces. It dries hard in from 15 to 24 hours, and can be rubbed and polished or left in the gloss.

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The desired effect and shade were at once secured—an effect that it would have taken twenty years to obtain by waiting for small trees to grow up in the usual way.

Our business is the growing and the moving of big trees. At our Nursery are hundreds of trees of all sizes to select from. Come and pick out what you want from the Maples, Lindens, Ashes, Catalpas, Cedars, Pines and so on. They are guaranteed to grow normally.

Our catalog shows just what we mean by big trees and tells why we are successful in moving them. It is an unusual catalog, beautifully illustrated, beautifully printed. We will gladly send you one.

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Westbury
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WILLOWCRAFT
is up-to-date in every particular and far excels reed or rattan furniture in its beauty, fine workmanship and durability.

Send direct to our factory for catalog of 150 designs and prices. We are the only manufacturers of Willow Furniture whose advertisement appears in this magazine.

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Box C
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Pegging Down Roses

If one observes a wild Briar in bloom in the hedgerow, some growths will be found bent over almost rainbow-fashion and smothered with flowers. This is exactly what the rosarian tries to imitate when the cultivated Rose is pegged down. In place of a lot of tall growths that never bloom, bend them over, some horizontally, others in the shape of a half moon; the sap being checked as it flows to the buds, or "eyes" as they are called, shoots then start out and are usually crowned with flower buds. It follows that by such an arrangement as this economy is practised, for fewer plants are required in a bed, and one may be certain of an even growth with an abundance of flowers. Suppose one has a bush say of Gloire de Dijon. Examine it and see the vigorous young growths that have been made in the season. Next April, instead of pruning such growths back, bend them over as horizontally as possible, although the half-moon shape will answer as well. This may be accomplished by driving wooden pegs into the soil, these pegs to have a notch in the end in which a piece of tarred twine is secured. The shoot is bent as described and the string tightened accordingly.
Pliable growths are necessary and they should be selected as close to the base as possible.

Where old plants exist and they are too rigid for pegging down, cut them level with the ground in February and then peg the new growths as they become long enough. Roses may be partially pegged, that is peg one long growth and let the others develop in upright bush form. As soon as the flowering is over, the pegged growths should be cut away, as by this time new shoots will be springing from the center of the plant which will be pegged the following season. This pegging down may be used as a means of propagation. If the growth is of sufficient length, layer it as one would a carnation. Take the growth in the left hand and cut a slit in one side one inch in length and fifteen inches from the end. Make a niche in the soil and bend the shoot into it; with the cut portion placed at the bottom of the niche, and the end of the growth sticking out two or three inches. Press the soil firmly and leave the shoot to form roots, which it will do in about twelve months.

While bent, flowers will appear just the same as though not layered. Place a little sharp sand in the niche near the cut slit. Plant the roses about six feet apart and peg the growths, north, south, east or west, whichever seems best for the individual plants.

W. R. GILBERT.

A Neat and Luxuriant Window Garden

ASK your tinner to make a tray of galvanized iron the length of the outside window-sill, width fourteen inches, depth two inches. There must be a loop of the heavy wire used in the binding at the upper back corner of each end through which to pass a screw into the window casing after you have settled the tray on the projecting edge of the sill. Fasten a strip of iron, one inch wide and eighteen inches long on each end of the tray two inches from the front with a bolt. The other end of the strip must have in it a hole through which to pass a screw into the window casing. This tray will accommodate two rows of gallon tin cans which you will have painted dust color, the same as the tray. Do not forget to perforate the bottoms of the cans almost to the point of demolition. In the bottom of each can place a layer of small stones, then fill with thoroughly rotted compost mixed with some sand.

Use Aspidistra and Rubber Plant for the dignity of the jungle you are to grow; Wandering Jew of all shades, Asparagus Sprengeri for your tangle, with Sword Fern for your blender. Periwinkle or Trailing Myrtle will give emphasis to your garden. If you wish color, Coleus will help you, though the shades in the Wandering Jew accomplish pleasing effects in that line.

MOTT'S PLUMBING in theKitchen and Pantry

FOR the kitchen, pantry and laundry, we make a complete line of plumbing fixtures, including the most improved styles of scullery and vegetable sinks, and wash tubs. The materials used are white metal (illustrated above); German silver, copper, Imperial solid porcelain, (shown below); and enameled iron.

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MODERN PLUMBING is a booklet of 80 pages. It illustrates, describes and prices the latest types of fixtures for both bathroom and kitchen. It shows 24 model interiors ranging in cost from $7.40 to $3,000, with valuable hints on tiling and decoration. Sent on request, with 4c. to cover postage.

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An abundant application of sunshine and water will give you a tropical foliage that will be a delight to your neighbors and an unflagging pleasure as you look from within.

When the frosts come re-pot your plants, bring your tray inside and continue to enjoy your luxuriant window garden. Try this and you will never again tolerate a clumsy woden box filled with dirt.

MIRA TROTH.

Experimenting in the Garden

EXPERIMENTING in the garden has always the element of fun in it that makes even an occasional failure make up for itself. You love the old rose bush that never fails to yield its crop of pink blossoms, yet the stick that you hopefully purchased from a traveling tree-man is very often the object that claims your warmest interest. He told it would be a rose bush, so, enjoying the excitement of the experiment, you will watch it with never-failing interest until it proves itself either a rose or a shameful substitute.

Indeed, one misses a great deal who plants a garden without experimenting more or less with unfamiliar things. It certainly adds greatly to one's gardening joys to have unusual, unrecognizable things popping up out of the ground. Here again one finds the bulb tribe useful, for it furnishes a large number of out-of-the-ordinary plants.

Do you know the grape hyacinth that blooms in tiny bells of white and blue? Although in nowise showy, it is a blossom that children always love because of its peculiar daintiness and diminutiveness. They suspect that it was made for little people. Do you know the flaunting Crown-Imperial that comes in red and yellow and rivals the Tulip in brilliancy? Do you know the curiously spotted Fritillaria with its hanging bells, the Star of Bethlehem that comes so unobtrusively that it is in full blossom before you realize that it is on the way, the lovely little blue and white Puschkinia that is almost fairy-like in its peculiar tinting?

All these and many other curious and more or less beautiful blossoms grow easily from bulbs. These, of course, do not take the place of the better known and deservedly popular plants, yet when one has learned to know just what to expect of one's Hyacinths, one's Daffodils, one's Tulips and one's Crocuses, it is certainly great fun to surprise one's self and one's family by quietly planting some strange, unfamiliar bulb. But to far too many children, unfortunately, all garden bulbs are strange and unfamiliar. This is a pity, for the child that grows up amid blossoms is a sweeter child for the association.

F. H. SWEET.
What to Do with Ashes

After burning collected refuse, save the ash heaps. Instead of leaving the ash on the ground to soak through the soil, wash down into it and so be lost, gather it up carefully while it is light and dry, and sift it over your garden beds. It gives the plants greater vitality, as you will soon discover. I use ashes in many ways about my garden and never let a particle of ash get away from serving a good purpose. The berry patches like it and it can be used largely for a fall mulch, to be removed in the spring.

The soot from the chimney flues I scatter over the vegetable garden just before spading, because it is very oily and heating in its nature, and helps to kill grubs and insects that would otherwise injure the plants. One should pay strict attention to such economies, as it is the backbone of every principle pertaining to both house and garden.

C. B. H.

Roses from Cuttings

A year ago, last October, I took cuttings, well seasoned shoots from the rose bushes in a friend's garden, leaving the "heel" upon the shoot. I placed these one inch deep in the shaded moist soil of a flower bed, along the garden wall, open only to the morning sun, and inverted above them glass jars; they grew well during the fall and winter, bursting into leaf in the spring.

In February, a friend returning from the South, brought me some additional rose cuttings. As an experiment I placed them in small earthen pots filled with good garden soil, sunk them in the flower bed along the wall, and also placed glass jars above them. They grew as well as the others. In May I removed the jars in a wet season, and the little bushes began to luxuriate, forming buds, which I promptly nipped away. In June I gently upturned the pots, and the plants were free with the dirt securely packed about the roots, the others were removed carefully by trowel, retaining the soil about the plants; while it was raining I transplanted carefully into my nicely prepared rose garden. Many buds were formed, and the few that were allowed to mature, were among the loveliest roses I ever saw. I felt that I was scarcely less a wizard than Luther Burbank.

This past October, filled with the pride of success, I placed other cuttings, not along the damp shady wall, but in the rose garden where the soil is adapted to the nurture of perfect roses. Absolute failure was the result, the position being too dry, the cuttings requiring more shade and moisture. Waterings were of no avail, for the October sun quickly dried the rich, well-worked soil—life was burned from my cuttings.
A Garden Fire

In the spring while the garden rubbish is burning, remember there are some things you do not want to have burn. The house and its contents. And if it should burn, are you protected? You have a fire insurance policy, no doubt, but do you know anything about the company you expect to pay the loss?

The Hartford Fire Insurance Company is the best known fire insurance company in America. For a century it has promptly paid every loss, the aggregate now amounting to over One Hundred and Thirty Millions. Its reputation for fairness and surety is never in danger from the hidden rocks of stock speculation, because always invested in the safest securities. One hundred years of life and growth have demonstrated its able management and unshaken stability. Not only in the spring, but in every season of the year, when policies expire, is the time to ASK FOR THE HARTFORD Policy Statement January 1st, 1910

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Gardener who understand up-to-date methods and practice are in demand for the best positions.

PROF. CRAIG

250 page Catalogue free. Write to-day.

The path of success is obvious: keep your rose cuttings in a naturally shaded, damp soil, until well rooted. Then transplant in rainy weather (with plenty of soil about roots), in rich, well prepared earth; cultivate and gather roses for yourself and friends the second summer. If given proper treatment I am convinced by experiment that cuttings may be started during any month of the year.

ELIZABETH KNOX TARRANTON.

Hardy Annuals for Autumn's Outlook

The importance of keeping in mind the autumn outlook, when sowing the flower seeds, is deeply impressed on the amateur's mind, after he has made the mistake of sowing beds of tender annuals in sight of the house windows. Their forlorn appearance, after the first frost, and the bareness of the beds when the withered plants are cleared away, will set him to studying the late-blooming hardy annuals, with the intention of providing himself, in all future seasons, with the sight of their fresh foliage and bright flowers, long after the tender sorts are faded and gone.

Even though the bloom of the less hardy kinds must be prolonged by constant care and protection, the unsightliness of the coverings, and the anxiety and labor would place all the advantage in favor of the frost-defying sorts, which will be gay with bloom, after frost has bitten through even a carpet covering. There is sufficient variety among plants of this type to satisfy the most exacting flower lover.

The best location to choose for such flower beds is a spot that looks particularly cheerful at the autumn days approach, and if in full sight of the windows, so much the better.

Among those plants that will be found to pass the frost test successfully are: Aster, Sweet Alyssum, Calendula, Cornflower, Everlastings, Delphinium, Mignonette, Phlox, Pansy, Petunia, Verbenas, Wall-flower, Godetia, and Salpiglossis.

The hardy Chrysanthemum, old stand-by of every garden, should not be left out, though not in the annual class. The experience of other gardeners has added to this list the following: Forget-me-nots, Sweet Peas, Marigold, Cosmos, Snapdragon, Salvia, Anemones and many others.

SOME EXTRACTS FROM OUR NOTE BOOKS

The hardiness of some of these apparently fragile plants is remarkable. Facts noted during several seasons seem to prove that they can be relied on to survive a great degree of cold.

"Oct. 26: Heavy frost that penetrated carpet coverings. The following flowers escaped, without protection: Cornflower, Pansy, Sweet Alyssum, Everlasting."
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If you own or expect to own a farm or country estate—you should know of the absolutely unique work we are doing along agricultural lines. You should know about our splendid organization composed of men recognized as experts on lands, tanning, stock raising—in fact, all that pertains to farms or country places in any way. And you know just wherein the services we give affect you.

We act as your

Agricultural Counselors

We examine your lands, the soil and conditions—and then furnish a plan for you or your superintendent to follow out.

This plan treats on every detail in connection with the efficient and economical management of your place—tells what crops, fruit trees, live stock, etc., can best be raised on it—how and when to do it—and how country places can be laid out most beautifully. This plan saves you time, money and labor by starting you right—or by righting a wrong start.

States, as well as experienced individual farmers have engaged us in changing and making more profitable their agricultural methods and pursuits. And you will be astonished at the many ways in which we can help you.

Right now crop cultivation—control of insects, fungous blights and diseases of crops, fruit trees, etc.—and the laying out of new plantings and trees—should receive first attention. Do you know how to do these things?

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In sending for free booklet state whether you own a farm or country estate. Write today.

The Agricultural

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Stop the Caterpillars with Strokum
Bind It Around Your Trees

Don't wait until they have crawled up and spun their webs in the trees, and increased by the thousands. It is easier to prevent their going up than it is to burn them out after they are up.

Don't wait till they are dropping down by their silken threads, to spin their cocoons for another crop—stop the progress of the first crop by banding your trees with Strokum now.

Anyone can put Strokum on, and once on it remains effective through the entire season.

Caterpillars or tussock moths can't crawl under it and won't crawl over it. Better than burlap, cotton or fly paper. Does not disfigure the tree. Does not dry up and stick to the bark as do the smeared-on tar preparations. Strokum is entirely harmless. Endorsed by the leading horticulturists and tree experts.

Send $3.00 at once for a sample package of fifteen pounds, which is enough to band fifteen trees three feet around. Express paid East of the Mississippi; 50c extra West of it.

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"How to Seed and Keep a Lawn."

Free.

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How to Have Healthy Fern Balls

IT is so seldom that really luxuriant fern balls are seen growing in the house that I feel considerable pride when I see how well my own turn out each year. They are really good examples of what fern balls should be. I have a little conservatory attached to my house and in this I grow the ferns. For a long time I had great difficulty with the string that bound the moss, as it frequently rotted and allowed the ball to fall apart. To remedy this I had a couple of wire hemispheres made and into these hinged and wired together I put the fern balls, with great success.

The great essential in growing fern balls is to nourish them properly, and this I do with a solution of liquid manure. I use a cheese-cloth bag for this purpose, and, after filling it with manure, allow it to soak in a pail of water. Into this water I put the fern ball; when it has grown too large to be put in the pail I pour the liquid on it until it is thoroughly soaked. It is useless to try to grow these plants without the liquid manure feeding. They will not properly mature and will be one-sided affairs. It is a good idea when you first get your fern ball in the fall to bury it for a month or so before starting it in to grow.

J. O. ELLIOTT.

Lighting the Country Home
(Continued from page 173)

costs, in the 5-horsepower size, about $850; a 10-horsepower plant about $1100; and a 20-horsepower plant about $1750. A 10-horsepower plant will operate 100 lights, and for every horsepower added, ten more 16-candlepower lamps can be lighted.

Using what is known as 68-degree gasoline, which is even better for the purpose than a more refined grade, and which costs from eight to ten cents a gallon in barrels, the cost per 16-candlepower light (Continued on page xxvii)
Plant Evergreens Now.

Stand at your windows and note where evergreens would improve the view next winter.

A bleak outlook may be softened by interposing a group of Hemlock or Spruce. An unsightly adjoin-
way or front lawn transformed by the bright and
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Evergreen shrubs possess heavy brilliant green leaf
masses during winter and most of them bloom magni-
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plants, similar to those used by the Japanese to full
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For the purchaser it contains valuable points on cli-

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and all exterior wood-work, especially shingles. They are softer and richer in color, easier and quicker to apply, wear bet-
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Samples of Stained Wood, with Chart of Color Combinations, sent on application

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than 1c. a foot. Keeps warm rooms warm and cool
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will give you more and better vegetables and flowers, besides making your garden one of neatness and beauty.

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THE NASH GAS ENGINE

is especially adapted for all power requirements in the country home. It affords a simple, reliable and economical electric lighting plant.

This engine can also be used for pumping water for all ordinary domestic requirements, also for fire-protection. Operates on gas, gasoline and producer gas—sizes 3 to 300 H.P. We have specialized for the past 25 years in the equipment of country homes with the most suitable engines. Can we advise you? Send for catalogue "H."

Lighting the Country Home

(Continued from page xxvi)

per hour is about one-tenth of a cent. This means that every seven to ten old-style carbon incandescent lamps can be operated for an hour for one cent, or it means that an individual power plant operating one hundred 16-candlepower lights costs ten cents an hour (figuring the gasoline at eight cents per gallon). It is claimed that the Tungsten lamp, which is rapidly replacing the old-style carbon incandescent lamp, is about forty per cent cheaper in operation.

One advantage of the electric equipment run by a gas or gasoline engine lies in the fact that the engine can be uncoupled from the dynamo and used for pumping water. The 5-horsepower engine will pump 3600 gallons 200 feet in height at a cost of five cents per hour.

By installing storage batteries the engine can be run for as long as needed to charge these for a day's supply of current, then shut down.

For small homes there are on the market electric generator plants as low as 2-horsepower, with switchboard; storage batteries (with a capacity of burning eight 16-candlepower Tungsten lamps—27 volts—for eight hours, or eleven lamps for five hours); fifteen Tungsten lamps, wire and fixtures for a house of say 20 x 40 ft. in size, of two stories, all at a lump sum of $350. With ordinary use, this system would need recharging by running its engine and dynamo once a week in winter and once a week through the summer months. A similar plant of double the capacity costs $425.

GASOLINE VAPOR

Perhaps you have been accustomed to using ordinary illuminating gas in a city home and would prefer to continue to use a similar illuminant even though there are no public service mains available near your country place. The solution of your problem is to install a miniature gas plant in your cellar. Such a plant consists of an air pump actuated by water pressure, a tank for the storage of air under a fixed pressure, a supply tank of gasoline located underground at a distance from the house. The 5-horsepower engine will pump 3600 gallons 200 feet in height at a cost of five cents per hour.
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It helps to furnish as nothing else can. A Hardwood Mantel, finished like the woodwork of the room, is always in perfect harmony with the decorations and combines beauty with utility. Wood Mantels are made in all styles and at all prices, from the plain and severely simple, suited for the modest cottage, to the most elaborate and richly carved—in all the popular hardwoods,—also in Colonial style finished in flat or enamel white.

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A new device to attach to the stationary bar of any mower.

Eureka Sharpener attached and blades sharpen automatically. Sold by all dealers, 35c., or sent prepaid on receipt of 40c. or $1. Satisfaction guaranteed.

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Hardy Natives and the best Hybrids in colors; budded plants

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In writing to advertisers please mention HOUSE AND GARDEN.
Lighting the Country Home
(Continued from page xxviii)
the house, and a carbureter in which the air is forced through an absorbent material holding gasoline, vaporizing the latter and carrying it into the pipe system to be burned at the regular gas outlets. The gas is generated only as it is required, automatically, and as soon as the fixtures are turned off the surplus gasoline runs back into the supply tank underground. It is claimed that with this vaporized gasoline system of lighting a flame of 25-candlepower can be kept burning forty hours at a cost of five cents. A house containing from ten to fifteen rooms would require, say, 25 lights, which could be adequately supplied by a plant costing about $200 to install.

Collecting Miniatures
A FEW years ago one seldom encountered portrait-miniatures in antique shops; that was because it had not come to be generally appreciated that portraits of someone else’s ancestors could have any interest to anyone but the descendants; as though a portrait of an unknown man by Albrecht Durer would not be almost as highly esteemed as it would if its identity were known. And so it is more or less with the matter of miniatures,—if they are well painted, and works of art in consequence, they are worth collecting.

Aside from their esthetic value, they also have another interest, even when they are not what one would call just beautiful; that is, they depict the fashions of the age in which they were painted and for that reason have an especial interest to students of the history of costumes. Perhaps we have no truer records of the dress of the Colonial period in America than are to be found in portrait-miniatures.
WHEELOCK “RUST PROOF”

FENCE,
FLOWER BED GUARD.

FENCE—Wires used are heavier than in any other fence. Are all straight, with no bends or twists to weaken or break. Heavily galvanized after weaving. Absolutely rust-proof. Constructed with close mesh, and unclimbable. Constructed guard.

FLOWER BED GUARDS—Embodies all Good WHEELOCK features. A protection for your flower beds. Cats can not crawl through this closely-constructed guard.


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Distinctive things in “Home-Craft” include, besides the staple articles as chairs, tables, and desks, such charming pieces as Plate Racks, Magazine Racks, China Cabinets, Room Skin Screens, Mission Lamps, Card-racks, Porch Swings, etc.

Our new book, beautifully illustrated with “Home-Craft” furniture, contains prices and full details. Mailed to any address upon receipt of two 2c stamps to cover postage. Send for it today.

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It is logical that a magazine like House & Garden should carry in it a directory of manufacturers of equipment that forms so large a part of the enjoyment of a motor boat. But it is important when purchasing a motor boat to be sure of securing a well built craft and a reliable manufacturer. The Motor Boat Department, House & Garden, 440 Fourth Ave., New York.

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Don't buy an engine or boat on promises. Don't listen to talk about what the engine will do. Compare the actual History of the engine and boat you thought best with that of the Rochester Engine and Boats.

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A summer home by the water. A country house with a situation, whether it be by lake, river or sea, is far from taking advantage of its opportunities. In this Motor Boat Section appear announcements of only reliable boat and engine manufacturers. Their product has become standardized through the use of good materials and by adopting the best ideas of design. It shall be very glad to advise any of our readers in regard to the purchase or equipment of a motor boat or engine. Address correspondence on this subject to The Royal Engine Co., Bridgeport, Conn.

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2 and 4 CYL. OPPOSED MARINE MOTORS

ABSOLUTELY NO VIBRATION

The center of weight on our motors is lower than on any other type which increases the stability of your boat.

The engine can be placed under locker with control at steering post, giving the cleanest construction and the greatest amount of seating capacity. No noise but the ripple of the wheel.

Guaranteed for 2 years

GUY L. SINTZ CO.,

Desk H, MARSHALL, MICH.

**JENCICK—ONE MAN CONTROL**

**JENCICK MOTORS for**

**Cruisers and Speed Boats**

The Finest Motor Made...

Ask any JENCICK user
It is logical that a magazine like House & Garden should carry in it a directory of manufacturers of equipment that forms so large a part of the enjoyment of a motor boat, if a motor boat is not a part of its recreational outfit. But it is important when purchasing a motor boat to be sure of securing a well built boat and a reliable, yet economical, engine for successful operation. The readers of House & Garden may well feel assured, when dealing with these advertisers, of fair treatment and reliable service.

The Motor Boat Department, House & Garden, 449 Fourth Ave., New York.

Selecting the Engine

Many persons in buying a motor boat pay much attention to the lines and finish of the hull and very little to the engine. The experience of the experienced yachtsman, however, gives the motor power a much thought and attention as to an engine is to an other part of the equipment—perhaps more. And this is right, because with a worthless engine the boat is of no use and yields, instead of pleasure and recreation, worry and endless care.

The construction lines of a boat may be perfect, but this will but detract from its speed; the finish crude, but this will only offend the eye, whereas an engine of cheap construction or of poor mechanical design will render the craft absolutely useless.

In purchasing a motor boat, then, let our advice, borne of long experience and painful experience too, be, Select the engine with the greatest care. There are many "ready-made" boats on the market offered at attractive prices that look like service, but let us say again 'ware of the engine. Very few boat builders manufacture engines and all reliable ones will install the particular make desired by the prospective owner. Therefore it is an easy matter to secure the proper kind of equipment. Boat building and engine making are as diverse as north and south and each is a distinct industry, so when you want to go a-boating secure your equipment from specialists.

Let not the foregoing discourage the amateur with the idea that most marine motors are bad, for that is not the fact. Most of them are good. I am simply forewarning the amateur in the matter of the selection of the most important part of the motor driven craft—power.

If you have no experienced friend to advise you in the selection of the right style and type of engine to fit your requirements and have not a practical book on marine motor construction at hand, which probably you will not have, send to the engine manufacturers for their catalogues and study the question for yourself, which won't, indeed, be an unpleasant task.

B. M. Trebor

Local Sections of the American Power Boat Association

By H. T. Koons, President

It was a wise and far-seeing action of the Council of the American Power Boat Association last year...
tion I naturally result. Sectional feeling, comparing it with Federal, State and local activities, it can be best described by the meeting with the officers of the parent Association. It can be readily seen ever attempted in its whole life. The motor boat users will probably come nearer to a common melting pot, and the desires of the Coast, the desires of the leading features of the League will very nearly approximate an ideal condition. This Council will have its collective power against any all assaults and speedily neutralize any detrimental efforts affecting the best interests of all motor boat owners.

Finally, each Vice-president as Chairman of his Local Section will bring to the Council the needs and requirements of his own particular Section, a clear understanding and appreciation of what the motor boat users want in every part of the country. Sectional feeling, based on geographical location, can no place in this arrangement. The needs of the Middle West, the demands of the Atlantic Seaboard, will all be brought to a common melting pot, and sectional feeling, the desires of the Council thus constituted, will probably come nearer to a concrete result for the betterment of Motor Boating at large, than anything ever attempted in its whole life.

The center of weight on our motors is lower than on any other type which increases the stability of your boat. The motor can be placed under the steering post, giving the cleanest construction and the greatest amount of seating capacity. No noise but the ripple of the ripple of the wheel.

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A NEW BOOK
By the Author of "The Bishop of Cottontown"

Uncle Wash: His Stories
By JOHN TROTWOOD MOORE
Author of "A Summer Hymnal," "Songs and Stories of Tennessee," etc.

UNCLE WASH is an old-time negro body-servant who has retained his memory of the "quality" he condescended to serve "befo' de wah," and has passed through many amusing and exciting experiences in his long life with a quaint and humorous philosophy. It is the originality of his adventures and his entertaining way of telling them that fascinate the reader. Mr. Moore modestly states that he "merely wrote down" what Uncle Wash said. To those who do not know this gifted author we might add that the stories lose nothing in the transcribing.

Frontispiece in colors and four paintings by the well-known Southern artist, Charles H. Sykes. Cloth, 12mo, 329 pages.

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Great Pictures as Moral Teachers
By HENRY E. JACKSON

THE author has selected twenty of the world's greatest pictures and sculptures and interpreted what the artist meant to express. He shows that when art is made to serve a moral purpose that its influence may be very great and inspiring. The book opens one's eyes to look at pictures with a new motive, and the result is a most stimulating volume. Each subject is represented by a fine engraving and the book is issued in holiday dress. Cloth, 12mo, 267 pages.

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The Old Cotton Gin
By JOHN TROTWOOD MOORE
Author of "Uncle Wash"

THIS book is one of Mr. Moore's best known poems apostrophizing the South, and has been adopted by some states in an official way. It is printed in two colors with lavish decorations and hand-lettered text, by Charles H. Sykes. A beautiful gift book.

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