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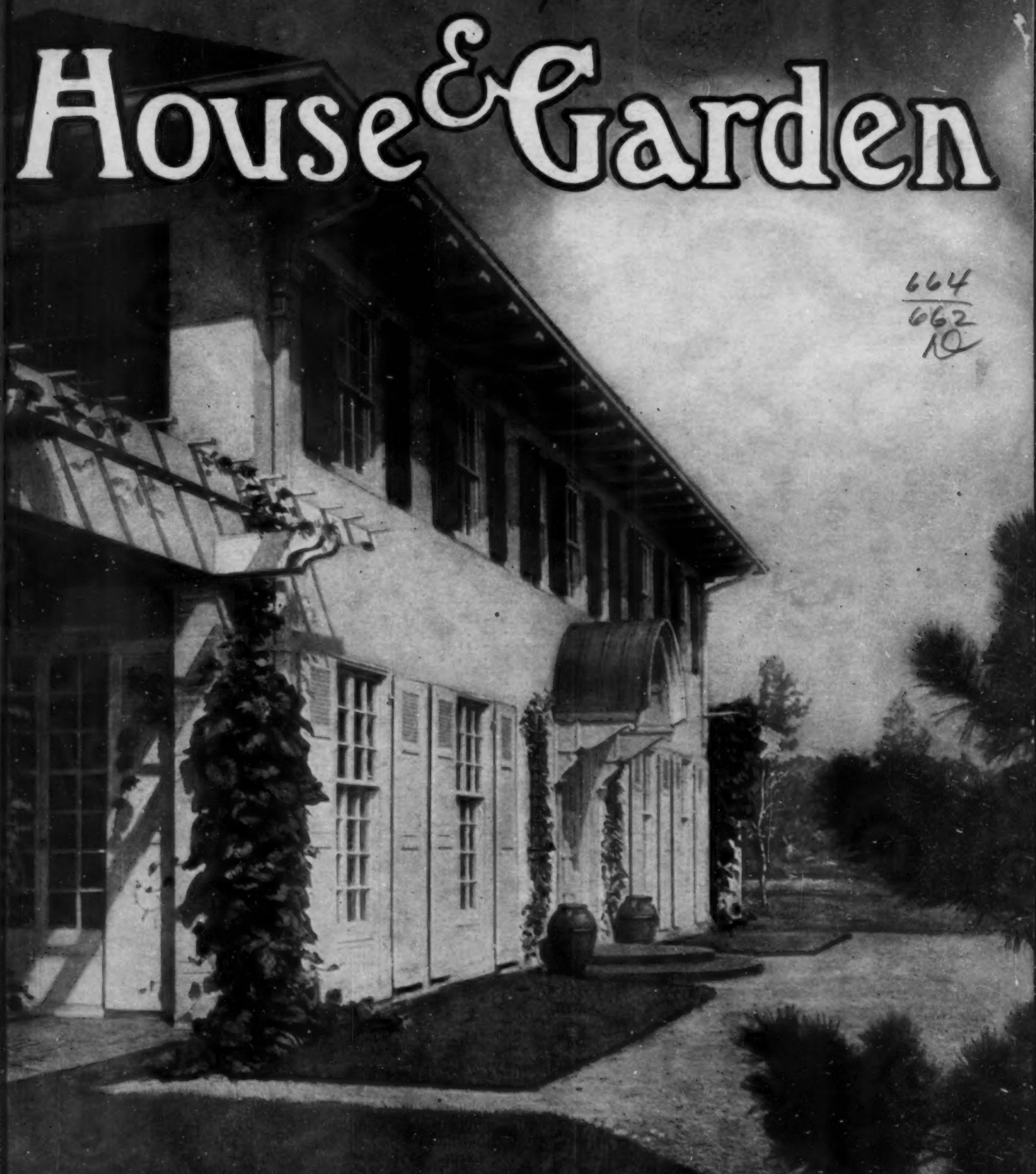

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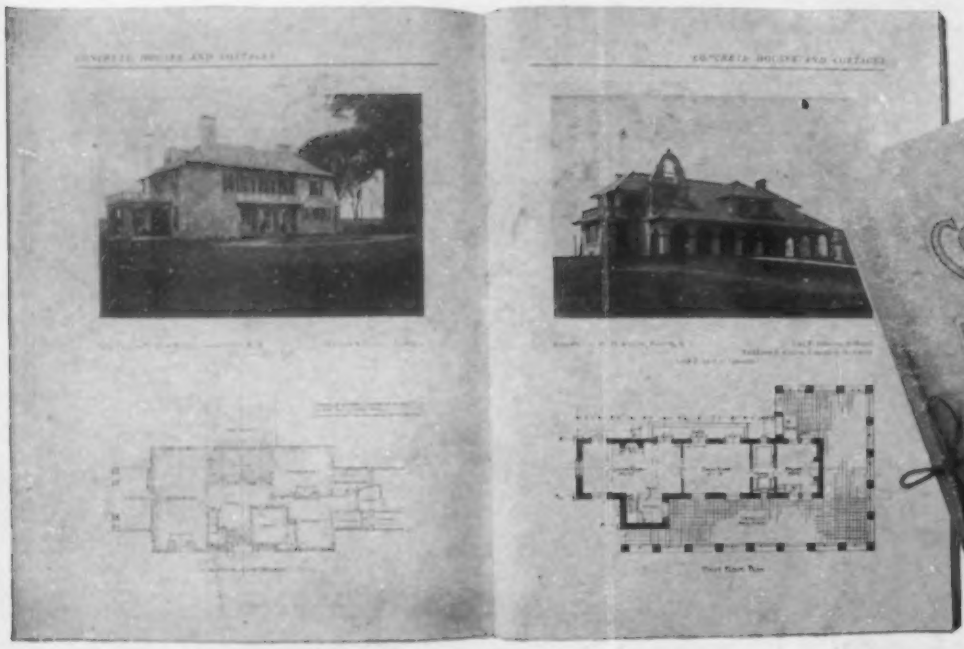

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January 1910 Contents

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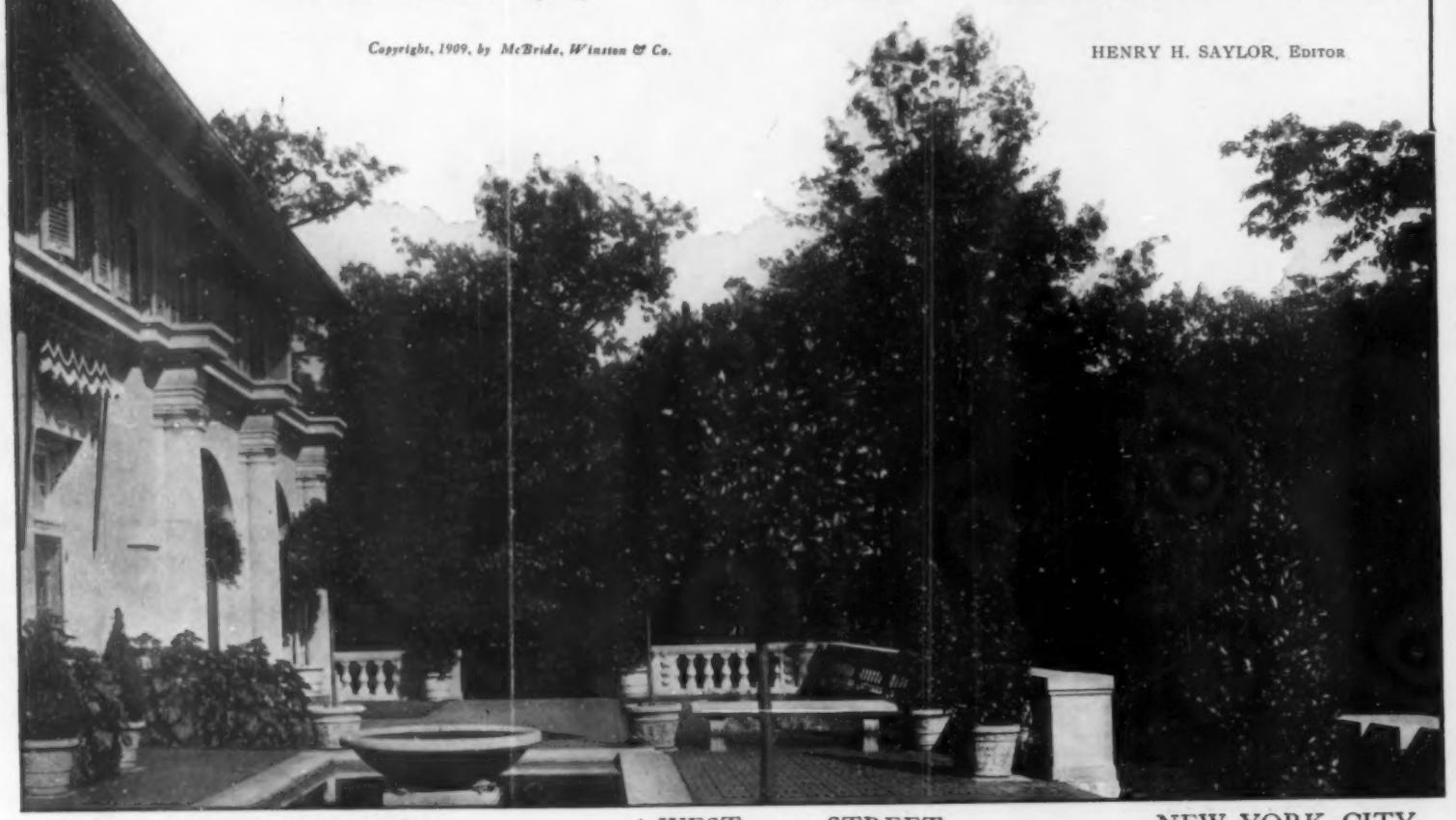

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House & Garden

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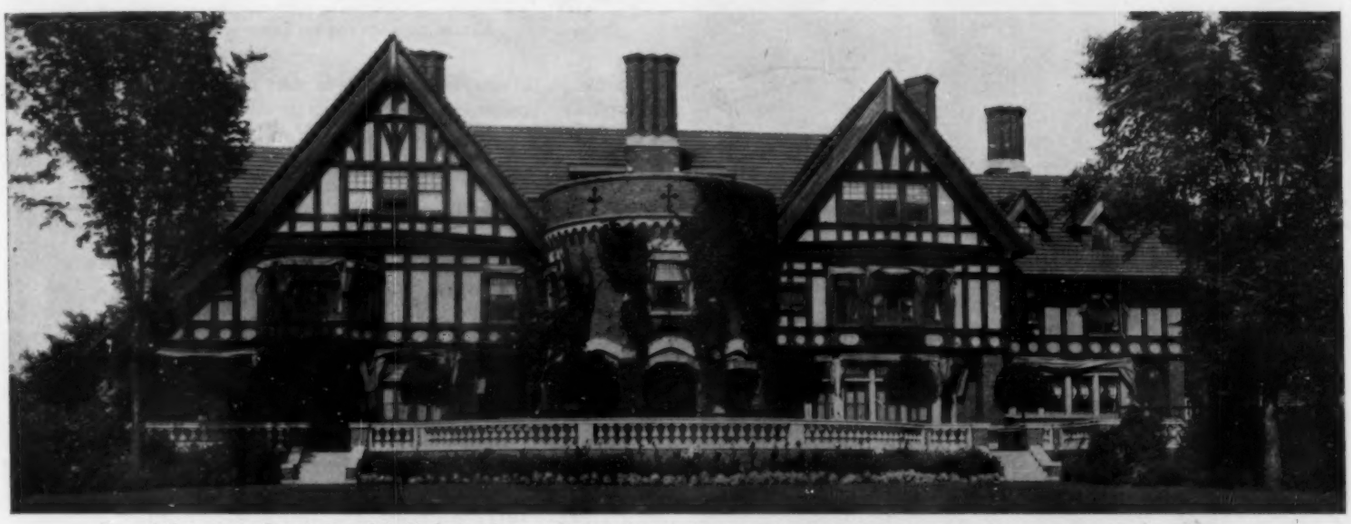


One of the great advantages of half-timber houses is that the windows can be put where wanted; they need not be symmetrically located as in classic design. A residence at Minneapolis, Minn. Harry W. Jones, architect

The Case for the Half-timber House

BY ALLEN W. JACKSON

Photographs by James Huntington, T. E. Marr, Wm. T. Clark 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 last issue Mr. Frank E. Wallis, the well known authority on Colonial architecture, told why a house of that type is the only one to build. Mr. Jackson presents herewith the case for Half-timber with as enthusiastic an advocacy. A number of other styles will be explained and illustrated in future issues—the Gambrel-roof, Colonial, Italian Adaptations, Modern English and German Plaster Houses, The Patio Type, and probably one or two others.

LET me warn the young architect about to dine out that, while the first question asked of him may be about the weather, the second will surely be "Why don't architects invent a new style of architecture?"

There may be more than one answer as to why we do not invent a new set of forms out of hand, but if it can be made perfectly clear what an architectural style really is we are provided at the same time with the answer to the question. If it is thoroughly understood that an architectural "style" is but a reflection of a certain type of civilization, is but a mirror of the customs, manners, limitations and environment of a race, showing the slow, painful, process of the growth and development of a people, it ought to be apparent why it is that "styles" are not invented in the study.

Even when it becomes no longer possible truthfully to reflect the manners and customs, the requirements and desires of a people in the old inherited forms—even then we may not talk of a new style, but of modifications of the current one, the whole problem being one of growth. It is as impossible for us wilfully to repudiate our architecture as it would be our literature. A people's architecture *fits* them, and no one else can wear it. We may admire others, but only our own is flesh of our flesh.

The particular style that *we* have been born into, developed by our forefathers through centuries, keeping pace with the slow, painful progress of the race, always a true index of its contemporary condition, a perfect inarticulate measure of its culture and refinement; this style, this growing embodiment in stone of a people's dreams and idealism, keeping step down through the centuries with the upward march of the race—this for us is the Gothic style of England.

Stone and brick were the materials used for the important work and plaster and timber for the farms and houses of the gentry.

The Georgian style, also brought over to this country, where we know it as the Colonial, was not an indigenous manner of building; it was but an imported fashion, an alien style, as little

Half-timber walls are not always of timber and plaster; bricks have been used here for the filling or "nogging"

Two examples of the same motive, but separated by hundreds of years and thousands of miles

On Mr. Jackson's own house, at Cambridge, Mass., the half-timbering is used sparingly for the parts to be accented

The rambling picturesque quality of half-timber work depends not on symmetry but on balance for its harmonious composition

at home in serving British institutions as one would expect such a typically Italian product to be.

Even if we admit that long custom had served to imbue these borrowed forms with something of the Anglo-Saxon temperament, we still have the inherent unsuitableness of an essentially monumental style of architecture forced to serve intimate, and domestic uses. It is the Arab steed harnessed to the plow. Its simplicity and dignity are all very well but they are bound to a tyrannical symmetry, rigid and immutable.

We all know the Colonial house, the front door in the center flanked on either side by the paired windows above and below; each window the exact size of every other; one-half the front the mathematical counterpart of the other. It may be there is a guest room on one corner and a bath-room on the other, but it never appears on the surface. We might have liked for comfort and convenience to have had three windows on one side and two on the other, or perhaps higher, or smaller, but it will do us but little good to carry our request to this austere front.

Like the unlucky traveler in the bed of Procrustes, the poor plan is made to fit by brute force, either by stretching or lopping off.

Now it is an architectural maxim, that, without regard for style, the elevations of a building shall express the plan, but how is it possible for the meanest and the most honored rooms to be expressed on the exterior by the same thing—the window for instance? If one window is a truthful expression of the one room, how can it possibly be of the other? Working in the derivatives of the classic style as applied to domestic work, not to be able to tell from the outside, the bath-room from the parlor, the butler's pantry from the ball room, is a basic defect of style that forces many undesirable compromises that would be unnecessary in a more flexible and less rigid system. There should not be this conflict between the plan and its elevations by which one must give way to the other, serious sacrifices having to be made before the two can be coaxed into joining hands.

In this feud between Truth and Harmony, Utility stands but a sorry chance.

As has been said, a primary necessity of good architecture is that the elevations shall follow and grow from the plan, that they shall express what they shield; they must be the effect and never the cause. Beauty must wait on Use and is only noble when it serves.

If, then, our exteriors will not subordinate themselves; if they are not perfectly tractable and flexible, it is a weakness, and this weakness is one that we think exists in the classic style, a weakness which never shows so plainly and disastrously as in the manifold exigencies of modern house-building. And it is in this very matter that the strength of the true English work lies. The plaster and half-timber houses, by ignoring symmetry (but never composition) gain at the outset an immense freedom.

The plan may fulfil the most extraordinary requirements, may house the most incongruous matters under one roof; china

This house at Radnor, Pa., Horace Trumbauer, architect, illustrates the possibility of using stone in conjunction with the half-timber plaster work

closets may come next to chapels, pantries under boudoir, yet each have every requirement of light and space exactly fulfilled, with their proper and fitting exterior expression. There is the best possible understanding between the plan and elevation, the understanding that the plan is master and the other must honor and obey.

The results in England, where it is best studied, are those soft, beautiful houses, which affect us by their perfect repose and harmony, rest and simplicity; no stress or striving here, only peace and quiet. They take their place in the landscape more like some work of Nature than of man, nestling among the verdure almost like some larger plant, more as if they grew than as if they were made. Rules of the books, recipes from the schools, seem very thin and profitless in their presence.

These buildings are not dependent on the paint shop or the planing-mill; they are brothers to the soil—what else are the brick and mortar and rough-hewn timber? They are not designed under an artificial rule derived from nothing in nature. Then the adornment of these English houses does not consist of motives invented for use on Greek temples five hundred years before Christ. What detail and ornament they have were invented painfully, lovingly, and slowly through the centuries by the people themselves, improving and bettering as they came up out of their darkness of ignorance and poverty. Eloquent of a people's history, those who live in these houses own them in a very real sense.

As for their use in this country, the utilitarian has no complaint on that score, as they are perfectly suited to our climate. The plaster makes a warmer wall in winter and a cooler one in summer than can be had with only wood. When properly done it is very durable and there is no cost of upkeep. It can be made thoroughly charming in color itself and wonderfully harmonious among the surrounding vegetation.

Of course in considering the modern work one must not expect to find in it the charm and fascination which so delight us in the old English crofts and manors. It is an exceedingly difficult thing to judge architecture *per se*, that is to separate the architecture, the conscious design, entirely from its setting, and pass judgment on it solely as an artistic composition, without regard to the accidental or fortuitous in its surroundings, or to those caressing marks by which we may know that Father Time has passed that way. This added beauty begins where the architect left off, but he is too often given credit for the beauty that is of Nature and not of man—the perfect result that neither may obtain alone. The English cathedrals—were they so beautiful, so noble, so satisfying, when the architect stood off and looked at his finished work, their future history unborn and timid Nature looking on from afar, not yet ready to run up and cling about its base and storm its walls and find a foothold in every cranny? I fear they were not so good then, for every picture is helped by its frame.

Your architect prefers the cathedrals of France, standing in the midst of squalid villages, with the old houses circling thick about the base, clinging to its very skirts. These buildings are

Much of the charm of old half-timber houses results from the use of various materials in combination and in the looseness of construction—notice for instance the uneven spacing of the gable-end timbers

In comparing modern efforts with the old work it is well to bear in mind the latter's great advantage in the mellowing influences of time

Half-timber work admits of great freedom in the design of chimneys. A house near Philadelphia, Lindley Johnson, architect

Your Colonial mansion may be stately and dignified, but can you with rule-of-thumb methods gain the picturesque individuality that half-timber work makes possible? A house at Wellesley, Mass., A. W. Jackson, architect

A house at Merion, Pa., Horace Trumbauer, architect, showing even an un-English piazza is not impossible with this work

less appealing, less soft and beautiful, less picturesque and charming, but they stand without adventitious aid to proclaim and attest the greatness of their designers and builders.

And then to be reckoned with, in its very powerful but extremely subtle appeal to the sensitive mind, is the potent power of age. For time means history, and nothing is more effective in making us feel the presence and reality of the past, in recalling historic events than buildings which saw or may have even sheltered them. The power which such works have of revivifying the former life which surged about them and profoundly affecting and moving the imagination of the onlooker by the subtle aura that hangs about and permeates them, is a force that must be carefully taken into account and guarded against by him who would sit in judgment on architecture.

These pleasant emanations are for the critic illegitimate and must first of all be exorcised, before he is fit to don the ermine.

Let us therefore be a little careful before we are quite sure that our admiration is wisely bestowed and that our old buildings are really so much finer works than any we produce to-day. Let us eliminate Mother Nature and her accessories of verdure and decay, let us forget the singularly happy results she obtains by sagging our roofs and staining our walls, by blunting our edges and playing havoc generally with the specifications. It is all so delightful—but it is not architecture.

In the same way let us banish Father Time from our thoughts, with the rich pageant that follows in his train, and try to discover only what it was our designer had in his heart, what colored his thoughts, what guided his hand, when he stood before his empty field with visions swarming through his mind.

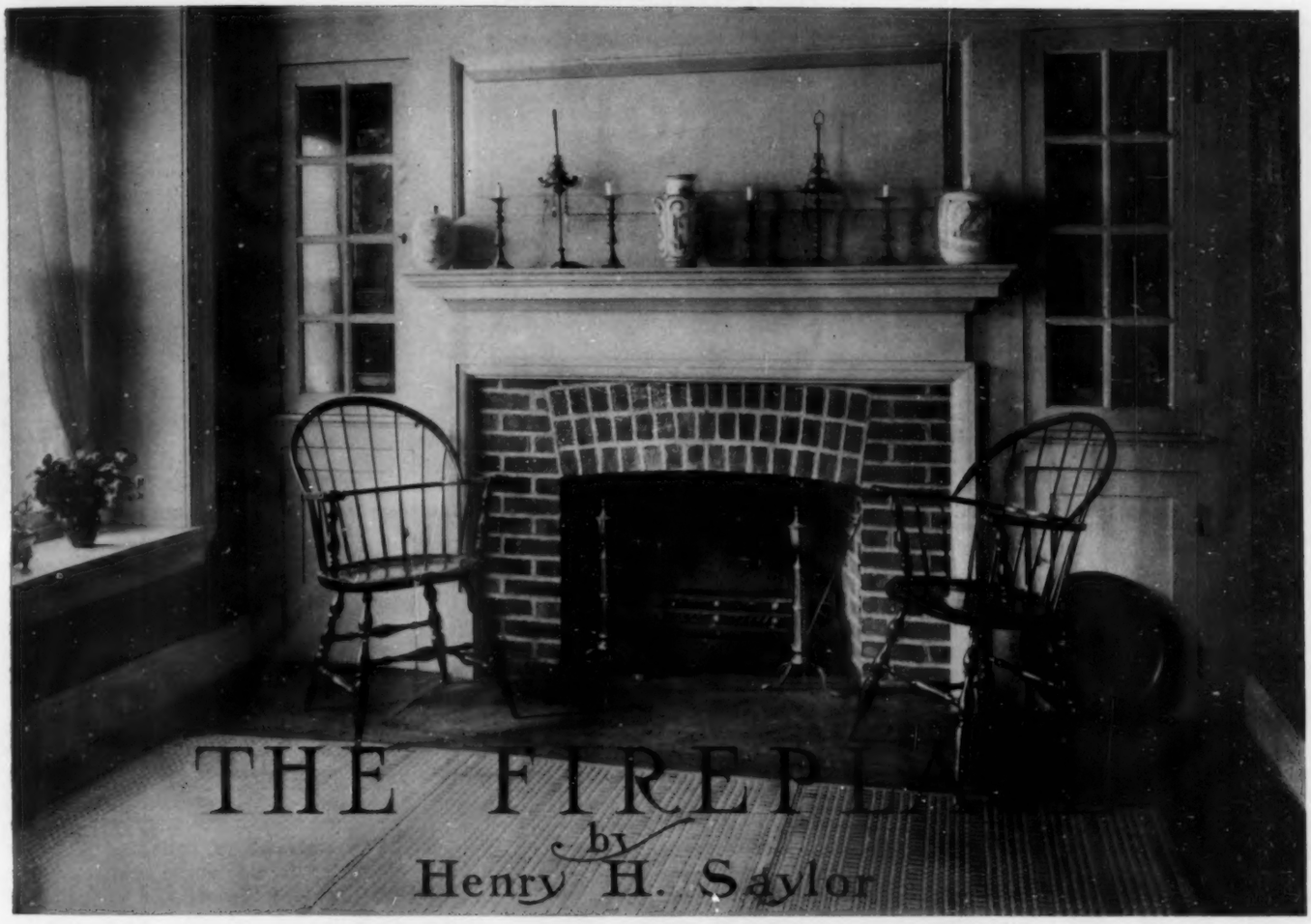
Let us look now at what this English half-timber work was in its birthplace and what we make of it to-day. We shall notice in looking over the illustrations chosen for reproduction that many of the buildings are not entirely done in half-timber. Many of the most successful ones are those that use it in connection with plain plaster or brick, the black and white used as an accent, as a precious thing.

A particularly strong point of the English work is that your Englishman will spend $100,000 and when he is through will have a simple, quiet, modest cottage. We, on the other hand, with half the money at our command, at once try for a palace, Corinthian columns through three stories, and plenty of carved stone. We build the cottage only when we can afford nothing else. But it is pleasant to think that this quiet simple work is becoming more common with us every day. We are coming to recognize its picturesqueness and adaptability to varying conditions of site, its homelike quality and freedom from ostentation. All these considerations act powerfully towards making it the one suitable style for our country homes.

Another example of the half-timber work's picturesque possibilities and the American tendency to use the timbering sparingly

An old example showing the naive carving used for enrichment

A Llewellyn Park, N. J., house, Percy Griffin, architect, where brick takes the place of plaster above the stone base



THE FIREP...

by Henry H. Saylor

ESSENTIALS IN THE DESIGN AND CONSTRUCTION OF THIS MOST IMPORTANT FEATURE OF LIVING-ROOM, DINING-ROOM, BEDROOM AND HALL

Photographs by J. M. Elliot, C. H. Claudy, M. D. Northend and others

BACK in the fifteenth and sixteenth centuries our ancestors built their wood fires on the stone floor of the great halls and let the smoke find its way out as best it might. The experience of many a new home-owner to-day, coaxing along the first fire on his new hearth, prompts the thought that we might suffer less from the smoke if we did it that way now.

In this South Yarmouth studio a simple wood shelf is the only embellishment of the chimney breast

It is a curious thing, when you turn it over in your mind, that in three centuries of chimney building we have yet to learn, as a race, how to construct a fireplace and flue so that it will do the work expected of it. There *are* fireplaces that do not smoke, of course, but they work in spite of their designers, not because of them. It is an easy matter to make a fireplace draw; simply make the flue large enough and it will draw not only the fire but the fire-tools and a rug or two for good measure. That is the sort our Colonial ancestors built. On a cold night they blistered their toes before the mighty blaze and developed rheumatism and influenza through the mighty wind that rushed past them on its way up the chimney. Ninety per cent of the heat went up the chimney—but then cordwood was to be had for the cutting.

If we are to take real comfort and enjoyment out of our fireplaces we have got to give up this almost universal desire for a *big* fireplace. I have yet to find the man-about-to-build who does not ask at once for "one of those fine big fellows—the kind that burns whole cordwood." I suppose this is based on the assumption that if a small fireplace is a good thing, a great big one is that much better. Well, it isn't. Have your big cordwood blaze, if you like, in your summer shack or seaside bungalow, where the cheer of a roaring fire is the sole desideratum rather than just plain solid comfort. But a big fireplace is too powerful a ventilator for the home living-room; it needs air—a great quantity of it, and the fire will draw it into the room through every crack and crevice of doors and windows to feed the flames. And that means draughts. So take my advice and be content with a fireplace about three feet in width and two and a half feet high. You can construct such a fireplace along scientifically correct lines

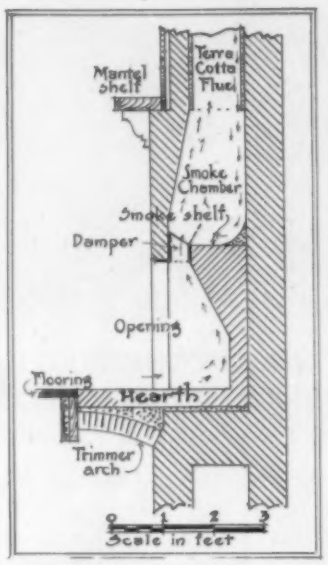
A reinforced concrete beam separates this broad inglenook from the living-room

The seats here are rather too close to the fire for comfort. Make the inglenook seats of box form, with hinged lids, so as to have a convenient space for firewood

The owner has had a lot of enjoyment in making the oak mantel facing and copper hood himself

so that it will not smoke. Moreover, you will get the maximum amount of heat from it into the room instead of up the chimney.

There are two great essentials in a good fireplace. One is the relation between the opening into the room and the flue area—the latter should be one-tenth of the former area; the other is what is called the "smoke chamber," a part that corresponds to the dome on a fire-engine, which is designed to take up and equalize the force of the stream that is pumped intermittently through it. In much the same way the smoke chamber takes up the inequalities of draught and down draught and keeps the smoke going steadily up the chimney. A glance at the diagram will make this clear. The brickwork at the top of a fireplace, just above the opening, is drawn forward to form the "throat"—an opening into the smoke chamber three or four inches deep and the full width of the fireplace opening. This throat contains a cast-iron damper, with a hinged lid as shown. The narrowing of the natural exit passage for the smoke and gases causes these latter to pass through under some pressure and therefore with a distinct force. When the fire is first lighted the column of warm air rises at the front of the flue, causing naturally the down draught of the cold air at the back. If the way were open to it this descending column would reach the fire on the hearth and force the smoke and gases into the room. The "smoke shelf" prevents this, and by its form swirls the cold air around until it is carried into the path of the rapidly ascending warm column and on up the chimney. It is the simplest and most logical thing in the world, yet if you entrust the building of your fireplace to the village mason he will build it any other way but the right one.



This vertical section through the center of a fireplace shows the scientifically correct form for maximum efficiency and no smoke

Many of the Colonists' fireplaces had cavernous smoke chambers above them, and there was usually a door at the side of the chimney breast through which the hams and bacon went to hang in the smoke until cured. When this function of the chamber was no longer employed the chamber itself gradually disappeared and the flues were made larger and larger in misguided efforts to prevent the fireplace from smoking.

Although the proportion between opening and flue and the construction of the smoke chamber are the prime essentials, there are other minor details of the fireplace that must be provided for if we are to have the maximum efficiency. The depth of the fire chamber should be one-half the width and the sides and back should slope so as to reflect the heat out into the room.

The cavernous kitchen fireplaces of our Colonial ancestors were picturesque but needlessly large

A large stone projects to form a hob. The hearth is of cement and stones

The old-time builders usually took advantage of all waste space around the flue by putting in closets

To secure the proper slope for the sides make the width of the back two-thirds of the front, letting the sides first run straight back for the width of a brick to save beveling them at the front edge. Allow the back to rise perpendicularly for about a foot before it begins to slope forward towards the throat.

A fireplace can be built without the iron damper, but its presence is a guarantee that the form and size of the throat will be right. Then, too, its front ledge supports the flat-arch brick of the front which without it would require an iron angle bar.

See that the opening into the flue proper, which latter is best lined with terra cotta forms made for the purpose, is over the center of the fireplace, in order to ensure equal draught throughout the fire chamber. From this central point the flue may swerve to either side to get around a fireplace above.

Let the brick hearth extend sixteen or eighteen inches beyond the opening—the brickwork pattern is a matter of taste. It is supported on a "trimmer arch" or "rowlock arch," as shown in the diagram, sprung between a pair of floor joists and the chimney foundation. See to it that no wooden timbers run through the brick masonry under the hearth or close to the sides of the fire chamber. The heat will eventually set these on fire.

The chimney itself should run a foot or so above any nearby roof ridge, and it should work without any cowl, whirligig or other tin toy on the top.

Bricks for lining the fire chamber, hearth and smoke chamber should be hard burned and laid in the best cement mortar. Ordinary lime mortar will not stand the heat of these exposed locations.

Do not make the mistake of having an ash-drop in the hearth, nor take out the ashes at all until the accumulation leaves no space for fresh logs. The presence of a glowing mass of embers under and back of the blaze is one of the wood fire's greatest charms. Bury the unconsumed wood each night under the ashes and it will furnish the best kind of a starter for to light the next evening's fire.

The white cement facing and simple woodwork make an unusually distinctive fireplace in Mr. Frank Miles Day's own home

The extended line of mantel shelf against the white wood paneling gives a fine place for the pewter collection

With our scientific fireplace completed there remains the problem of the mantel or plain shelf that is to embellish the chimney breast. There is an infinite variety of possibilities here, from the unadorned breast of brick, stone or cement, to the delicately carved white painted mantel of Colonial times. Usually the treatment is governed by the architectural character and finish of the other woodwork in the room—a rough stone chimney breast is out of place with the delicately molded trim belonging to the Colonial style of interior, nor would the slender columns supporting a classic order and shelf of the latter type harmonize with heavy oak furniture and trim. Select the mantel to fit the character of the interior.

Charming mantels of Colonial pattern are obtainable ready to set up and finished with the first coat of white paint. Or, if your interior is of the so-called craftsman type, make the mantel shelf and its support of waxed oak in plain lines to correspond.

Throughout the discussion of a fireplace's essentials in construction the assumption has been that brick would be used. This is by no means necessary, though it is easier, perhaps, and more appropriate to build a fireplace of this size with that material. For the facing, however, tiles are occasionally used to excellent effect—not the highly glazed, raw-colored tiles that we associate with the gas log and the sham fireplace, but dull, handmade tiles that are not necessarily precisely true to size and square edge, tiles that show forth something of the fire that made them. The square ones, three inches on a side, are obtainable in plain dull squares and variously modeled raised patterns. A border of the latter around a plain field, or a diaper pattern in dull reds or greens makes, either of them, a charming fireplace facing. They are set in cement against the brickwork.

But what of the fireplace that is already built and is never used because of its misbehavior? There is at least a good chance

Keep the ashes on the hearth—an accumulation of them contributes largely toward a better fire

In the Middle Ages they lighted the fire in the middle of the hall and listened to the minstrels in the gallery

A fireplace about 2 ft. 6 in. high by 3 ft. in width will give greater efficiency than a very large one

that it can be remedied. The fireplace expert represents a new profession that thrives on the follies and ignorance of past and present builders. Here, however, is something to try, first. Many fireplaces smoke for the reason that the flue is too small for the opening. You cannot increase the size of the former but you can easily decrease the latter. Take a pair of thin boards, six inches wide and cut to fit snugly into the opening along its top. Wedge one in at the top, light a fire, and draw the other board down over the outside of the first until the opening is reduced sufficiently in area so that its flue can take care of the smoke. Perhaps you will not need even the six inches reduction. When the working combination is found, have a copper or sheet iron curtain made to replace the boards.

Still another common fault is a throat that is too wide. Remedy it by laying across the top of the throat opening an iron plate that can be pulled back and forth, until the throat is the proper size.

Screening, Revealing and Emphasizing Objects or Views

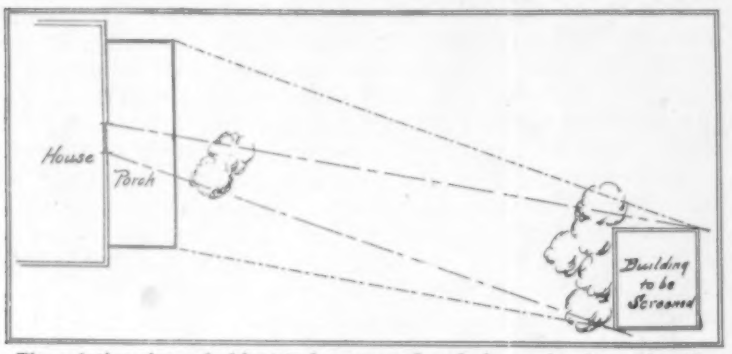
JUDICIOUS PLANTING WILL DO ONE OR THE OTHER OR ALL THREE, MAKING EVERY OUTLOOK A PLEASING ONE WHETHER THE PLACE BE LARGE OR SMALL

BY GRACE TABOR

Photographs by Thomas W. Sears, landscape architect, and others

[*The fourth of a series of articles by Miss Tabor on the subject of landscape gardening as applied to the American home of moderate size, preceding titles being "Utilizing Natural Features," "Getting Into a Place," and "Formal or Informal Gardens."*]

A BARRIER of living verdure makes an unpleasant prospect practically non-existent, whether space be measured in acres or in feet. Therefore it does not seem an exaggeration to say that the possibilities which lie between what is termed "planting out" and "planting in" are the greatest boon of the garden builder, wherever he may be working. Nothing need be endured, for even the tiniest of snug little places has room for a screen of one sort or another, and in all probability needs it.



The relative sizes of object to be screened and view point determine the location and size of the screen

While distance is the primary consideration in planning a screen—not the distance of the object to be screened, however, but the distance between it and the screen—this is determined by the relative size of the object and the place from which it is desired to hide it. So these demand attention first.

Let us suppose that the small building at the right in the diagram is to be cut off from the window of the house only; then, in order to be made up of the least number of shrubs possible, the screening group must be placed close up to the house. But if the same building is to be planted out from the entire porch it will be necessary to set the shrubs of the screen as close up to it as they may go in order to use the least possible number—therefore at the greatest distance from the porch. So we find the rule to be that when the object is larger than the space from which it is to be screened, economy is served by shortening the distance between the screen and the observation point; but when it is smaller than the region from which it is to be excluded, the reverse is true, and fewer shrubs will be required if the distance between screen and observation point is extended to the fullest degree.

The material to be planted cannot be decided upon until the position of the screen is thus determined, as its selection depends greatly, of course, upon the amount of space allowed. Naturally evergreens are the things ideally adapted to screening, for they

fulfil the purpose winter and summer; if they cannot be used entirely it is well to make them form a large portion of every such group.

Lack of space need not exclude them, for a hemlock hedge will take up as little room as anything; it may be brought to any desired height and will stand shearing into any form. And its impenetrable wall of soft, thick, beautiful green is lovely enough to need no excuse for being.

But it is well, usually, when a screen has to be situated near at hand, to present it, itself, as a feature, frankly drawing and centering attention upon it, instead of attempting to make it unobtrusive and unnoticed. Such an attempt is bound to fail when the distance is short; and the irritating suspicion which constantly recurs when the vision is intercepted by a group that, of itself, is not interesting enough to distract attention, is something to be avoided if possible. It is a subterfuge to feature the screen, but a perfectly excusable one.

Countless ways to make such a barrier itself of special interest will suggest themselves, according to a situation. With a hemlock hedge a semi-formal treatment is excellent; a pedestaled faun or a row of them, placed before it at intervals of ten to fifteen feet and gleaming white against the green will never grow wearisome. Or if these seem too ambitious for the rest of the place, substitute a sun-dial, an urn or a garden seat, with a flanking pair of small pyramidal boxwood or juniper trees, or a pair of flowering shrubs. Ramblers or pillar roses, gathered up and tied to a straight young sapling, take up very little room and grown this way are marvelously effective, lending themselves especially to cramped quarters. Simpler than anything else would be a row of these to form columns of bloom against the hemlock's dark green.

Privet grows much faster than hemlock and costs a great deal less—and it holds its bronzy leaves persistently even against wind and snow and frost. So, for prompt results, and cheaper, it is very satisfactory indeed; even without a leaf upon its branches an old privet hedge that has been properly trimmed is so twiggy that it very effectually hides the thing beyond it.

Where there is room enough a thick planting of arbor vitæ, hemlock, spruce or cedar, left untrimmed to form a natural background for a border of flowering shrubs, cannot be improved upon. Low-growing evergreens may be used in place of the shrubs if one has a fancy for them rather than the latter's summer bloom.

These conifers do double duty, protecting the garden and hiding dairy sheds only a hundred feet away

For screens to be placed at a distance, on a place of considerable size, I should always recommend conifers as the dominant note, with deciduous trees beyond in as natural and forest-like relation as possible; a facing down of mountain maple (*Acer spicatum*), the dwarf and very beautiful mountain pine (*Pinus montana*, variety *Mughus*), or the low-growing junipers (*Juniperus communis*, varieties *Canadensis*, *vulgaris*, *nana* or *pendula*), will help in duplicating the appearance of a natural thicket.

Whatever the thing may be that mars the outlook from within a dwelling or offends the eye at any point of the surrounding grounds, I should like to urge that something be done to annihilate it, promptly. There is no excuse for contemplating a neighbor's chicken yard from the library windows, nor for tolerating a view of his tool house or wood pile from the front gate, for a little contriving will find a way to hide them. Similarly, even remote objects may be blotted from the landscape, if not in one way then in another—for what a bush will not hide a pine tree will.

The process whereby the outer world is included in one's private grounds or garden—the "planting in" process—is obviously not altogether that, literally. Rather is it a great deal more than that, for the term applies of course to any arrangement

Quick-growing poplars against a wall make an adequate screen

The white marbles break the monotony of and lend interest to the dense evergreen hedge, which hides a roadway winter and summer

One trick of successful screening is to make the screen and its foreground so interesting that one does not wonder what lies beyond

which brings an object or a view—usually the latter—into the general scheme of a place, even though it is miles distant from it.

Leaving the intervening space unobstructed and quite free from any planting would seem to be the simplest way of accomplishing this, but curiously enough it fails utterly. For a view must be more than *there* to give us the full benefit of its beauty; it must be *there-for-our-benefit* and something must be done to make us feel this, to assure us unmistakably that this is so, as we look out upon it. It must be incorporated into the place from which we behold it.

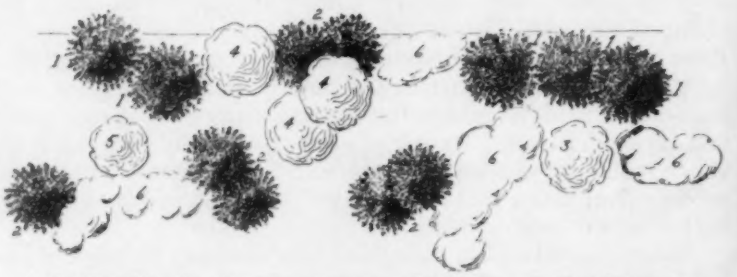
The one thing which accomplishes this very much to be desired result—the thing that is the key to success in this phase of tree and shrub planting—is the thing that is generally overlooked and unsuspected. Yet it is so important that it cannot be overestimated nor over-emphasized. Briefly it is this: the dominant line in a view must dominate the planting which carries the eye to that view. In other words, the lines along which the planting carries the vision must be made harmonious with the object which ultimately meets that vision—must be what someone has very aptly termed "eye sweet."

At first glance this may seem impossible, in some instances anyway. For example, how is the vision to be carried *straight ahead* by means of lines that conform to a sea horizon? Certainly the dominating line of that is horizontal; and a horizontal line is at a direct right angle with the line of vision as one looks out to sea.

True enough, nevertheless the vision travels straight to the seascape over broad lines of planting which sweep to left or right, or both, in lines that are generally horizontal, much more swiftly and directly than it does where an effort is made to actually carry it forward with lines of planting that run *against* the horizon. The rule holds because, as a matter of fact, the planting cannot force the vision through tunnels or along ruts or ridges of green; it can only persuade it and lead it on. It is a matter of suggestion, not coercion. And successful suggestion always presents but the one idea—it offers not the subtlest hint of a resistant force or, in this instance, direction. The idea in the case just cited is all breadth and expansion, and nothing should occur to distract the mind, through the eye, from this.

A view that follows a valley requires "planting in" on precisely the same principle—that is on the lines of the valley whether they be oblique to the view point, or horizontal, or straight away; similarly a view of field or mountain or stream must determine, by the line which dominates it, just how the vision shall be helped along the way.

I have yet to find an instance where the rule does not apply—and it not only *includes* the prospect within your own domain legitimately, but it emphasizes its presence there, and by this emphasis enhances its value to the whole. Consciously or unconsciously the artist makes use of it in a landscape, and views that give a sense of complete satisfaction will be found to measure up to the standard which it furnishes.



A planting plan for a screen group 200 feet long. 1, Austrian pines; 2, Hemlocks; 3, White Birch; 4, Lombardy Poplars; 5, Mountain Ash; 6, Shrub groups

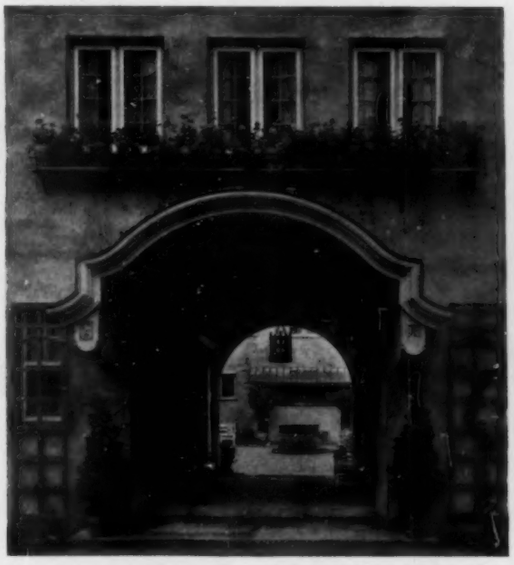
Here is a masterful harmony between terrace wall, river and sky line, the whole embodying the perfection of dignity and repose

Happily circumstances require the planting of barren tracts to create vistas rather more often than they do the cutting out of Nature's growth to clear them—happily at least for some of us. I doubt if many who love outdoors and all that lives outdoors, can see a tree felled without a shivering pang of regret. I am perfectly free to confess that I cannot—yet it is quite as important to eliminate vegetation under some conditions as it is to preserve it under others. But let there be no uncertainty about when to do which—for the hour in which a tree may be laid low is tragically brief compared to the half a hundred years or so it may have been growing.

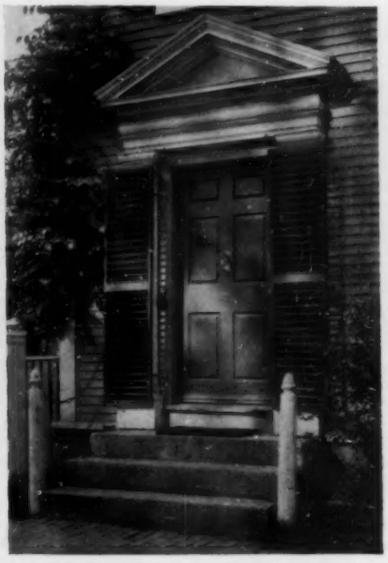
When circumstances force a choice between trees and a view, and it is the *only* view, choose it every time—unless there is chance for an interloper to come between and steal it from you at some future day. Settle this beyond a doubt; never open a vista that may end in an eye-sore some day, through a neighbor's freak or folly or indifference.

But do make as much of the world your own as you can, right down to the rim. There is soul expansion in living with a horizon, either of land or sea, and trees that hide it are cheating you of something you cannot afford to be without—something rightfully yours. Condemn them and take them out without compunction—their room is better than their company—though it may hurt to see them go.

A side entrance on a plastered stone house. Cope & Stewardson, architects



The "Dog trot" entrance to a house and enclosed garden in a Wisconsin home. Howard Shaw, architect



An old-time Salem "stoop" with its blinds and brass knocker

The wrought iron fence treatment marks this old Charleston entrance

The front entrance of a thatched cottage in Sussex, England

The curved hood roof is unusually effective here. Guy Lowell, architect

The latticed porch and built-in seats lend an air of informal hospitality

The stately classic entrance of a Southern Colonial stone mansion

A small porch usually marks the country house entrance. Dwight & Chandler, architects

NINE TYPES OF ENTRANCE DOORWAYS

The stable group of to-day should echo the architectural character of the house. Alfred Hopkins, architect

Harmonizing the Outbuildings

SUGGESTIONS FOR BRINGING THE WHOLE HOMESTEAD GROUP INTO HARMONY, WHETHER IT CONSIST OF NUMEROUS UNITS OR MERELY OF A HOUSE AND A GARAGE

BY WILLIAM ALLEN

THE initial impression received by a traveler making his first tour in foreign lands is a sense of the architectural harmony to be found in the relation, one to another, of the different buildings of every group he comes across, in town or in country, on mountainside or on plain. It is this harmonious relationship of building to building, especially of the lesser buildings dependent upon the main edifice, that forms the very backbone of structural picturesqueness, and makes us forget the squalor of the peasant's surroundings in the artistic impression made by an arrangement of thatched cottages and outbuildings.

Our Colonial ancestors brought to America a very strong sense of the value of harmonizing the outbuildings to their surroundings, making both the house and the garden units of a complete scheme. Mt. Vernon is a notable example of this, and, so long as some style-purity survived, there were many other examples of early American architecture to illustrate the point.

Even in some of the shingle-side cottages that have survived the vicissitudes of a century or two are to be found indications of just how strongly early American home-builders sought for picturesque effects, and their strong sense of consistency in the grouping of buildings of any sort.

In the dark ages of the Fifties, and the Eighty-eights, public taste in architecture had called forth the never-to-be-forgotten reproach of Queen Anne fronts and Mary Ann backs. These were eras where every known architectural style joined protestingly in a mad architectural melée all in one house, which was apt to have a Gothic balcony, a Colonial porch, a châlet portecochère, a Pompeian terrace, Louis XVI windows, Tudor turrets,

Garages are springing up like mushrooms—why not build them to harmonize with the house

and Italian chimneys, all at one and the same time, with a jumble of as many odds and ends for the outbuildings. Indeed the stables, the storehouses, the tool-houses and garden houses, the fuel houses and all outbuildings seemed to vie one with another for fantastic supremacy.

Mt. Vernon is a striking example of the harmonious grouping of all outbuildings

Fortunately such things do not last long, and one remembers, with a smile, the remark of a worthy Quaker, who, amazed at the bad taste shown by his neighbor in the sort of a house he chose to build, remarked "John, if architecture be frozen music then thy house is truly a frost!" Everyone who plans to build now stops to take into consideration every fence, post, curb, shed, stable, and outbuilding, and its final relation to the whole scheme of house and grounds.

In harmonizing the outbuildings there are three things to consider, so

far as mere appearances are concerned. These are form, style and color. Your house should serve as a key to all the problems you may find connected with these matters, at least if you are about to build. If, on the other hand, you are living in a house that has been built some years and believe you can make it more attractive by harmonious surroundings, it sometimes happens that you must reverse the order of things, and make your house harmonize with its outbuildings.

One of America's most notable country home groups—the Breese place, Southampton, L. I. Designed by Stanford White

Sometimes this can be done through a color harmony being brought about by repainting, by the addition or subtraction of ornamental architectural detail, or by remodeling. Finally a sense of proportion, often utterly lacking in a group of small scattered outbuildings, may be restored to them by the happy introduction of such connecting links as properly planned fences, walls, roofed walks, pergolas, etc., which give form to such a group and dignity to its new conception.

By architectural harmony one must not suppose mimicry is meant. The writer has seen stables that were simply either smaller or larger editions of the house, with monotonous annexes that were miniature editions of themselves. In a certain Massachusetts village there is a house which some sea captain, more versed in sailing than in styles, built some years ago as a monument to his happy fortunes. It boasts a cupola, which is a faithful model of the house itself, a bird house which is a faithful model of both, and a barn below it that is twin to the house. On each side of the driveway approaching the house are two fieldstone posts, each capped by a tiny model of the captain's house, and a fountain

A New Haven house and its garage as designed by Hoggson Brothers

on the same order ingeniously spurts water out through the windows and up through the chimneys of its tin premises as a family diversion during rainy days—in drought water cannot be coaxed into the community for any purpose, let alone fountain spurting.

The captain is very proud of it all, and he believes, without doubt, that a wonderfully harmonious arrangement has been effected in this manner. One hardly has the heart to disabuse his mind, but his example may well serve as a warning of what *not* to do.

However, instances of this sort are becoming less and less common, for architects throughout the country have been giving much attention to the matter. Perhaps no architectural factor has had a greater hand in determining the modern trend of ideas in this connection than the widespread introduction of the use of concrete as a building material. Many a large American estate has come to be as picturesque as an European village through judicious planning of the outbuildings, and so, too, have much less pretentious places likewise found their attractiveness enhanced by the care and thought that have been given to such matters.

In beginning to plan for the home one should ask himself what buildings beside the dwelling will be necessary to keeping it up. He should not wait until the house is built before he begins to think about the outbuildings. Quite possibly the house could accommodate itself to accessory buildings very nicely if these entered into initial plans, whereas many a house-builder lives to regret his thoughtlessness in not planning for future outbuildings and finds, all too late, that he has not provided for their proper location as he might have done in the first place by accommodating the dwelling under possible conditions to a relationship with them when they should come to be built.

Again, outbuildings may be arranged with some idea of serving as wind-breaks, or to furnish shade where required for certain convenient kitchen and stable yard operations.

When fences and walls are needed for the protection of buildings and yards, one cannot be too careful about selecting plans for them. Nothing is more unsightly than walls or fences between outbuildings that carry in their design no sense of relationship to anything else about. It is not enough that your stable wall, for instance, should hide the stable yard, but it should enter into the decorative scheme of the whole group of outbuildings, and this cannot be accomplished if one gives the matter no particular thought.

Taking the whole matter into consideration, one cannot do better than to explore his premises and ask himself if there is not something he can do to enhance their beauty of livableness, or practicability by better attending to the problem of harmonizing the outbuildings.

A stable and poultry house of concrete, harmonizing with the Pabst house, Oconomowoc, Wisconsin

Stone walls give an appearance of enduring solidity that other materials only approximate

A combination of gray shingles with local stone laid in white mortar makes a cheap and effective house

Of What Shall We Build Our Walls?

SHALL WE USE SHINGLES, CLAPBOARDS, STUCCO, BRICK, CEMENT, STONE OR SOME COMBINATION OF THESE—AND WHAT WOULD EACH COST?

BY RUSSELL FISHER

Photographs by Thomas W. Sears and others

NOT very many years ago, before the present epoch of easy transportation and aggressive invention, the problem of selecting a material for the walls of the house bothered home-builders of that day little or not at all. A man employed the one or two materials that were nearest to hand. In the stone districts he found all his neighbors' homes built of the local building material; the builders knew how to handle it better than any other, even if it were available, so the natural thing to do was to follow his neighbors' examples. In other localities stone was a scarce material and wood prevailed; in clay districts brick kilns formed the source of material for the walls. Not long ago I was driving along a road in central Vermont when, to my astonishment, I noticed that the foundations and underpinnings of houses, barns, outbuildings, and even the roadside walls, were built of *white marble*, almost as flawless as the statuary marble of Italy. It was the material nearest at hand, to be had from the outcroppings merely for the gathering, so it had been used.

Among the old cottages of England this employment of local building materials is one of the most striking and attractive features of that most picturesque architecture. In one county the cottages are all of plaster, roofed with thatch; again, they are of half-timber construction; in another district—the Cotswold, for example—stone is used, with heavy slates on the roof. Here in America, too, we have progressed far enough to be able to look back upon that period when local materials gave a distinctive character to every village and country district. Consider the wooden homesteads of New England; the stone, plaster and wood in combination that marked the homes of the Dutch settlers in northern New Jersey, New York and Pennsylvania; the stately Georgian mansions of brick in Virginia.

Even to-day there remains here and there a wholesome and affectionate regard for the local building traditions. In the vicinity of Germantown, for instance, where the local gray, mica-specked stone has remained for years the favorite building material, the houses have an air of neighborliness and harmony that sets the whole community upon a higher plane.

There is no doubt, whatever, that one of the chief causes of the heterogeneous inharmonious character of the bulk of our modern American homes is the recently widened choice of building materials now open to us. Transportation and modern invention have brought too generous a contribution to our doors. We are handicapped by an embarrassment of riches.

In the first place we have wood—shingles, clapboards or siding. It has long held an enviable position among the building materials by reason of its low cost and the facility with which it may be erected. The former quality—low cost—is probably soon to be won by stucco or by concrete. Lumber has more than doubled in price during the last decade or so, and so long as we continue to burn up untold millions of it year after year, with little or no provision for renewing the supply, the price seems likely to rise even more speedily in the future. Then, too, in building a house we must keep in mind the fact that first cost is not the whole matter. Wooden houses require paint and frequent repairs, to say nothing of insurance. It is a question even now, taking into account initial cost, maintenance, and depreciation, whether in many localities the advantages of cost are not on the side of stucco on concrete

COMPARATIVE COSTS OF HOUSE WALLS PER SQUARE FOOT NEAR NEW YORK

Local stone, furred, lathed and plastered	$0.41
Brick, furred, lathed and plastered	.56
Brick, furred, lathed, plastered and rough-cast	.65
Concrete, furred, lathed, plastered and rough-cast	.58
Terra cotta blocks, plastered and rough-cast	.37
Terra cotta blocks, furred, lathed, plastered and rough-cast	.38
Stud wall, lathed, plastered, sheathed and shingled	.27
Stud wall, lathed, plastered, sheathed and rough-cast	.32
Stud-wall, lathed, plastered, sheathed and clapboarded	.26
Stud wall, lathed, plastered, sheathed and false half-timbered	.37
Half-timber wall, brick-filled, lathed, plastered and rough-cast	.45

Clapboards in most localities make the cheapest wall in a first cost, but the repainting brings up the total

Plastered walls are warm and need no paint, and the surface may be given a variety of color and texture

or on hollow terra cotta tile. There seems little doubt that the latter materials are soon destined to become the least costly of all, excepting, of course, in places where some local material holds an undisputed field.

Stucco is a wonderfully adaptable covering for the walls, and one that has leaped into popular favor here in America almost at a single bound. Plaster, rough-cast, pebble-dash, and cement are other names given to this coating of cement plaster applied to wood or metal lath on a stud frame, applied to terra cotta blocks, to monolithic concrete walls, to common brick walls and occasionally to stonework.

Brick has the advantage of being readily obtainable in most communities; workmen can always be found who know how to lay it up, and it makes an attractive and durable wall. Of late years architects and manufacturers have developed the artistic possibilities of the brick wall to an amazing extent. Variations in the size of the brick, their texture and color, the bonding and the character and color of the mortar joints—all these elements may be so disposed and studied as to give every brick house a distinctive character of its own. Brick walls never need paint; if shabby they may be washed down with a brush and a weak solution of muriatic acid.

Finally, there is stone, the oldest material of them all, unless wood huts came before stone caves. Stone houses have an air of solidity and permanence that other materials cannot give. And there is no lack of possible variety, both of texture and color, in a stone wall. You can use large irregular stones with wide joints or you can use smoothly cut stones with almost no joint at all, though the latter style is far better adapted to the city than to the informal countryside. Stone is usually of a pleasing enough color and texture to stand on its own merits. Where it is not, a thin, almost transparent coat of white cement plaster will redeem it and not rob the material of its appearance of enduring solidity. Walls of cobblestones are seen in increasing numbers, particularly as the underpinning of shingled houses. The material is not well suited to such uses, and always bears a look of instability—as if the round stones would easily roll apart. Where cobblestones are too cheap to be overlooked they may be cracked and laid up in pieces to much better effect.

First cost is but one of the considerations that enter into a choice among the available building materials for the outside walls. Consider also the cost of maintenance and wear and tear. Will the added cost of building a fireproof house be paid by reduced insurance premiums? We cannot—or at least should not—select a material that will be out of harmony with the homes of our neighbors. Availability of materials will necessarily be a factor in determining the choice, and, judging from the past, it will lead in the right direction. The style of architecture may settle the matter for us, provided we are not willing to let the material govern the style—we would not build a New England farmhouse type of stucco, nor an Italian villa of shingles.

Whatever material is chosen, however, make up your mind that in your own house it will have a treatment that is consistent, harmonious and having a distinctive character of its own.

Shingles for walls have a reasonably long life, particularly if dipped in a creosote shingle stain before being put on

Brick is obtainable in most localities and the walls may be given variety through the bonding and color of mortar

See to it that the well stands on high ground and is deep

Picturesque, but the wind usually fails in dry seasons

Sink new wells only where contamination is impossible

The Water Supply for the Country Home

VARIOUS METHODS BY WHICH ONE MAY HAVE PURE WATER IN ABUNDANCE FOR THE KITCHEN, THE BATH, THE GARDEN, THE LAWN AND THE LIVESTOCK

BY HAROLD WHITING SLAUSON

Photographs by Thomas D. Sears, J. T. Beals and others

THERE is nothing which more facilitates comfortable living than an abundance of clean, fresh running water always at hand and supplied directly throughout the house by means of well arranged systems. Not only is it needed inside the house, either, for unless you have a plentiful supply of water, especially during dry seasons, you cannot hope to keep your lawn looking well. Often too little water on the lawn during droughts is positively more harmful than none, because it causes the growth of the roots *towards* the surface, and consequently the grass plants are weakened. Therefore in dry seasons the lawn must be thoroughly wetted, so that a sufficient quantity of water will reach the lowest roots of the sod. Thus, it will be seen that in planning the water supply for the house that is to have a lawn, this important requirement must not be overlooked.

The water supply for the stable should be as pure as that for the house. Do not for a moment suppose that animals can thrive on dirty water.

One should always be suspicious of old wells that he knows nothing about, but it is just as important that the new ones should not be sunk in positions that subject them to the least possibility of contamination. If one has the least doubt as to the absolute purity of the water supply he should send samples of it to the agricultural experiment station of his state, to state boards of health, or to anyone authorized to analyze waters. Well aerated basins of sand- and brick-filtered rain-water hold the safest water supplies. While great depth in the well generally insures against objectionable matter of an organic nature it may lead to the introduction of mineral elements that make the water hard or even unhealthful. Shallow well-water is almost never safe from a well of only fifteen to twenty-five feet in depth, for surface water invariably flows instead of filters into it, after a drought has dried and cracked the soil. So the well should be placed on high ground when possible, and one should remember that man's dependence on a pure drinking-water supply makes any avoidable economy connected with obtaining it an absolute folly.

Happy is the possessor of an artesian well. He who drills through solid rock from high ground to the base of the water supply will find, in the long run, that his drilled or artesian well is one of the least expensive methods of obtaining water when one takes into account a perpetually adequate supply.

Although springs, wells and streams of clear, pure water abound in the country, many of the houses there are without equipment for any running water supply; consequently they are without one of the chief conveniences which add so much to the advantages of living in town, where water-taps in several rooms and a bath on every floor have come to be considered as necessities of modern living.

Of course, windmills have been used for centuries, their principal work having been to pump from wells for the purpose of supplying water for cattle. However, in late years their field of utility has been enlarged, and the windmill is now often erected for the purpose of pumping a supply of fresh running water into the house-tank for family use. Nevertheless, owing to its dependence on a brisk wind for performing its duty, and to the fact that in summer, which is not the season of frequent winds, the greatest amount of water is needed, and as the capacity for pumping by this method is at times limited and uncertain, entire dependence upon a windmill for household water supply on a large estate is apt to be somewhat precarious, although it may do very well for the smaller place.

When, at all seasons of the year, a stream of running water is available near the house, an hydraulic ram is an economical means of obtaining a private water supply. The ram is entirely automatic in action, and requires no fuel or outside source of

power, inasmuch as the energy necessary for its operation is obtained from the water of the stream on which the apparatus is situated. By this means a comparatively large amount of water falling a short distance is made to force a much smaller stream to a far greater height, and is a convenient method of utilizing water which otherwise would be wasted. The ram practically requires no attention, and may be kept out-of-doors in all kinds of weather in the summer months, but is ordinarily unavailable for use in the winter owing to the probability of freezing.

Probably the simplest and most economical source of power for pumping purposes the year round is the hot-air engine, which can be adapted for any kind of fuel from wood and inflammable refuse to gasoline and alcohol. The working principle of this engine, briefly stated, is that air, when heated, will increase in volume and in so doing is made to force up the piston which operates a flywheel to which the pump is connected. Such an engine is generally installed either in the barn, the cellar, or in some small outbuilding near the source of supply, and pumps the water into a tank located in the top of the building or elevated on a framework nearby. An engine of this sort can run all day with no other attention than the supplying of fuel at proper intervals, practically lasting a lifetime, and requiring but a small expenditure for repairs. One design of hot-air engine is made especially for pumping from artesian wells where the height from the source of supply to the ground exceeds twenty feet—a distance above which it is difficult to obtain a satisfactory vacuum sufficient for raising the water. In one model the pump itself is placed on a long rod, and can be operated much nearer the surface of the water than the location of the engine would ordinarily permit. In consequence of this, various styles of this engine are adapted to almost any kind of pumping that might be required in city or country.

There are few successfully designed water towers, one of which is this example near Philadelphia—Price & McLanahan, architects

Another convenient water pump is of the centrifugal form, which can be operated at a comparatively high efficiency when connected directly to a small electric motor. In case no electric current is available the pump may be belted to a gasoline or kerosene engine, and although a certain amount of power will be lost by this system of transmission, the decreased efficiency is probably overbalanced by the increased economy obtained by the use of these fuels, unless a private electric lighting-plant is installed.

The amount of power required for supplying an ordinary house with water is so small that many persons who have given the matter but little thought are greatly surprised when they come to study it. One horsepower expended for one hour will easily raise 100 gallons of water to a height of 100 feet, and as half of that distance furnishes enough pressure for the ordinary country house, 200 gallons would be available at the end of an hour's pumping. This is a sufficient amount for the daily domestic use of an ordinary household, and in this manner an ample water supply could be obtained for a small family at a cost not exceeding three or four cents a day for fuel and oil, plus the proportionate cost of installation, attention, housing and wear and tear. The height to which the water would be raised is taken as the distance from the surface of the main supply to the top of the tank.

Building a windmill as part of the house is not common but it is well worked out here

Another private supply system which is becoming very popular obtains its pressure without the use of an elevated tank. In this system the tank, pump and engine may be situated in some out-of-the-way place—under the cellar stair, in the barn, or in fact in any convenient location where there is no danger of freezing. The pressure is obtained by forcing the water to be used into a heavy steel tank, having no air outlet. As the water is pumped into this tank the air is compressed in proportion to the increase in the volume of water. The service water outlet is at the bottom and the tank is so designed that the pressure is sufficient to raise the required amount of water to the desired height as needed.

This supply system entirely does away with the danger of a collapsing tank, and furthermore has the advantage of furnishing abundant pressure to the upper floors of the building, which would be located ordinarily, at such a short distance below the elevated style of tank as to make a sufficient flow of water impossible without the use of excessively large pipes.

A plentiful supply of water will make possible many desirable garden features

Venetian blinds are being more frequently used in place of shutters

Casements really can be made tight against rain and wind

A curious old Georgian window in "Homewood" (1803), near Baltimore

What Kind of Windows?

SETTLING THE MATTER NOT ONLY ON THE BASIS OF PRACTICAL CONSIDERATIONS AND COMFORT BUT WITH SOME THOUGHT FOR BEAUTY BOTH FROM WITHIN AND WITHOUT

BY CARLETON MONROE WINSLOW

Photographs by Julian Buckly, Henry Troth and others

THE problem of proper windows for the house is certainly a practical one, but as the practicability of any household problem involves quite as much a satisfactory solution of harmonious appearance and the possibility of good decorative adorning as it does its utility, we must weigh these different elements and harmonize them all.

Windows are the natural openings into a house for letting in light and ventilation; besides this they are placed to get the advantage of views and vistas from inside the house. Sometimes they combine these purposes with that of egress and ingress from rooms to verandas and terraces.

The first consideration, that of position and size, seems to be a practical one. Housekeepers often say, "You cannot get too much light into a room." Such a housekeeper is, of course, a sunlight enthusiast and speaks strongly, but it is better to have too much than too little light, providing the area of fenestration does not ruin the architectural character of the house. The fault with most of our American houses to-day is that the windows are too large in proportion to the size of house. If the size of the windows could be reduced and their number increased, the path of the conscientious house designer would be made much easier. Generally the house can be designed so that the windows can be grouped and separated only by mullions. Outside blinds interfere with this grouping, but the use of exterior blinds seems to be waning. Awnings or Venetian blinds may be used in the summer time to temper the brilliant sunshine and yet allow adequate ventilation. In the winter one wants all the sunshine he can get.

Shutters should always be provided for such houses as have to be closed for any length of time during the year. These shutters should be made with solid wood panels and fastened from within. If the house is to be occupied during the winter and storm-windows are needed—and they generally are needed upon the more exposed sides of our houses in the northern states, rebates for the shutters should be made sufficiently deep to accommodate the storm-windows in place of the shutters, and a metal ventilator or sliding panel provided for at least one of the panes of glass.

Now comes the much discussed question of whether the windows should be in large single sheets of glass or divided into smaller ones by the use of wood, lead or other metal muntins. It is quite true that in the early days of window glass manufacture, the sash had to be divided into small panes in order to glaze it at all. Glass was expensive and the muntins and bars were frequently scribed and gouged away to accommodate the irregularities of the glass. The mere fact that we can if we wish get a sheet of glass 10 x 20 ft. in size does not warrant the inartistic practice of designing large windows glazed with single sheets of staring glass. These large sheets tend to reduce the apparent size of a house from the outside and destroy the "scale," that fugitive quality all good designers strive so earnestly to achieve.

Then there is the appearance inside the house to consider. It is well known that windows divided into smaller panes of glass tend to increase the apparent size of a room. They certainly add to the home character of a house—why, it is difficult to explain, possibly because of association of ideas and traditional custom. Notice the beautiful home character of the casemented and muntined windows in one of the accompanying photographs—what windows could be imagined having more charm! Does the conventional usage obtaining in Wall Street office buildings give more? Furthermore the appearance inside the rooms is just as charming.

The practical housekeeper is apt to say, "But these windows are more difficult to wash and keep clean. The servants will not stay with us if they have to wash all these little panes of glass." Is that quite true? The writer has never heard any particular case of such domestic difficulty; in fact, has never heard the objection made by any housekeeper who has had experience with them. After all, would it not be worth the trouble? We have many things about the house which are quite unnecessary to our comfort, but we dust them and we wash them without complaint, and would not think of doing without them, and these are sometimes things which do not add in the least to the artistic appearance of the home. Throw out the unnecessary bric-a-brac and

The circular window ventilates a closet, the "eyebrow" window above lights the attic

Leaded glass becomes wearisome unless the design is very simple and rectangular

Diamond-paned windows are not pleasing to look through from inside the house

spend the time used in their care on the windows, if they need it. Moreover, if the panes of glass are set in lead or metal muntins, the whole sash can be washed with the same ease as if it were all in one sheet.

Then there is the question of expense. The first cost is about the same, but windows are liable to breakage and the upkeep of the muntined window is naturally lower than that of the sash with the single pane. Another minor point is that it is easier for the glazier to set a new pane of glass in wood muntins than in metal.

The question of muntined windows suggests that much mooted one of casement sash. When windows are designed for muntins or leaded glass, care should be taken that the style of design conforms to that of the house and rooms. One never tires of the windows divided into oblong panes by simple horizontal and vertical lines. The honey-comb appearance of the leaded glass window in the photograph shows the character of the thing to be carefully avoided. The saw-tooth lines are restless and fussy in the extreme. Diagonal lines cutting the sash into diamond-shaped panes give hardly better results, nor do interlaced curves—besides the resulting frames are unpleasant to look through. Care should be taken that leaded glass windows are tasteful and appropriate, both as to design and location. When properly used they add much to the charm and individuality of a house. Simple, geometric designs seem best—frequently medallions of glass in bright soft colors set in the middle of a leaded sash of clear glass give fine results. Such medallions can be designed to order, while the ones imported from Germany and France show a wide range of subjects and are often charming.

The most earnest enthusiast of the picturesque has to admit the practical advantages of the double-hung sash windows, with blinds or shutters on the outside, shades, curtains or portières on the inside of the windows, which can be adjusted with the minimum of interference with any of them. On the other hand, the person who seeks the more beautiful arrangement of having casement sash swinging either inward or outward readily finds some advantages practical as well as all of artistic. Why do we need shades upon rollers if the sashes swing inward? Is there not some other method of concealing our private life from the gaze of the passerby? The writer remembers a particularly delightful sitting-room in a little hotel in England, with the metal casements swinging inward, where straight, simple curtains of deep brown rep hung from a brass rod which ran across just above and to clear the top of the casements when they were swung in. The ordinary arrangement of cords adjusted the curtains, and when the windows were desired open and the curtains drawn, they were easily tossed over the top of the casements and drawn together. These casements were of wood with metal leads and had extra curtains of white, tiny-figured suisse hung from the top rail of the sash.

(*Continued on page* xi)

One tires of nearly all sash divisions that are not simply rectangular

Metal casements with lead divisions or "muntins", long used in England, are now available here

The gable window of this Garden City house is a Palladian adaptation

Where the architectural detail is of Georgian or some other distinct style it should set the key for the furnishing and decoration

Where the wood trim is of unmolded and stained wood the walls are best kept plain and the color introduced in the hangings

Individual Rooms *vs.* a Comprehensive Decorative Scheme

SHALL WE HAVE A COLONIAL LIVING-ROOM, MISSION DINING-ROOM AND BLUE GUEST CHAMBER, OR SHALL INDIVIDUALITY BE MERGED IN A CONSISTENT SCHEME FOR THE WHOLE INTERIOR?

BY MARGARET GREENLEAF

Photographs by Waldon Fawcett, J. T. Beals and others

THE relative treatment of adjoining rooms is a consideration which contributes largely to the success of the interior decorating and fitting of the house, particularly where the rooms of the first floor open together. For such rooms a complete and comprehensive scheme must be planned which will include them all in a way and yet permit certain essential characteristics to be brought out in each.

In determining the color scheme and decorative treatment the arrangement of the floor plan, the dimensions of the rooms, the placing of doors, windows and fireplaces, and the characteristics expressed in the architectural detail must all have equal weight.

We quote here from a letter received from a woman in a Western town, who, after her house was completed, felt there was something wrong in this newly furnished and expensive home. She wrote as follows and her letter voiced the disappointments of many other women who have had similar ambitions: "I have spent a great deal on my house and I left it in the hands of a decorator from the largest department store in ———. My reception room is furnished correctly after the Louis XVI period. My hall is Colonial, my dining-room old English. The den and smoking room is *l'Art Nouveau* and," she plaintively adds, "with all of this it is not satisfactory." Such a description brings at once to the mind's eye an effect that is cluttered and distracting and wholly inconsistent and unlivable.

In giving this matter of interior decoration and house furnishing careful study, one realizes that the crux of the whole matter lies in selecting color schemes, materials and furniture which are consistent and suitable. To be consistent the scheme must be within the means and fit the requirements of the occupants, and to be beautiful the rooms must be relatively harmonious and wholly suited to the general environment, both of exterior and interior.

In a hall which serves as the entrance to a house of Colonial design it is particularly desirable that the rooms on the left, the right, and the rear should be in harmony with its Colonial feeling. If one yearns for a French drawing-room in such a house, furnishings of the contemporary period of the French Empire may be appropriately introduced in this the most formal room of the house. The wood finish in the hall could appropriately be ivory white enamel with doors and hand-rail perhaps in softly polished mahogany. The standing woodwork of the French drawing-room should be treated with the same enamel. For the living-room on the opposite side of the hall a less formal treatment and Colonial furnishing could be indulged. The dining-room at the rear of the hall may hold either mahogany or oak wainscot or could be finished with white enamel. The dominant color appearing on the walls of the hall should show again in the living-room, and if the French drawing-room had walls of old rose or Empire green as its prevailing tone a suggestion of this color should be carried into the other rooms.

In the vernacular house which is frequently built of cement, or shingles and siding, with casement windows and sunken doors suggestive of the English cottage, the interior trim should most appropriately be of wood stained to what is known as a natural tone, that is, showing such color as this particular wood might take from age, and long exposure to weather conditions. For instance, if chestnut is used for the standing woodwork throughout, this may be stained in shades of gray-brown gradually toning to silver-gray in the least lighted rooms of the house. The gradation of color in the woodwork from room to room is so slight as to be more felt than seen. The wall tones should be equally

Especially where rooms are not sharply divided is there a necessity for carrying the main decorative scheme through both

Furniture built along Colonial lines looks its best only in an environment of white enameled woodwork

harmonious and show slight contrast. The ceiling tint between the beams, or where a plain ceiling is introduced, should show the same in all rooms, and all floors stained alike in shade and given a similar finish. The variety brought into these rooms may be introduced through the medium of draperies, furniture covering and rugs, and these also should show color relation. If in the living-room the furniture is covered with a mingled effect in cotton tapestry, the chairs in the adjoining hall should show seats and backs in plain color. In the dining-room the same suggestion should appear in the furniture as far as construction and form permit. Door curtains of plain colored velveteen or arras cloth, with raw silk, scrim, or crash used at the windows, would carry the decorative feeling as expressed in the architectural detail.

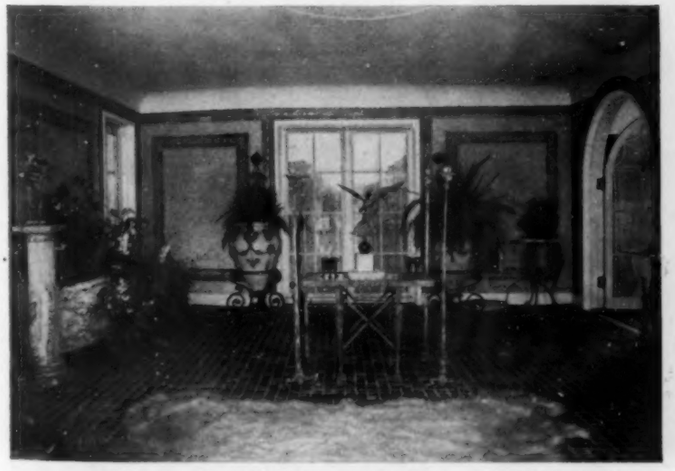
It is not often possible for the average person who builds a house to furnish it anew. Nearly everyone has some belongings which for reasons of sentiment or economy must be retained. Often from such pieces, whether of furniture, draperies, floor covering or ornament, a suggestion may be found which will supply the motif for the entire decorative scheme.

Even where there is no particular period suggestion to be followed, livable and charming rooms may be arranged and old furniture may be utilized in a way which will bring out its best value.

When, therefore, it is necessary to fit the new house with old furniture there are some points which it is well to bear in mind: first, in assembling the pieces for each room, select those best suited to the uses to which the room will be put, and which show relation to each other in form or material, also such pieces as have real decorative value, or those which will add to the convenience and comfort of the occupant without detracting from the appearance of the room. The treatment of the walls is a point which can usually be decided and, therefore, in such cases the walls may be selected to suit the furnishings which are on hand. It is generally a good plan to have such walls plain in color, as any figure in the furniture covering will be more easily reconciled.

In such rooms as these it is quite as necessary to consider the decorative scheme collectively as where the architectural detail of the rooms demands a certain style of furnishing.

In bedrooms more latitude is allowed and they can be considered—to a certain extent—individually. If the color suggestion of the hall from which such rooms open is neutral in tone or unaggressive, it is not difficult to harmonize a variety of color effects for the different bedrooms. The walls of such rooms may be covered in floral papers, and with these plain draperies should be used, bringing out some color shown on the wall paper; or, if plain effects for the walls are preferred, gaily figured chintzes and cretonnes, or dainty embroidered muslins, for the hangings and furniture coverings may introduce the design and variety of color.



Even while preserving a comprehensive scheme of furnishing and interior decoration it is not necessary to sacrifice individuality

Consistent decoration does not necessarily mean period styles; it is achieved through an appreciation of fitness and color harmony

Reflections in the water are one of the Japanese gardener's greatest delights

Every Japanese garden should have its entrance gateway and enclosure. The fence here is of reeds and bamboo

This stone lantern is closely related to the traditional Japanese Tea Ceremony

Japanese Gardens for Winter Effect

ONE SOLUTION OF THE PROBLEM CONFRONTING ALL HOME-MAKERS—HOW TO HAVE YOUR GARDEN LOOK WELL THROUGHOUT THE YEAR—THE PRINCIPLES OF THE JAPANESE GARDENER'S CRAFT

BY PHEBE WESTCOTT HUMPHREYS

THE garden never lacks its enthusiastic supporters throughout the months from early spring until the autumn frosts lay its beauties low—all of us can very easily become "fair-weather gardeners," and many of us do. But most of us are satisfied to let it go at that and rest content during the winter months when the garden is in its long sleep. Of course we can have our window gardens indoors or our greenhouses or our house plants, but there is another thing that we may have to keep very much alive our garden interest through the months from November until March, and that is a Japanese garden. Of course even a Japanese garden will not look so well during the cold months as it does in the summer time, but it will look a lot better than the ordinary garden and a very great deal better than no garden at all. The reason is that a garden of the Japanese type depends very little upon flowers for its beauty, utilizing instead the more sombre and mysterious beauty of evergreens, wooden structures and accessories of bronze and stone.

One of the most attractive country places at Olney, Pa., is that of Mr. Louis Burk, and among its many noteworthy features is a Japanese garden situated just back of the old stone homestead. This it is that serves to furnish throughout the long winter months the charm of growing things out-of-doors.

On approaching the house through a long avenue of trees—still further beautified in outline by great clumps of ornamental plume grasses—one must pass up to the house and directly around it before there appears an enticing view, seemingly transplanted as a whole from some famous Tokio or Aomori garden of old Japan. The entire garden is enclosed by typical Japanese fencing of reeds and bamboo and a characteristic gateway of picturesque design is guarded by bronze warriors. Through the gate and above the fence one catches glimpses of a bamboo tea room; with a hill in the distance ornamented with rocks and mountain paths, stunted pines, flowering azaleas and the inevitable stone lanterns. Once within the garden, there are attractions on every hand; for one can study here varied types of Japanese gardening, though the whole is blended in perfect accord. A long rambling bamboo palm house outlines the southern border of the garden, along which the principal stream winds its rock-bound course, crossed by quaint rustic bridges, flanked by dwarfed Oriental growing things, and by attractive stone lanterns, while the walk which follows the course of the stream shows the irregularly laid stepping stones without which no Japanese garden is complete.

The entrance gates are curiously patterned affairs of wood and bamboo

At the further end of the long garden there rises the miniature mountain which gives another distinct feature to the landscape; and one can get a fairly good idea, on entering the massive gateway, of the "tea garden type" on the left, the "flat style" on the right, and the "hill garden type" in the distance. While Mr. Burk and his family take an intense interest in this charming bit of Oriental gardening, they have been content to leave the construction of its intricate details to an experienced Japanese landscape gardener, who thoroughly understands the mysterious and symbolistic and religious significance of the numerous accessories. And it is only after studying the work of one of these landscape artists throughout the process of garden construction from day to day, and learning the why and wherefore in the placing of ornamental features, that one can realize

A long palm house outlines the southern border of the garden—a shelter of poles and bamboo

A tea room is one of the features always associated with the Japanese garden of fair size

fully the mystical charm of this type of gardening. The true Oriental gardener will tell his enthusiastic patrons that though modeled upon an actual landscape, the Japanese garden is far more than a mere naturalistic imitation. To the artist every natural view may be said to convey, in its varying aspects, some particular mental impression or mood, such as the impression of peacefulness, of wildness, of solitude, or of desolation; and the Japanese gardener intends not only to represent in his model the features of the veritable landscape, but also to make it express, even more saliently than the original, a dominant sentimental mood, so that it may become not only a picture but a poem. In other words, a Japanese garden of the best type is like any true work of art, the representation of nature as expressed through an individual artistic temperament.

After consulting with various authorities on the subject, and interviewing the owners of some of the most famous American-Japanese gardens, I have found that the method of procedure is practically the same in every instance in Oriental garden building. The Japanese artist who is called upon to design a new garden will first examine the site, and will confer with his patron regarding its proposed size and character. If the site is large, and already furnished with natural hills, trees and water, the gardener will, of course, take advantage of these features. If it possesses none of them he will inquire the amount of money that can be placed at his disposal for the construction of artificial hills, lakes and the like; and this amount of money will also determine another important point, namely, the degree of elaboration with which the whole is to be treated. For all works of Japanese art whatsoever are rigorously divided into three styles, the "rough style," the "finished style," and the "intermediate style;" and the adoption of any one style governs the degree of elaboration to which any part of the design may be carried. If the rough style is chosen, even the smallest accessory detail—a rustic well or a stone lantern—must be rude to harmonize; if the finished style, no detail that does not correspond can be admitted—a restriction greatly conducive to harmony, and one to which the almost invariable congruity and unity of Japanese composition is due.

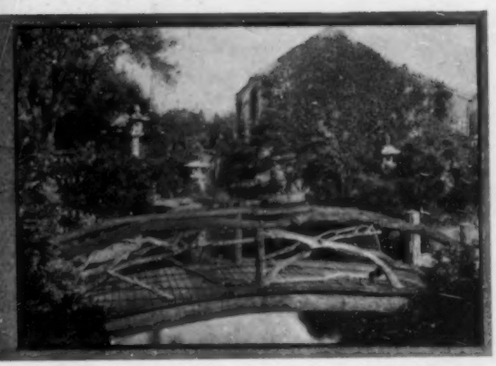
Knowing, then, the size and character of the site, and his patron's wishes as to expense and elaboration, the landscape gardener will next choose the model landscape, or landscapes, upon which he is to base his design. He will find them divided by convention into three classes: those representing "hill gardens," and "flat gardens" and a separate genus known as "tea gardens."

The hill garden class is the most elaborate, and that best adapted to large gardens, and for those where the natural site is undulating, or where money can be spent in artificial grading. The "hill garden" has many different species; such, for instance, as the "rocky-ocean style," which represents in general an inlet of the sea surrounded by high cliffs, the shore spread with white sea sand, scattered with sea rocks and grown over with pine trees trained to look as if bent and distorted with the sea wind; or the "wide-river style," showing a

(*Continued on page* xii)

The Jap loves a bridge almost above all things, and frequently will build an island for the sake of the bridge over which it is reached

Stepping stones laid in designs combining beauty and utility mark every real Japanese garden



The rustic railing is more American than Japanese, serving as a harmonious connecting link between the design and its location

This stone and plaster house, with tile roof, is so planned as to give all important rooms the water view

This summer home in the Thousand Islands almost covers the entire area of its site

W

Canvas stretched over a wood framework forms the walls of this California tent house

Southern California has developed a very simple and honest type of low-cost bungalows

A modern Colonial type of brick
George E. Savage, a

A glazed-in part of the porch forms a winter sun-room on this Colonial house in Nutley, N. J.

One seldom sees modern houses built along the lines of those dignified old mansions of the South

Those who have tried say that remodeling
sport than building a ne

Walls of solid logs are by no means cheap to build; one often pays dearly for their picturesqueness

Whether of plaster, painted shingles, or clapboards as here, a white house harmonizes best of all with foliage

type of brick laid in Flemish bond. e E. Savage, architect

This Garden City home will appear to greater advantage when the vines and shrubs tie it to its site

An open terrace joins the two covered porches on this shingled house at Douglass Manor

t remodeling a real old house is greater a building a new one

The symmetrical two-story bay windows are unusual with a gambrel roof. Lawrence Buck, architect

Plaster houses are substantial, warm, attractive and cost little for up-keep. Ellicott & Emmart, architects

F VARIOUS STYLES, SIZES, COSTS AND MATERIALS

The asbestos shingle is a modern fireproof roof covering handled very much like slate

Wood shingles are the most common roofing material. The rounding off of edges is called "weaving"

The Problem of the Roof

WHAT THE AVAILABLE MATERIALS ARE, WHAT THEY COST, HOW THEY WEAR, HOW THEY MAY BE EFFECTIVELY USED AND HOW PROPERLY PUT ON

BY CHARLES EDWARD HOOPER

Photographs by J. F. Beals, M. H. Northend and others

THE problem of the roof—and it is a problem—is one that the average house-builder is called upon to solve for himself. To the man of unlimited means there are more ways of escape than are offered to the fellow with the slender pocketbook, who often is obliged to take what he would prefer not to have, on the score of economy.

The most common roof covering is the wood shingle. This should not be laid on a roof with a pitch of less than thirty degrees, and it stands to reason that, with any covering, the steeper the pitch the quicker the water will run off and consequently the less liability of leakage. The old-time hand-shaved shingle, which presented a wearing surface following the wood-fiber, had a much longer life than the modern machine-made shingle. The latter, while following the grain in a general way, frequently cuts across it slightly in such a way that, through the agency of sun and rain, its life is greatly shortened. Thus, the modern shingle has distinctly a right and a wrong side and should be laid accordingly.

Owing to the tendency of modern shingles to curl under the heat of the sun, they should be laid with a comparatively small portion of their sixteen inches of length exposed to the weather—say four and one-half inches. Even if the roof be steep it is not advisable to lay more than five inches to the weather for the above reason.

The life of a shingle roof is hard to fix absolutely; from ten to fifteen years might be a fair figure. Near salt air it deteriorates quicker than when inland. Being absorbent, the alternate wetting and drying, freezing and thawing cannot help but hasten decay. It is really economy in the long run to resort to some preservative. Such may be found in creosote stain; the creosote acting as a penetrating as well as a preserving agent, carrying with it into the pores of the wood much of the painty body of the coloring matter. Dipping is the only effective method of application and this should be for two inches more than the weatherage of two courses. A brush coat may be applied in addition, after the roof is laid, with excellent results. If ready-made stains are not readily obtainable a good substitute may be made from paint mixed with an equal amount of creosote oil. The paint should be of the desired color and of ordinary consistency. In this form with the creosote it makes a somewhat thicker stain than one can buy. To thin the above add more creosote oil; this will also cheapen it. It will cost about two dollars and a half, using the above formula, to stain one thousand shingles, outside of labor.

Of course if one wishes to collect his roof water in a cistern, creosote is out of the question. The alternative is to paint each course of shingle as laid, rubbing it well into the joints. As it is a nasty job and is bound to be more or less rubbed, a final brush coat is necessary.

The two great faults of a shingle roof are its comparatively short life and its inflammability. The cost of the former we may count on, but the latter is a constant menace. This is more particularly so in the country where there is no fire department, and where flying sparks, combined with dry weather, high winds and no water, make fire-fighting a hopeless task. Some experimenting has been done in the line of fireproofing shingles by dipping them in a mixture of lime and hot oil. As far as we know the practice has not been common enough to judge definitely of results. Lime is a preservative and the chances are that a newly treated roof would resist fire. The question lies in its durability.

We are used to thinking of a tin roof as a cheap affair and so it is at seven dollars a square (100 square feet). A good tin roof, however, is a different proposition. It is indispensable on flat pitches, where it is laid in sheets with a single lock joint, soldered and cleated and painted on the back. On such pitches as might be properly shingled or slated, the standing, double lock joint is used without solder, except the top and bottom of the vertical joints and perhaps the ridge joint. Such roofs have been known to last fifty years and over. Being put together practically without solder, they are not handicapped by that less

hardy material which wears faster than tin and is apt to give with the frost. Do not use paper under tin, as it invites condensation of moisture, and be sure that there is sufficient drip to the turn-down at the eaves and the rakes to prevent moisture from backing up under it.

A tin roof in itself will soon deteriorate and become useless; it needs to be painted in order to last. Use the best of paint, and preferably a regular tin paint. It will cost about three dollars per square, applied, and will last about five years. It should not be put on, however, until all resin and grease are washed off and that means the new tin should be left to the weather for a short time, but not until it rusts.

The modern pressed metal shingle made of galvanized iron makes a lasting roof. Be sure, however, that they are not made of steel, for the latter metal is usually not sufficiently well galvanized to stand the weather.

Copper as a roof covering will hardly be seriously considered by most builders owing to its expense, which is about four times that of tin. Owing to its considerable expansion and contraction it should be laid in small sheets and it should never be soldered to another metal on account of the unequal expansion between the two. Naturally long lived, it is seriously affected by salt air and by the various gases to be found in the large cities.

Slate is an old and tried friend. It has been used so long that it has tested itself out. On a steep roof it is excellent, although as the pitch decreases the rain is apt to work in under the butts and, in freezing and thawing, break the slate. This is its serious drawback, as the cost of replacing a single slate is all out of proportion to the area involved. Slate of the familiar gray-black tone costs but a little more than one-half the price of red slate. It is also stronger and less brittle. The ordinary size is ten by fourteen inches, laid five and one-half inches to the weather. Slate is laid on roofing felt, which insures a better bed with less liability of breakage, both in laying and in wear.

When speaking of tile we generally mean the "Spanish tile." The English type is little used and in size and shape is like a large slate, from one to one and one-half inches thick. Sometimes slate of these dimensions is used as a substitute for tile. The cost is about two and one-half times that of the ordinary gray-black slate.

Spanish tile makes a good roof, although it is heavy. Its usual color is a healthy brick red, but the same patterns are to be had also in green. What might be its great objection—that of taking in water at its joints—is largely obviated by bedding it in oil cement. The form of this tile has been imitated in copper and has the advantage of lightness together with the disadvantages of that metal—susceptibility to damage in certain localities.

Spanish tile, obtainable in red and green, seems the one logical roofing for some types of country home

The asbestos shingle, which is made of asbestos and cement is a comparatively new article. In its simpler forms it is like ordinary slate, but lighter. Its manufacturers claim for it a certain amount of elasticity, little tendency to cracking and less liability of exfoliating when exposed to fire than slate. In applying it is handled very much after the manner of slate.

In the selection of a roofing material we must bear in mind, besides the initial cost, the lasting qualities, the non-burning qualities, the fire-resisting qualities and the cost of up-keep. Tin demands and shingles are the better for a periodical treatment; other materials are supposed to take care of themselves. Tin soldered is non-burnable, but the solder melts under continuous heat. The standing lock joint therefore has the advantage, but it cannot be used on a flat roof. Slate will not burn, but it will crack and exfoliate under fire. Tile, being a fire product, will naturally stand more heat than slate. In the asbestos shingle, which is naturally non-combustible, the asbestos is an important factor, but the cement deteriorates under great heat. Whether its lasting qualities under such conditions are better or worse than tile we are unable to determine without comparative tests.

The initial cost of the various roof coverings, laid and complete, per square, are not far from the following:—best

(*Continued on page* viii)

Thatch is very picturesque, but too unsanitary for modern America

Slate is a trustworthy roof covering. It is obtainable in reds and variegated grays in addition to the common variety

An English trick of roofing with slate is the use of graduated weatherage

The outside cuts from chestnut logs were nailed to an ordinary stud frame, the chinks being filled with cement on wire mesh

A Studio of Chestnut Slabs and Cement

THE BUILDING OF A SUMMER HOME WITH UNUSUAL MATERIALS AND METHODS —USING WASTE CUTS FROM THE SAW-MILL TO HOLD THE COST DOWN TO $3,000

BY EDWARD FESSER

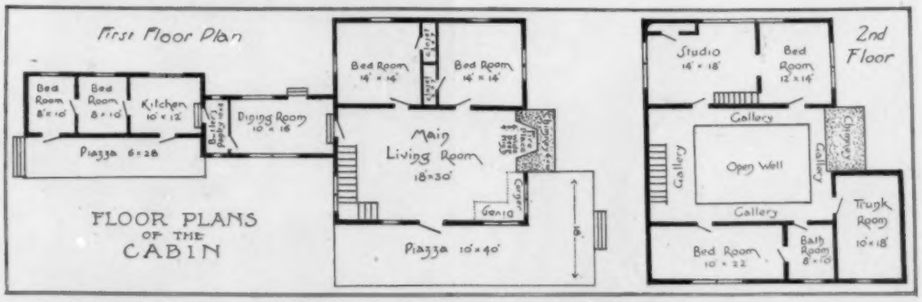
WHEN I first decided to build a studio in the country my ideas were very modest. I wanted a quiet place in which to work, with green trees all around and something of a view in the distance. I picked out a site on the highest and wildest portion of our old farm and went to work with an ax to make a clearing. When this was done I had a beautiful view of the Bronx valley with Kensico Lake below me in the near distance. I was careful to locate near a good spring which, fortunately, I found at a higher elevation so that the water would reach the cabin by gravity. My first impulse was to build a simple little log-cabin, containing a single large room, a big stone fireplace and a large studio window facing north; but my ideas began to expand when I contemplated the view I had made by chopping down the trees and bushes which had grown in this spot for years. I decided to add two sleeping-rooms—then, of course, I had to have a porch. The expansion continued by gentle gradations and I reasoned that by extending the walls upwards and with the same roof I could, with very little additional expense, have a second story. This would give me a good-size living-room, two bedrooms and a piazza on the first floor and, by running out a gable from the north side of the roof, I could have a large window, 8 x 10 ft., on the second floor and plenty of room for a studio over the two bedrooms. By this time I had caught the building fever and I finally determined to build an up-to-date rustic cottage, so I set about drawing plans to scale, located the nearest saw-mill and consulted a reliable carpenter.

I soon found out that it would be impracticable to build the cabin of whole logs, as there were very few trees in my immediate neighborhood that were sufficiently straight and of equal dimensions. The saw-mill, however, gave me the idea of using slabs which to all outward appearances would give an effect similar to that of whole logs. A slab, in the vernacular of the saw-mill, is the first outside slice of a log, retaining the bark; hence, in order to cut a square timber, there would be four slabs cut from each log. These slabs are practically useless and are used by farmers for firewood or to make pig-pens or rude fences and they are sold for $1.00 a double load—all you can haul away on one trip.

My first step was to secure a good mason for the foundations to the house, piers under the veranda and for the chimney. As the site chosen was on a side hill there was very little excavating to be done for the cellar; aside from this, building on a side hill always insures good drainage. The next step was to get a contract from a reliable carpenter—after bids had been received from several—for the framework, the roof, floors, partitions, stairways, windows and doors. All the rest of the house I finished myself with the assistance of a competent man who was handy with tools.

The first operation was to sheathe the whole exterior with slabs, nailing them firmly to the studding and leaving a space of from half an inch to an inch between the slabs for the cement sealing. Next I procured some half-inch wire mesh and cut it into strips sufficiently wide to cover the open spaces between the

slabs. The wire mesh strips I then tacked over the open spaces from the inside with half-inch wire staples. I then mixed some brown-hair mortar —with a generous amount of hair— and about one-quarter Portland cement and laid it in with a narrow pointing-up trowel both inside and outside over the mesh between the slabs. This forms an unbreakable "clinch" and prevents the cement from chipping off and falling out. The outside of the building will probably have to be gone over after a year or two and patched in places, as the slabs will season and shrink; but this can easily be done with the aid of a long ladder.



The main living-room extends up to the roof, with a gallery around over all four sides.

For the outside cement panels I used any old boards for a background, then beveled two sides of ordinary laths in such a way as to form an undercut groove when the beveled edges face the panel. I nailed these laths three or four inches apart on the wooden panel and plastered the whole surface with the same proportioned mixture of mortar, hair and cement as was used in sealing the slabs. After the plaster was thoroughly dry, the panels were tinted red with ordinary shingle stain—the same tint being used for the shingle roof, which will be found very effective to relieve the sombre tone of the exterior.

For the piazza posts I cut whole locust trees showing seven or eight inches at the butt end, smaller pieces for the railings and still smaller pieces for the filling in. Locust has a very rough bark and will blend well with the chestnut slabs of the exterior; besides this it is a very hard wood and the weather will not affect it. This completed the exterior and the work of fitting up the interior was begun.

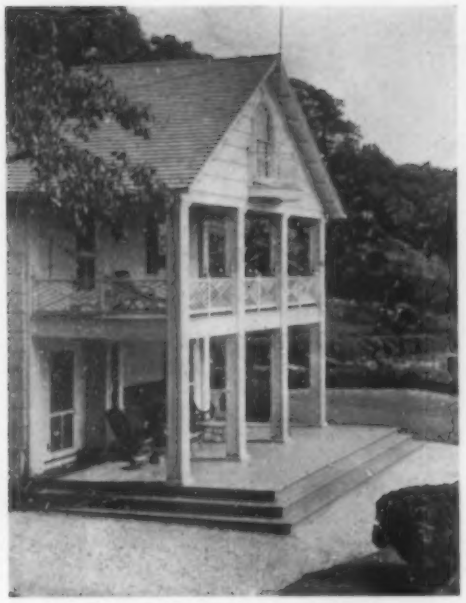
For the stairways white birch was used for making the newel-posts, railings and other odd fittings. The same scheme was carried up right around the open well. White birch is a soft wood and may be used only for interior work, but great care should be used in handling it when green, as the bark is very tender and will curl up when bruised or cut. After it has thoroughly seasoned, however, the bark and wood become hard and fixed. For the trimming to doors and windows I picked out the wood of the young chestnut, which is a smooth gray, dappled with lighter spots. Large, irregular knots, here and there, will add much to the general effect. The whole interior of the cottage was then sheathed with $\frac{7}{8}$ x 7 in. tongue-and-groove North Carolina pine which is the cheapest sheathing in the market (the cheapest sheathing can be used as the walls will all be covered up with some textile material). If the cottage is to be used during any portion of the winter months, it would be well to insert between the studding, so as to leave an air space between it and the slabs, some good felting, several kinds of which are obtainable at reasonable prices. This felting keeps out cold, keeps in heat and, besides, is sound- and vermin-proof; it will add only about one per cent to the cost of the building. Then make a perpendicular wainscoting all around the living-room, four feet high, using the rougher wood with the bark on of chestnut, hickory or oak and cap it with a six-inch shelf. By using different woods for different rooms the same scheme may be carried out with slight variations throughout the house. If red cedars are plentiful in the neighborhood a very attractive and sweet-smelling den can be wainscoted with this wood by having the cedars sawed in half through their entire length and alternating the butts with the tips.

As my builder, in his contract, was to supply the doors and windows, I had to specify the kinds wanted. The front door should be $4\frac{1}{2}$ x 7 ft. and patterned after the old-fashioned Dutch doors, of massive build, made in two pieces cut horizontally in the center, using some hard wood, such as oak or chestnut, showing a prominent grain. The door is stained a dark bottle-green and the beautiful grain of the wood stands out conspicuously.

For the windows specified "casement" throughout the house —the lower floor square panes, 16 to the sash, and for the second floor the small diamond panes.

(*Continued on page* viii)

White birch stair and gallery railings and furniture brighten the living-room, which is wainscoted with slabs, the upper wall surface being covered with Java mats



There can be no practical objection to a porch when the adjoining room is lighted on both sides as well

Leaving the porch roof uncovered excepting by the vine-bearing rafters insures a more cheerful interior

The paved open terrace will in time supplant the porch. "Maxwell Court," Charles A. Platt, architect

The Porch and the Paved Terrace

THE ADVANTAGES AND DISADVANTAGES OF EACH—WHY THE PAVED TERRACE, UNCOVERED OR COVERED BY AWNINGS, IS GAINING ADHERENTS EVERY DAY

BY JARED STUYVESANT

Photographs by M. H. Northend, J. T. Beals and others

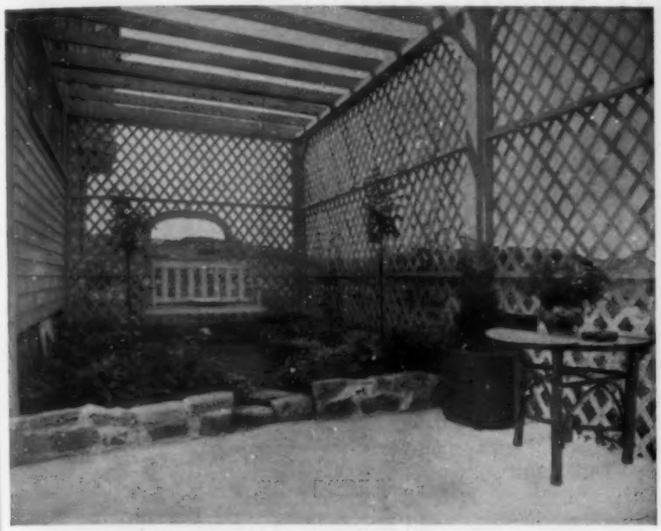
THE porch is so distinctively an American institution that it seems heresy indeed to say that it is losing its hold and will some day be seen only on old houses. Considering the fact that we Americans are coming to live outdoors more than ever before, and also that we are building our houses out in the country, where the porch has for so long reigned supreme, my first statement needs some explanation. It is not that we are losing our taste for living in the open but that we have something that better fills our needs for an outdoor living-room. The paved terrace, uncovered or sheltered from the sun by awnings or by a vine-covered pergola, has all of the advantages of the porch with none of its disadvantages. Excepting shelter from rain, you say? —but you do not sit on the porch in the rain, or if you do you may just as well sit inside the open French windows leading out upon the terrace.

The great trouble with the porch is that, as usually located, its roof darkens the best rooms of the house. It is almost essential that the porch be built out from the living-room and if it does occupy this position it means that one-half or one-third of the light for that room is almost shut off entirely, to say nothing of the same effect upon the hall and perhaps upon the dining-room as well.

Both porch and awning-sheltered terrace are provided in this house designed by Guy Lowell, architect

Occasionally architects have avoided this handicap to some extent by building the porch out from one end of the house with its shorter dimension against the house wall. A porch standing free, as it were, is the kind to build if you really want a porch. The question is, though, does not the terrace fill every function that the porch does and in a better manner?

There seems little doubt—if you are convinced that a terrace is the thing to have—that it should be paved with brick or some durable material of that kind. Wooden terraces or deck porches, built to shed the water and properly protected by paint, will last many years. Paving, however, of brick, of square red quarry tiles or of cement, or of a combination of two of these, seems more



Mr. John Kendrick Bangs has a lattice-sheltered terrace with a garden at one end on his Ogunquit (Maine) home

With the open terrace the mid-day awning shelter may be rolled back leaving the place open to the breezes and stars at evening

appropriate. Awnings are perhaps the most commonly used devices for sheltering the terrace when the sun is too strong. There are other ways of securing the desired effect, however, one of which is shown at the top of the preceding page, where a pergola motive has been used. Another scheme of somewhat similar nature is that shown in the first picture at the top of this page, where Mr. John Kendrick Bangs has sheltered his terrace with a lattice at the sides and merely the open rafters above. The latter, of course, will in time be partly covered with vines. This terrace has a splendid suggestion also in the little garden at the end, which comes very near making the ideal outdoor living-room.

Another development of the terrace, resulting from the need for vines, has been carried out in several New England homes. A lattice, either flat on the wall at the side of the front entrance, or sheltering the latter in the form of an arbor, has been put up, and a hole some two feet square left in the brick or tile paving just at the side of the foot of the lattice, in which vines may be planted.

It is a rather common impression that a brick-paved terrace is an expensive luxury. As a matter of fact it may be no more costly than a porch of the same size. The filling in for the paving may well be of cinder and if this is well tamped down and covered with several inches of sand, the paving bricks may be laid upon this without cement. This makes a thoroughly satisfactory job, particularly if the bricks are laid to slope slightly towards a drain at one or two points. This drain may consist of a piece of terra-cotta pipe extending down through the cinder filling and covered at the top on the paving level with a perforated iron strainer. This will not appear nearly so conspicuous as it sounds. If the terrace is not very wide it may be sloped to the outside edge so that it will drain off. If wood is used for the floor it will be necessary to slope it in the same way.

Unless the terrace is almost or quite flush with the level of the ground some sort of a boundary wall is needed. This, of course, would have to be laid up with mortar and will look much better usually if broken at intervals and at the corners by piers of slightly greater thickness. The top course of bricks may extend slightly over the wall to give a drip, or a capping of bluestone or cement may take its place.

Cement used as a paving material for the terrace is rather monotonous and cold if used alone. There are ways of getting around this, such as using cement panels between brick borders. Red quarry tiles, too, will serve as a framework for the cement, and occasionally the latter itself is colored by the addition of dark sand or mineral coloring matter. As a general rule, however, it is better to depend upon a companion material to supply the required warmth, leaving the cement in its natural color.

This porch is the tail that wags the dog, darkening besides the important first-story rooms of the house

A wooden-floored deck porch is durable if sloped and well protected by paint, but brick, tile or cement paving is more suitable

Practical Talks with Home-builders

THE IMPORTANCE OF CHOOSING AN ARCHITECTURAL STYLE FOR YOUR HOUSE THAT WILL BE IN HARMONY WITH THE SITE AND WITH THE HOMES OF YOUR NEIGHBORS

BY ALEXANDER BUEL TROWBRIDGE

[This is the third 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.]

IN the December number of this magazine the superiority of Colonial architecture for domestic structures was ably argued by an enthusiastic lover of that kind of architecture. In the present number an admirer of half-timber houses tells why he prefers that kind of design and construction to other forms. Enthusiasm for one style in preference to others has long been a tendency among architects. It is not intended in this short talk to take issue with these individual advocates—their articles were written with the idea of clarifying home-builders' ideas regarding style—but to point out how, under certain conditions, each is right but that none is correct if he seems to advise the use of one style for all cases.

In choosing a style the external environment and the internal equipment should dominate any tendency to follow fashions or abstract advice. By environment is meant the character of surrounding buildings, if the site be in a somewhat crowded suburb; and the nature and contour of the ground as well as the character of the trees and foliage, if the site be in the open country. Thus, if an owner intends to build on a suburban lot and finds that his neighbors have already established a formal atmosphere through the use of symmetrical houses of a classic or Colonial type, it would indicate better taste not to introduce a jarring note by building a picturesque, unsymmetrical house in vivid colors. Some owners, without giving careful thought to the matter, are inclined to think that something new and original in such a community is not only an owner's right but is what would be welcomed by the neighbors. As well expect a community of typical New Englanders who live and dress quietly, to welcome into their midst the family of a Bowery sport. An owner should pay some heed to the tastes and the characteristics of his neighbors if he intends to become a useful and considerate member of his community. If he builds in the open country with plenty of land and an abundance of trees, the style should be chosen through a study of the most successful houses that have been built upon similar sites in this country and in Europe. In one instance a quiet white or Quaker gray farmhouse would be fitting, while in another, a free composition in cement or half-timber work would seem the most appropriate.

While these considerations are of great importance, the internal equipment should receive even greater thought. For example, an owner possessing Colonial portraits and good Colonial furniture should not allow an architect to insist upon a modern European house or even a modern cement house. We cannot escape the influence of tradition, and, try as we may, it is out of the question to place Colonial furniture entirely successfully in a house trimmed in oak, cypress, chestnut or any of the popular dark finishes which form an important feature of modern country houses. Portraits, settles, tables, sideboards, etc., if they are worth keeping, should have much to do in determining the character of a house interior and its plan. A severely plain Colonial portrait looks foolish and ashamed in a Louis XV salon. Yet so great has been the desire in some instances to acquire ancestral portraits, and at the same time to be in the prevailing fashion with respect to style, that similar incongruities have been frequent. If the furniture possessed by an owner is not really distinguished yet represents a costly outlay, the situation is trying and needs courageous action. The house should then be designed with regard both to its external environment and its *future* interior equipment. If the owner does not feel like disposing of his furniture at once let the house be designed in harmony with furniture of the best type, with the understanding that the change in equipment will be made at a more convenient date. It would be better to do this and live for a period in the midst of inharmonious surroundings than to permit the entire character of the house to be determined by the costly, inartistic furniture.

There are many owners who have no special fondness for traditions and who care more for soft tones, strong useful furniture and home comforts than for surroundings possessing pedigrees. These may as well frankly eschew historic styles and call upon the architect to produce an artistic ensemble, in which case he should advise in the selection of the entire interior equipment. If such an owner settles in a Colonial neighborhood, yet has no intention of imitating his neighbors, the proper solution would be a quiet cement or stucco house with dignified proportions, formal rather than picturesque mass, and with quiet colors. This would not disturb the character of the neighborhood and the interior may be worked out in as modern a spirit as the designer may wish to use. Sometimes notable results in good color and charm of design may be achieved in a house of this sort for the reason that there are no hampering traditions, and the great freedom permitted the designer serves to stimulate his imagination.

There is one other point of view which should enter into this discussion, namely, the type of garden, if any, which should accompany the house. The architect, even if he be not an expert horticulturist, can give good advice as to whether a formal or an informal garden would fit in well with the type of house decided upon. If, on the other hand, the owner is an enthusiast in garden work and has made it a study, the architect should find out the kind of garden the owner intends to develop so that he may be sure that the house will be designed in entire sympathy with it. For example, many people care more for the old-fashioned garden of informal shape and semi-wild flowers than for the neatly trimmed sophisticated formal type. To the sensitive mind there is a vast difference between the sentiments expressed by these two widely different types of gardens, and the houses fitting them should be fully as different in sentiment. It is of the greatest importance that the architect should acquaint himself with the various tastes of his clients and it would be a material help to him if they would take the initiative and tell him, with entire frankness, their tastes in colors, books, pastimes and something of their home life.

After all the most important point is the suitability of the home for its owner, though extreme individuality in a design must sometimes be curbed by business considerations. If a house is to be occupied by people of moderate means it must be readily salable, and consequently not too unusual in design to meet the needs of an ordinary purchaser.

An old window on which divided blinds permit easy regulation of light

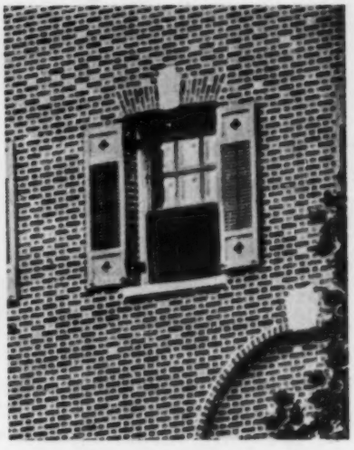
This scheme of double-hinged blinds cuts off the sun without keeping out the air

An unusual division of the blinds on the old Wilson house (1807), Baltimore

Modern shutters are seldom built on these simple sturdy old lines

Battened shutters are best suited to windows in farm-house types

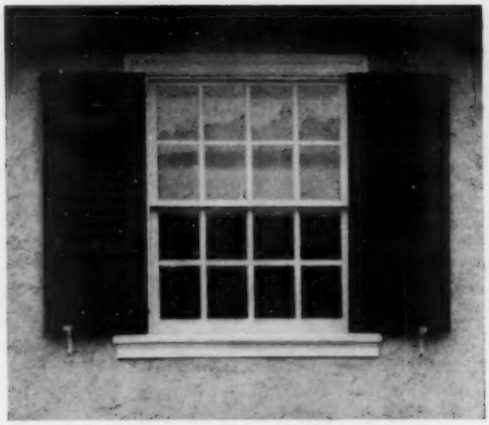
Simple and dignified solid-panel shutters on an old stone house



An unusual pattern of cut-outs on a Flemish bond wall in Washington

TYPES OF OUTSIDE SHUTTERS

Solid panels in the blinds give a more substantial effect. Aymar Embury, II, architect



A heavy battened type with wooden bolt and fixed lower panels. Alfred C. Cass, architect

The crescent seems to be overworked as a cut-out pattern

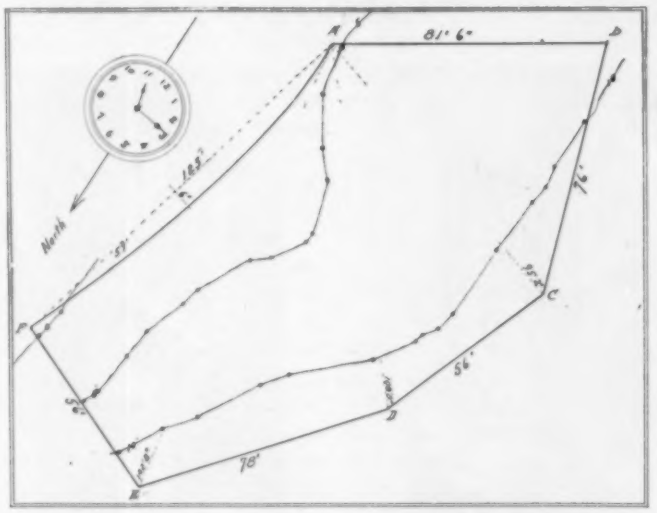
Planning the Garden on Paper

MAKING A SURVEY AND A TOPOGRAPHICAL MAP WITHOUT INSTRUMENTS—THE FIRST ESSENTIAL IN MAKING A SUCCESSFUL HOME PLOT OF ANY SIZE OR SHAPE

BY E. O. CALVENE

THE task of representing a square or rectangular plot of ground to scale on paper is of course a very simple one, but when the form is irregular, difficulties arise—difficulties that grow in ratio with the irregularities. Yet before any garden planning can be done on paper, the garden site must be transferred from the earth to the drawing board.

The simple solution of the problem is an engineer's survey—but it is not the only one, under ordinary circumstances; and it isn't the economical one. For places above two acres I should advise it, however, as an amateur will pretty certainly fail of accuracy in undertaking anything so extensive, unless it is the simplest square, and level into the bargain. This a plot over two acres in extent is very apt not to be.



A watch, a tape-line, a cord and some stakes are all the instruments necessary for an approximate survey of your property

But if you are the owner of less than this much land and have patience and an intelligent helper, there is absolutely no reason why you cannot do it yourself, satisfactorily and as accurately as need be. Provide a drawing board of convenient size to carry around outdoors, a pencil with eraser attached, any piece of manila paper that is available—which tack firmly to the board—a tape-line 50 feet long or a line measured to that length by a yardstick, and a second line, or even two, 75 to 100 feet long; also a half dozen sharpened stakes and a stone or hammer to drive them into the ground.

Thus armed, go out and begin at the longest straight boundary. Measure the length of this straight line, calling it A B, and draw a line any length upon the paper, setting down upon it the figures denoting its length—81 ft. 6 in. Pay no attention to how long you may actually draw the line as that does not matter now; only leave room enough on your paper for as many lines as you are going to need. Pass on from the point B to C, measuring and setting down that distance—76 ft.—on B C. Now take a measurement from A to C; this will determine the angle formed by A B and B C later, when you come to making the drawing accurately and to measurement. Set this distance A C down upon a dotted line drawn to connect these two points. In the plot used for illustration it was 95 ft. 2 in., but you may have the two lines already drawn diverging at an angle which makes this line much shorter on the paper than the others. Never mind—that is of no consequence now, as will appear presently.

Go on from C to D—56 ft.—then across to A again—108 ft. 8 in. that records—setting each down on the line representing it; and so on until the last measurement, that from F to A, is made. While the line is stretched between these two points take a measurement—or several—from it to the curving boundary which falls within it, thus finding the depth of the arc which this forms. Note how many feet from one or the other end on the straight line these measurements are and set down the figures both ways. For example, at a point 59 ft. from F the arc measures 6 ft. deep, so 59 ft. goes down on the long line and 6 ft. on the line crossing the arc.

With the data thus collected go in the house and proceed to lay it out to scale upon a fresh and suitable piece of paper. A convenient scale is 8 ft. to 1 in., which is an eighth of an inch to the foot, of course. This does not make a drawing too large for comfort if the subject is an average place, 100 ft. being represented by 12½ ins. A sheet of paper 30 in. square will leave a goodly margin, therefore, around a plot 208 x 208 ft., which is, roughly speaking, one acre.

A map will be sufficiently accurate for all practical purposes if measurements which you have obtained in inches are transposed to fractions of a foot. Divide an eighth of an inch into four parts on a folded straight edge of heavy paper, if you have no scale ruler available, dotting the little quarters with a fine pencil. In each quarter of a foot there are of course three inches; the initial line A B, which is 81 ft. 6 in. long, is therefore 10⅛ in. and one-half of an eighth of an inch, long. Draw this the proper length and proceed from B just as you did out-of-doors, getting the point C by measuring the angle from A. An easy way of doing this, without having to measure and experiment in a tiresome fashion, is to lay off the distances B C and C A on two folded strips of paper. Lay the point representing C on one over the same point on the other, and hold them together by a thumb-tack—or a pin—passed directly through the point itself. With a pin through one slip at A and another through the other at B fasten A to A and B to B—and C will fall where it belongs. Drive the pin representing it down into the drawing to mark its exact location.

Locate each successive point in the same way and you will find your map taking shape with surprising facility. The curving boundary is drawn from a dotted straight line connecting F A, with measurements first laid off on the paper just as they were taken in the outdoor work. So much for the outline.

Contours are not so simple, yet they are by no means difficult. But they take more time and patience and can, of course, be only approximated without instruments. This is all that is necessary, however, unless terraces and elaborate architectural features are to be contructed. For these an engineer's survey and plan is imperative.

Five-foot contours are usually shown on a map of the scale recommended. They are represented by a series of irregular lines running across it in the same general direction, at distances varying greatly sometimes, from each other. To understand them exactly, what they mean and how they are determined, it seems to me that the supposition of a series of water marks, left by a flood, receding gradually, is the greatest help. Starting with a complete inundation of the land in question, which exactly

(*Continued on page* xiii.)

The woodwork, ceiling and furniture are all in perfect keeping in this English sitting-room

Gothic detail in fireplace, ceiling, furniture and even the table lights, characterize this living-room

Many people take deep satisfaction in furnishing and decorating their Colonial bedrooms true to the very letter of the style

Individuality, consistent to the smallest detail, runs riot in this Western interior designed by Frank Lloyd Wright, architect

Col. A. A. Pope's library demonstrates that a room may be thoroughly harmonious without slavish adherence to any period style

Period decoration as found in France. In America most of us are perfectly content with a less literal interpretation

SIX CONSISTENT INTERIORS

The old and the new. The cellars of old houses were little more than a black hole in the ground; to-day cellars are dry, light, clean and useful. A boys' play-room occupies one end of the cellar in the modern house above

Making the Most of the Cellar

SOME OF THE PITFALLS TO AVOID WHEN PLANNING THE DWELLING'S FOUNDATION—PRACTICAL HINTS ON THE WAY CELLARS SHOULD BE WALLED, PAVED AND KEPT LIGHT AND DRY

BY GARDNER TEALL

NO labyrinth of ingenious confusions, no maze of perilous passages ever quite equaled the inconveniences of a poorly planned cellar or one that has not been planned at all. In warm countries the cellar has been wont to be regarded merely as a necessary hole in the ground; in cold countries as a hiding place for the Leviathan-like furnace heating-plant, whose myriad of bewildering pipes overhead continually conspire to brain the unwary explorer of the cellar's depths, who, groping hither and thither in a half light more useless than Stygian darkness, could have no hope of emerging whole in body and in temper, unbesmirched and unbumped.

The cellar of to-day is quite another matter, roomy, well lighted, heated, ventilated, and fitted with some indication, at least, of those respectable attributes a cellar should long ago have taken unto itself.

Let the man who contemplates building a house free himself from a common impression that a cellar is an unavoidable evil, and realize, instead, that it is a very necessary good. His first consideration will be the fact that one may not always choose the precise site on a lot that would be the best suited to building conditions, since necessity quite as often as choice dictates the exact location for the house.

But let it be borne in mind that the question of drainage is much simplified if the house can be built on high ground, and also that water passes through a gravel-and-sand soil much more quickly than through clay soils, an important thing to remember because every cellar should be absolutely water-tight in its construction.

Apropos the matter of soil the prospective house owner will not regret it if he has specified in the excavation contract that at least twelve inches of the top soil be removed and piled by itself as an after dressing when the lot comes to be graded.

It is generally agreed that the excavation for a cellar should be about two feet wider on all sides than the cellar itself. A tile drain with open joints will offset the chance of dampness. This drain should be run along the outside of the walls, at least six inches below the cellar bottom, and it should be connected with some waste pipe that leads away from the house. The trench should then be filled in with broken stone to a depth of fully eighteen inches.

The old-fashioned pole drain, made by laying poles of wood lengthwise in the surrounding trenches, should long ago have been superseded by modern methods, inasmuch as these poles soon rotted, defeating their purpose. The same objection may be advanced against the box-drain.

Because a rock or clay soil holds the water, more or less, cellars dug in such soils must be made especially water-tight. In such a soil a four-inch concrete floor should be laid on an eight- or ten-inch foundation of broken stone. This serves to keep the damp from rising into the cellar.

With a sandy or gravel soil the concrete may be laid on an inch foundation of Portland cement.

Portland cement is considered about the most effective coating for the exterior walls of the cellar also, but carelessness on the part of the workmen who have this part of the building in hand often leads to negating many of its virtues.

As an extra precaution where cellar walls are laid in clay or rock soils, several coatings of boiling hot asphalt should be applied outside the walls and over the concrete bottom, which may then receive another layer of concrete.

As for the walls themselves, concrete is superseding, to a very great extent, natural stone and brick. Brick, all the way through, should never be used for the cellar walls except in very dry countries. Limestone is probably more nearly impervious for walls than any other native material, but when using it a mason who knows his business will take good care that no single stone runs through the depth of the wall. If it did it would serve a sort of "frost-conduit," in winter weather.

Just here it is well to give a warning against the practice of permitting rubbish to accumulate between cellar walls and surrounding earth during the course of the house construction. If this matter is overlooked it is more than probable that storm water will accumulate in this "sponge" and effect permanent dampness.

Cellar dampness causes mold, decay, and rust, and produces an environment no more fit for a human being to step into than that

Do not obstruct cellar windows by too close planting

If the house sets low on the ground, areas will allow larger cellar windows

Lead the water from rain conductors away from the foundations

of the Black Hole of Calcutta. Even if old walls are damp, sanitary engineers have devised ways of correcting this peril, and the householder cannot afford to neglect investigating the matter.

As one must always anticipate and obviate the possibility of a new house falling into an unsanitary condition as years go by, it is best to have all the horizontal house drains and connections thereto laid in conduits that will have been left in the floor of cement. Cast-iron cover-plates, flush with the floor level, can cover them, thus leaving everything where it may easily be accessible and inspected at a moment's notice. In fact, nothing should be placed under the cement floor, generally speaking, but the open-jointed tile drains for the sub-soil.

Cellar pipes that have to be run anywhere through the cellar or along its walls should never require protective coverings such as asphalt, coal tar, etc. Pipes should not rust in a dry cellar.

The drainage of the cellar floor is also a matter of the greatest importance, and the level should be so graded and drained as to permit the floor to be cleansed frequently. How many people in old-fashioned houses wash their cellar floors? And yet they would be horrified at the thought of a speck of dust in the drawing room. Above all things plan for a cellar floor that can be scrubbed often and conveniently.

The ancient and decrepit practice of letting the furnace turn everything else in the cellar topsy-turvy is vanishing from the list of home-building abuses. There was a time when vegetables, preserves, food, milk, and butter had to take a back seat and yield their throne to clumsy coal-bins, overflowing ash barrels, and all the debris the nether world of the old-time cellar could attract through the course of various generations.

Now all that is different. The heating-plant is given plenty of room, but modern systems have been kind to the needs of the potato as well, and the designer of a modern heating-plant works in harmony with the architect, no matter how small and unpretentious the dwelling is to be. Thus there is always left proper room for a well planned dark closet for winter vegetables, a fruit closet and a food room, a laundry, and often store and other rooms. Indeed in one hillside house that has come to the writer's notice there is a fine play-room for the boys of the family, built on the side of the higher wall.

This suggests that, in the properly constructed cellar, it is often advantageous to place a work-bench and tool-chest, especially if there are no outbuildings that can be utilized in this way. There is always much "puttering" and amateur carpentering of all sorts to be done around a house, month after month, and it is, therefore, convenient to have a place where work of this sort may be carried on.

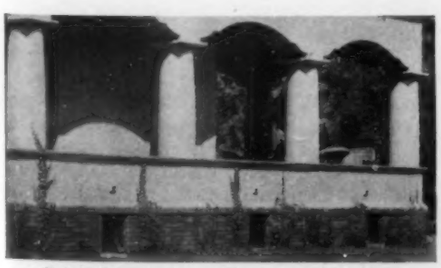
Your architect should plan for the storage of fuel if this is to be kept in the cellar. If you have a ten-room house your bin for furnace coal should have a capacity of twelve tons, if you plan to put in your winter's supply at one time. The iron-lined chute should, when possible, be built into the house, to conduct the coal to the center of the bin. This chute will have to be planned with reference to its being accessible from the street when the coal wagon drives up. The old practice occasioned dumping the coal in through a window over the bin, but this is anything but a tidy or convenient mode of handling fuel.

Let the walls of the coal-bin be dust proof, as well as the ceiling overhead. The additional cost, if added before the contract is awarded, is very small. Another thing to plan for is the sloping of the floors of coal bins towards the opening, so the fuel will "flow" to the front of the bin as needed.

The cellar's outdoor entrance should, of course, be as near the ash-barrels as possible, in order to facilitate their removal.

We often see cellar windows all grimy and dusty, if, indeed, they let in enough light to enable us to see them at all. Moreover, lighting from the outside should never be permitted to be interfered with by the training of vines over the window openings, although this is often done. Then every cellar window should move easily upon its hinges, preferably swinging in and up, to facilitate proper ventilation.

Of course the problem of remodeling the old cellar is one that quite as often confronts us as that of planning a new cellar for the-house-to-be. If one has an old-fashioned cellar and cannot go to the expense or inconvenience of extensive remodeling, at least a great deal can be done by making up one's mind to clear every particle of rubbish out of the old one, and to bring forth into the merciless light of day all the "junk" that has been allowed to accumulate in the limbo deserted by all sensible Lares and Penates. A householder once declared that you can forgive an attic its sins of accumulation, for things in it can get no higher, but you cannot forgive an untidy cellar its mussiness, for things could get no lower! A little thought, a little planning, a little work, a little paint, whitewash, putty and cement, and a great deal of housecleaning, will lead one to discover how to make the most of a cellar and to take some joy in doing it.



Brick foundation walls are practicable only in dry climates

Terracing in front will offset the stilted effect of a high cellar

On steep slopes the cellar becomes as important as any story

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

Reception Hall and Library

I WOULD like to have some assistance from HOUSE & GARDEN in the matter of interior decoration.

My dining-room has oak furniture, wall paper in grape design in browns with a glint of gold. I wish to keep that as it is.

My library is 14 x 20 ft., two windows,—one south, the other east. I wish to build a bay-window with fireplace in center and windows on each side, at the east end of the room which is fourteen feet wide Advise whether fireplace should be all brick, built to ceiling, or shall I use a white wooden mantel to match white woodwork; also as to wall decorations.

My reception hall lies north of the library; it also has white woodwork. How shall I decorate it? As they open into each other I would like the same coloring for both. Hardwood floors and rugs on the floors, mahogany furniture in both rooms. The rug in library has a great deal of old blue. Rugs in reception hall will go with any color. Double doors between reception hall and library, also between library and dining-room.

We are pleased to send you the following suggestions for the treatment of your library and reception hall, noting that the grape design in brown, gold, and olive green has been used in your dining-room.

We recommend for the wall of both reception hall and library a bronze paper. This you will find will harmonize beautifully with that used in the dining-room. While the effect of this paper is practically two-toned in certain lights, one finds a glint of dull old blue and yellow underlying the bronze. The design of the paper is modified Colonial and very attractive.

The ceiling tint should extend at least 18 inches from the ceiling angle, and be finished by the picture rail. This tint must be quite yellow in tone, like the sample we send you. This, you will find, will sufficiently lighten the room.

The same color should be used in the draperies at the windows of the reception hall, and in the library dull blue will be found particularly harmonious with the wall covering and also with the rug you describe.

Regarding the mantel, we would advise that you treat this with the ivory white enamel, matching the woodwork. We send you some simple designs of mantels which are pure Colonial, and would be suitable to your rooms. These can be purchased ready to set in place.

In the Shops

MANY shops are this season offering some delightful decorative suggestions of brass and copper in the form of candelabra, candlesticks, trays, loving cups,—which latter, by the way, may be converted into the body of a most artistic lamp,—desk sets, picture frames and book racks. There are few rooms the beauty of which will not be enhanced by the introduction of one or more of these pieces. The prices are by no means prohibitive. For lamps made from loving cups, or where plain porcelain jars form the body, shades of raffia or wicker, loosely woven and lined with a plain colored silk, are particularly decorative.

Lamp shades of raffia or wicker go well with a pottery base

Plaster pieces in medallions, broken friezes and figures prove good investments, giving an excellent decorative return.

A very charming treatment of a Madonna and Child in a medallion relief shows the ivory tone of the plaster against a strong blue background, this effect being obtained by staining the plaster.

Window Shades

I WOULD be very glad if HOUSE & GARDEN would inform me of the best window shades to use. I would like something that will obscure the light, and also show the correct color for my house. The exterior is painted maroon with ivory white trim.

We are pleased to send you samples of a duplex shade material, having the two faces in different colors. These shades are very satisfactory and by using them the necessity of double shades is done away with.

As the exterior body of your house is maroon with ivory trim, you could use the ivory on the street side, or have the shade made especially to match the color of the house, using the ivory for the interior; otherwise the interior could be in a soft tone of leaf green.

These shades will be found to obscure the light wholly. They are put up with the best rollers, and if correct and accurate measurements are supplied, there is no

difficulty in having an order satisfactorily filled.

Arranging Colonial Furniture

SEEING your generous offer in HOUSE & GARDEN, I have come to you for advice. I am building a six-room cottage with a kitchen, dining-room and living-room on the first floor. The dining-room and living-room have a sliding door between them, and the kitchen is back of the dining-room.

I have an old Sheraton sideboard, a Grandfather's tall clock, an old sofa, long and narrow with beading on the frame, an old-fashioned round table and several chairs—one chair that has curved legs, square back with one straight piece half way from top piece to the seat; this has an upholstered seat; then a fancy shape chair with spindle legs and rush bottom, and a Gothic chair with twisted back and legs and upholstered seat. This last looks something like chairs you see in church chancels sometimes.

All of the furniture mentioned is mahogany and I have a long looking-glass, with mahogany frame. Would you put this over the mantel in the living-room? Kindly advise curtain and upholstery materials and say what kind of rugs should be used upon the floors.

I have two brass candelabra, with three candles each, and the long glass pendants. Must I put these on the sideboard in the dining-room? I also have two small brass candlesticks. Should these go on the mantel in the living-room?

Now about the chimney. It is exposed in the living-room and the bricks show up to the wooden shelf. Would you have these bricks painted brick color and laid off with white to show them as bricks, or must I get rough ugly brick and leave it rough looking?

Would you wainscot the dining-room? If so, how deep, and would you have it plain or paneled? Would you have walls tinted, and smooth or rough effect?

Your house as described seems very attractive, and your ideas of placing the various pieces of furniture mentioned are good. The Gothic chair would look well placed near the entrance of your living-room, as this is more formal in character than the other pieces described. The mirror would be effective used over the mantel, as your letter indicates. The brass candlesticks should be used on the mantel of the living-room.

It is not necessary to leave the brick facing for the mantel in the rough. If you prefer the painted brick, we would suggest that you be influenced in the choice of color by the color used upon the walls. If—as we would advise—you cover these walls in a two-toned yellow tan paper, the brick should be painted in the same shade of yellow and given a perfectly flat finish by adding a great deal of turpentine to the last coat of paint.

We send you samples of the various materials which we recommend, but if you decide upon tinting your walls we heartily advise the rough-finished plaster in preference to the smooth. In your living-room, at least, the effect would be more satisfactory if you paper the walls. Use Oriental rugs if possible.

The wainscot in your dining-room could be made by using three-inch str ps of wood like the standing woodwork, placed at eighteen-inch intervals about the room, extending from the floor line and capped by the plate-rail. The rough plaster between the strips should be tinted in a shade of dull blue like the sample sent. The plate-rail should be set in line with the tops of doors and windows. The ceiling tint advised is a shade of *café-au-lait*, and this should drop to the plate-rail.

We send you a rough diagram showing the best assembling of the various pieces of furniture you describe, and some additions which we would advise.

Wall Papers

AS we have long been subscribers to HOUSE & GARDEN I wish to ask if you will kindly suggest papers for my parlor and dining-room. The house is a cottage and both of the mentioned rooms are about 15 x 15 in dimensions. They run north and south and each has a window looking west, and in the dining-room a large one looking north, while in the parlor are two with a southern exposure. The hall is papered in a green and tan figured paper, and the woodwork here as in the rooms is white enameled paint. The furniture in the parlor is all mahogany and in dining-room golden oak. The rooms open together with two doorways at which I use plain green curtains. The rug in the parlor is in shades of green, while a new one will have to be purchased for the dining-room. Will you suggest colors for this rug, and also material and colors for the curtains in dining-room, as well as papers for both rooms?

We are glad to send you the requested information together with samples of wall papers and drapery materials.

The two-tone tan paper is suggested for the parlor; the price of this is but 70 cents for 8 yards, and you will find it will make a delightful background for pictures while according well with the white enamel of your woodwork. For the over-draperies at the windows of this room we are sending a crinkled dull green silk which is 90 cents a yard, 30 in. in width.

For the adjoining dining-room the tapestry paper is submitted. This shows tones of dull blue, olive green, and tan in effective mingling; the price is $1.50 for 8 yards. The ceiling should be tinted to the picture rail a soft shade of tan. I send you a small clipping showing the correct color for the ceiling. You may have your painter mix his tint to match this. He should dry out the sample and submit it to you to compare with this before he applies it to the ceiling, as the tint used for the ceiling is a very important part of any color scheme. For the window curtains we send two samples, either one of which will be attractive. As the room is of northern exposure the tan silk, which has a decidedly yellow tone, will perhaps be better; this is 50 in. in width and cost $2 a yard.

Small, dull hand-made tiles make a charming facing for the fireplace and may be set in cement over unattractive brickwork

The blue silk is an excellent color if the room is bright enough to carry it. This is the same kind in quality as the dull green submitted. For the door curtains we would suggest the brown velour of which we send a sample. For the floor covering in this room a domestic rug is recommended. There is a good reproduction of an Oriental pattern in dull blue, green and tan tones; in size 9 by 12 a rug of this kind will cost you $50, but it has really a very long life.

White wainscoting seems particularly well adapted to the dining-room

The Editor will be glad to answer in these columns queries that appear of general interest pertaining to individual problems connected with the garden and grounds. When a direct personal reply is desired, please enclose a self-addressed stamped envelope.

The New Year

HAPPY New Year! May the sunny months that follow Nature's resting-time find every garden-lover secure in the joys of a prolific flowering of all his hopes and all his plans!

Happy indeed will he be who, provident of the Seasons, pausing now to look out over Winter's blanket of snow, holds in his mind's eye the image of Yesterday's verdant cover and To-morrow's promise of fair flowers and fat vegetables. The poetry of anticipation and the prose of practicality must ever go hand in hand! So, while we are thinking of our June gardens let January find us making well considered plans for them. We must take down all the Christmas greens by Twelfth Night and burn them, if we would show reverence for the old-time traditions that are woven around this ceremony; yet, as we watch the smoke curling up from the now dry and crackling branches of holly and mistletoe and brittle greens, we will find it a sweet incense to remind us of the fragrance of coming months, in whose gardens and fields and woodlands fresh greenery will be grown. And when the busy housewife is sweeping up the dropping pine-needles, setting the house to rights after its holiday revelry, she will be sweeping up all of Yesterday's mistakes, if we believe in such things as they did in the good old medieval days when the Yule-log spluttered on the hearth, and King Wassail was monarch for twelve days.

So, having set the house to rights, we may sit down in comfort and quiet to plan out To-morrow, that from the seed of forethought fair gardens may blossom through the Seasons to come.

The garden in winter

January Plans

HAVING given thought to the planning of your next season's garden, and the things you may wish to plant in it, do not forget the important matter of anticipating its careful cultivation,—of the garden tools and implements which you will need in working it properly. There will be spades, hoes, lawn mowers, trowels, knives, sprayers, etc., to think of and to select from the best devices offered by progressive manufacturers. In gardening, like in everything else, good tools facilitate good workmanship and are great time-savers.

This is a good time to put greenhouse benches in shape, for nothing is more discouraging than to find them rotting away. Spray them with copper sulphate, and after that as often as necessary with your whitewash mixture.

Spraying is an important consideration for January and the month to come. Look well to it that you are not neglecting your fruit and shade trees, and that spring and summer do not come to find shrubbery and trees destroyed by scale and other pests. Let your "ounce of prevention" be dissolved into a good liquid and spray trees and bushes around your lawn and garden. At the same time do not forget that your neighbor's carelessness in such matters may negate everything you will have done, for no fence ever kept off insects, scale or blight. It will pay you to talk over the matter with Mr. Neighbor, for there is little doubt of his co-operation in your efforts to preserve the natural adornment of your yards, lawns and gardens.

Bordeaux mixture will prevent fungous diseases. It is compounded in the usual formula as follows:

Copper sulphate	6 lbs
Lime	4 lbs
Water	35-50 gals

The copper sulphate is dissolved in the water, milk of lime being added. It is better not to use Bordeaux mixture that has stood an unusually long time.

You will find other mixtures for the San José scale, and you cannot afford to neglect looking into any of these matters.

Apropos the matter of Fungicides and Insecticides it is interesting to note that at the last session of Congress a bill was introduced in both the Senate and House providing for the government control of the purity of fungicides and insecticides, in much the same manner as the purity of foods and drugs is now controlled. The passage of this bill, again introduced at the present Congress, would make special legislation on the matter by the separate states unnecessary.

Look well to your outbuildings, for a hammer in time saves nine kegs of nails.

Perhaps a glance out of your window over a strip of ground that now appears bleak and dreary to you will suggest that another January should find a tree, or a clump of shrubbery, with bright stems to give some sense of color and winter design to the landscape. It is just that difference between the monotony of snow-covered prairies and snow-blanketed woodlands that brings Nature to teach man some of her decorative arts.

A clump of Spireas will bring you both color and decorative form next winter—*Spiræa ariefolia*, which retains its dead flower clusters a long time, a pleasant

contrast of brown against the white snows, and *Spiræa Lindleyana*, whose bright colored stems also enliven the lines of the gray landscape.

Start the tuberous plants, Gloxinias and Begonias, now, if you would have them bloom early. Put them in flats, thickly together, and cover lightly with sandy earth. Avoid their rotting, and pot as soon as roots are developed.

If you would become more adept in the art of gardening study up some of the matters which you will have less time for when the busy days of spring arrive. It is well to post oneself on the matter of fertilizers and soils, since an understanding of such matters will foster gardening success.

Winter mice and rabbits may be girdling your trees. If so, bind strips of tar-paper around each tree thus attacked, high enough, however, to be above the probable snow-line.

These are the principal flowers whose seed may now be sown in the greenhouse: Pansy, Lobelia, Verbena, Marguerite, Carnation, Snapdragon, Petunia, Daisy, Forget-me-not, Wishbone plant, Impatiens, Salvia and Cannas.

If there is carting and wheeling to be done around a place now is a good time to do it, when the ground is hard and the turf will not be cut up by wheels to leave unsightly streaks across the summer lawn.

Plan early to order your Chrysanthemum cuttings so you will have good material for fall exhibition.

It is too early of course to make hotbeds outdoors throughout northern states, but one may sow almost all kinds of vegetable seeds indoors for early crops if care is taken and proper light, heat and ventilation provided.

See that the spots in your garden where you have had Campanula growing are carefully protected.

Send to your seedsmen for catalogues if you have not done so already, and give careful thought to the contents of these, not only in the matter of selecting the things you like and admire, but with forethought of planting effects.

Cape Bulbs

I OFTEN see the term "Cape bulbs" used by persons writing of indoor gardening. Will you kindly tell me just what is meant by the term?

Cape bulbs is the name given to that class of small bulbs which are found at the Cape of Good Hope and thereabouts, such

Oxalis ceruna, **one of the best known Cape bulbs, easy to grow and very decorative**

as the Freesias, Ixia, Sparaxis, Oxalis, Babiana, and Tritonia (the Montbretia, of the gardener). Oxalis and Freesias are easily grown, but the Ixia and Sparaxis are rarely met with, though they are well worth the trouble it takes to bring them to successful flowering. This plant is much better known in Europe. Cape bulbs are grown extensively at the Channel Islands, where they thrive remarkably well. Freesias are seldom grown in Holland, but the trade in them is growing in the Bermuda Islands, while California leads in the United States. Ixias have been raised successfully for commerce near Boston, and of course they are grown for the trade in California. All the Cape bulbs flourish in the Azores, where some of the most beautiful gardens in the world are to be found.

Cutting Back Rubber Plants

I HAVE only a small space by a sunny window in which I keep my plants, and lately my Rubber plant has grown too tall to look well or to fit into the limited space I have for it conveniently. Is there any way of cutting it back safely? I have tried to exchange it for a smaller one, but we have no florist in our village, and no one cares to take so large a plant.

The decorative qualities of stems and branches add to winter effects

The Rubber Plant (*Ficus elastica*) may be reduced safely by cutting the stem down to about a foot and a half from the soil of the pot. New shoots will soon appear, to transform the stub into a rounded, shapely head.

Neglected House-Plants

WHILE we were away from the city on a trip abroad, the people to whom we let our house either neglected to care for our plants properly or did not understand them. Consequently, the tips of the ferns and palms have turned brown. What should be done towards restoring them?

The best thing to do is to send them to your florist, for it may need months of careful attention to bring them back to their original vigor.

Fertilizing House-Plants

I AM told that house-plants require manurial stimulant. Will you please advise me about this matter?

Manures may be used in mixing soils for potting; however, they should be used most sparingly as they are too strong to be used in quantities within the confines of the flower-pot, and when added in too great a quantity will burn instead of nourish the tender plant-roots.

For Sunless Windows

WHAT plants thrive in windows that do not receive much sun? One of my rooms which I am planning to use as an upstairs sitting-room has a window in which I wish to place such plants.

Geraniums, all fibrous-rooted Begonias, and Fuchsias are some of the better known plants that thrive with less sunlight than some others.

Century Plants

IS it true that the century plant blooms but once in a hundred years? I have been told this is not true, and as I live in the country I nave no access to any library, so cannot look up the information myself.

No, this plant, the *Agave Americana*, a desert habitant, seldom reaches bloom at all under cultivation because sufficient room is not allowed for its potting. The roots need plenty of room and nourishment—plant food and water, often denied them because it is known they are native to arid countries and plant lovers suppose they are to be treated like prisoners, forgetting that they are not there exposed to desiccated hot air. Under good treatment these Agaves have been known to blossom within twenty-five years. As soon as its seeds mature it dies, but the plant may be perpetuated by the suckers forming at the base of the parent plant.

Be sure that the sleeping-porch connects with a warm dressing-room

Building a Sleeping-porch

BY T. E. WHITTLESEY

Photographs by Jessie Tarbox Beals and others

SLEEPING outdoors seems to have progressed well beyond the fad stage. The practice appears to require but a single trial to convince even the most skeptical that "night air," that *bete noir* of our grandmothers, is in reality a pretty fine thing to get into one's lungs in large quantities. Why is it that a camping trip has upon most of us the effect of setting us up on our feet again with a new joy in living? Is it the diet of soda-raised "sinkers," poor coffee and half-fried bacon that works the miracle, or is it, perhaps, the sleeping outdoors in pure invigorating air?

Outdoor sleeping has come to stay, so let us recognize the fact and build our houses accordingly. The thing has taken us unawares; we are forced to drag a cot out upon the fire-escape, or rig up a bed-annex so that we can sleep with our heads at least outdoors, shutting the window-sash down on our necks. These makeshifts are perfectly good, as such, but when we come to build our new house there is a chance to have a sleeping-porch that will be to the old makeshift what a cot and a wooden floor are to camping.

In the first place the porch should open from a bedroom or dressing-room, so that the sleeper may have a conveniently near and warm place in which to dress and undress. A comfortable adjacent dressing-room robs the sleeping-porch of its one sting.

Most of those who sleep outdoors seem to feel the need at times for a shelter of some sort against the wind, and even the most enthusiastic advocate prefers to have the rain and snow and hail kept off his bed. A roof for the porch seems advisable, therefore, and a set of windows pivoted at top and bottom to revolve sideways. This form of window will obstruct little or all air as desired, provided some device is attached by which the sash may be clamped firmly in any position. An arrangement of pulleys and cords, the latter brought to the side of the bed, makes the operating of the sash a simple and easy matter without leaving the shelter of the warm covers.

Insect screens may replace the sash in summer provided these are needed, and a canvas drop curtain will shut out the driving rain.

Whether the sleeping-porch is to be built directly over the lower porch, or as a balcony, or as an open corner under the main roof depends entirely upon the conditions of each case—architecture, prevailing winds, etc. The point is that when one is building, the sleeping-porch should not be overlooked, either for immediate use or as a desirable feature of the home in the future.

Raising the canvas panels makes of this summer home an outdoor sleeping-room

The vertically pivoted sash screens the bed from the wind

A whole corner of the second floor may be left open for outdoor sleeping

The Problem of the Roof

(*Continued from page 29*)

shingles, four and one-half inches to the weather, $6.75; best tin (painted), $12.00; Maine slate, five and one-half inches to weather, $12.00; Spanish tile, $50.00; asbestos shingles, $14.00 to $17.00, according to pattern.

But the above is not conclusive, for the weight and character of material determine the character and strength of the roof. It takes a stronger and consequently more expensive roof for slate than for tin, although the initial costs of coverings are the same. Then, too, shingles are laid on a rough board roof—even on open strips; but the best roof boarding for all other materials is a tongue-and-groove, with a reasonably smooth and true upper surface. While the lighter roof rafters are usually nailed at the plate and stayed with rough board collar beams above head room, the heavier roof often requires trusses to get the necessary strength, and oftentimes the heavier southern pine is used instead of the commonly used spruce. All this means added expense. Further, the flatter the roof, the heavier the rafters, as the strain is more direct.

A Studio of Chestnut Slabs and Cement

(*Continued from page 31*)

Specifications for the great stone fireplace and chimney cannot be too carefully made; otherwise the chimney will surely smoke and prove to be a source of endless discomfort. The chimney should be lined with 8 x 8 in. terra-cotta flue lining, the outside masonry built of either round rubble or field stone, if preferred, well laid in Portland cement and mixed 3 to 1, neatly pointed up and the joints struck out. An iron shelf is placed at the back of the flue just above the top of the fireplace opening, leaving a space three or four inches wide, for the smoke to escape. This will prevent "back draught," which is the main cause of trouble in a smoking chimney. A couple of round, red pieces of terra-cotta piping add attractiveness to the chimney top and prevent heavy downpours of rain from flooding the fireplace. Be careful that the top of the chimney is a good two feet above the highest roof peak and that all branches of trees are cut away immediately above. Open niches are left in the masonry—a long one directly over the fireplace, which serves as a mantelpiece, and smaller ones on either side, but a little lower down, for odds and ends. A hob is made by fixing a perfectly flat stone in the masonry about two feet above the hearth and extending out about eighteen inches, leaving just enough room to rest a copper kettle upon when removed from the wrought iron crane.

For the hearth a strong box was built

beneath the flooring with cleats nailed on both sides of the floor beams to withstand the weight. This box extends along the whole front of the masonry, measuring about four or five feet wide and six inches deep. This was filled with concrete and the top floated off smooth, then the name of the cottage was laid in in rude mosaic by embedding stones in cement—white ones for the lettering and dark ones for the filling in.

The studio is left open all the way up, showing the peaked roof. A broad gallery, about twelve feet wide and eight feet from the floor, is built on the south end, with a narrow stairway, newel posts, balustrade and other pieces all made of white birch. The space beneath the gallery may be partitioned or curtained off and used for whatever purposes desired. The inside walls of the house, being sheathed instead of plastered, may be covered with a burlap or other textile. I found a really cheap and effective wall covering in the common Java mats, obtainable from almost any of the large coffee roasting houses for about fifteen cents apiece. They are of double thickness and when the bindings have been cut, will measure about twelve feet in length by thirty inches in width. After they have been tacked on the walls they will take any of the ordinary wood stains, dark red and dark green being most effective. Owing to the intermixture of both rough and smooth straw fibre in the weave, the stain dries in irregular strips, giving a very pleasing effect. A wide border, or frieze, can be made of the same material and simple Indian designs stenciled or painted thereon. Stains can be used here or common oil paints well diluted with turpentine to give the dull finish. The lower part of the frieze is fringed out three or four inches. The stencil design may be extended to the decoration of pillow covers, hangings and even mats for the floor, using the same Java mats. Screens, with framework of white birch and panels cut from the mats and decorated with Indian designs, are useful and ornamental.

In order to have everything in keeping, the furniture should all be made of the rough natural wood with the bark on. Any man who is skillful with hammer, gouge and chisel, can fashion any piece of furniture to be used in the cottage, and the mere fact that accurate geometrical lines are not to be followed, will make the furniture the more attractive. Avoid spindle-legged furniture, one piece of which, in the living-room, will throw the whole scheme out of harmony.

The kitchen and servant's quarters are in a separate one-story addition, twenty feet or more from the main building and joined to it by an enclosed passageway. This enclosure is used as a dining-room, except in fine weather, when meals are served on the veranda.

The most important items I have left until the last, namely, bath and shower—the question "how to build a bathroom

without the aid of a plumber" having required much thought. The cheapest estimated outfit of any practical value would cost between $350 and $400; but after studying the problem in its essentials, I have put together what I consider, for all intents and purposes, a practical and efficient bathroom. A small space was partitioned off and completely lined with zinc, a small tank being placed as high up on the wall as possible and filled by pumping water from a large tank in the cellar by means of a small hand pump; a shower spray was easily attached. A porcelain tub was picked up for a song from one of the house-wrecking concerns to go under the shower, and a single waste pipe leads directly to the cesspool. An ordinary kerosene stove sufficiently large to hold a good-sized cauldron is placed immediately alongside, and by attaching a faucet and a piece of rubber hose to the cauldron the hot water problem is solved independent of the kitchen; the shower spray will do the rest.

If your spring has a sufficient elevation so that water will reach the second floor by gravity, a cement tank should be built alongside to insure plenty of water in extremely dry weather. If, on the other hand, there is no spring, an inexpensive wooden tank can easily be made of heavy planks three inches thick, leaving a small space between each and caulking the seams with oakum and white lead, the whole being well bolted together with iron bracing rods. This should be built in the cellar, of sufficient capacity to hold water enough to supply the household for all ordinary purposes. A few heavy rains on the roof will more than fill any tank. The water may be kept perfectly pure if you have not creosoted your shingles, and a quarter-inch wire mesh is used as a covering to the roof-gutters and openings to the leaders. Then a porous stone filter can always be placed inside the tank.

The building, complete, could be put up for between $2500 and $3000 within a radius of, say, fifty miles of New York, providing, of course, that the owner devotes as much time to the interior decoration and rustic work as I have done on mine. I have named my cottage Ano-a-tok, an Eskimo Indian word signifying "The Home of the Winds," and notwithstanding the fact that the house could stand a number of improvements, I am fairly well satisfied with my efforts. The natives, at first, rather jeered and scoffed at me for using a material that they considered good enough only for hog-pens—I am referring to the slabs—but, when the building was completed, they somewhat changed their minds, showing signs of marked approval by bringing their friends from miles away to inspect it. But the greatest satisfaction that I felt, by way of compliment, was from a taciturn old neighbor who, when I asked him what he thought of my house, scratched his gray beard, shifted his quid from the east to the west

side of his face, and, squinting up through the open well, exclaimed in all seriousness, "Wal,' I dun'no, but 'pears t'me it'd make a dam' fine barn!'"

What Kind of Windows

(*Continued from page* 21)

The writer strongly recommends the metal casement sash long common in England and now being increasingly used in America. These casements can be set in either wood or stone window-frames without difficulty. They can be procured to swing either in or out, hinged at top or bottom or pivoted to revolve in almost any direction as desired, and to give absolute satisfaction in time of bad weather. The cost above that of wood sash is not great, about ten to fifteen per cent more, but the charm and attractiveness they give a dwelling cannot be estimated. One practical advantage of these windows among many others is that the upper panel, say for about one to two feet in depth, can be hinged to swing at bottom or top and made to ventilate the upper part of a room, at the same time being conveniently adjustable from below. Generally speaking, windows should go up fairly near the ceiling. Anyone who has climbed a step ladder in a heated room knows of the irremovable bed of foul air lying there. The alternative of a proper ventilating system of flues and registers is too expensive for the house of moderate cost.

The appropriateness of windows to location is a subject more pertinent to the planning of a house and the use of the rooms than to the purpose of the present article, but a few remarks may not be out of place. In a country house the windows of a room giving out upon a garden should be ample, and wherever desirable and practicable, French casements carried to or nearly to the floor. For windows letting out upon porches, by all means have the windows run down to or near the floor—for obvious reasons. The French casement is the most satisfactory, but double-hung sash may be used, hung in three sections if necessary.

Basement and cellar windows are often a necessary evil in the design of a house. If the house be built upon sloping ground, it is not difficult to have most of the basement windows of ample size and still keep the main floor near enough to the ground to avoid a stilted appearance. But in the house upon level ground this is more difficult. Basement windows we must have to ensure dryness and cleanliness. The ordinary window hinged at the top, fairly close to the ceiling, seems to be the most satisfactory.

In regard to attic windows, they are frequently more useful for ventilating the attic space than for any other purpose. Care should be taken to have them conveniently opened and closed. Often they

can be adjusted by a simple arrangement of two cords extending down to some convenient room in the floor below. The practical housekeeper would appreciate this saving of steps.

Japanese Gardens for Winter Effect

(*Continued from page 25*)

spreading stream issuing from behind a hill and running into a lake; or the "reed-marsh style," in which the hills are low, rounded sand dunes bordering a heath or moor, in which lies a marshy pool overgrown with rushes; and many other such "styles," all well recognized, all kept carefully distinct, and all modeled upon actual landscapes. In any case, however, the true "hill garden" must present in combination, mountain or hill and water scenery.

If, on the contrary, the site is small and flat, and the garden is to be less elaborate, the "flat style" is usually chosen. The "flat garden" is generally supposed to represent either the floor of a mountain valley, a moor, a rural scene, or the like, and, as in the case of "hill gardens," there are a number of well recognized and classical examples.

Having, then, determined that the garden is to be of one of these types, and having also determined the degree of elaboration with which it is to be treated, the gardener will next proceed to fix the scale upon which it is to be constructed. And this scale—a most important factor—is determined by the size of the garden area and the number of features which must be introduced into the scene; for it is clear that if the site is large and one in which natural hills or large bodies of water are already present, the scale will be a normal one; whereas if a whole valley, with hills, a river, a waterfall, a lake and a wooded slope is to be represented in a space of some fifty or sixtv square yards, the scale of the whole must be miniature. But whatever scale is adopted, every tree, every rock, every pool, every accessory detail must be made exactly to correspond to it. A hill that might in a large garden be a natural elevation of considerable size, with full-sized trees planted upon it, might in a smaller one, modeled after the same design, be only a hillock, planted with dwarfed trees or shrubs; or, in a still smaller area, become only a clump of thick-leaved bushes, trimmed to resemble a hill shape, or even a large boulder flanked by tiny shrubs. So skillfully and completely do Japanese gardeners carry out any scale they may determine upon that gardens are sometimes completed, measuring only a few yards square, that give the impression of large area and broad landscape attractions. Mr. Lafcadio Hearn describes one of not much more than thirty yards square, that. when viewed through a window

from which the garden alone was visible, seemed to be really an actual and natural landscape seen from a distance—a perfect illusion.

Having determined upon the natural model, and the scale for it, the gardener will begin by imitating on the given site the main natural land comformations of his original building hills and grading slopes, excavating lake basins and cutting river channels. These natural features he will next proceed to elaborate, and it is in this process of elaboration that he must most carefully observe all those complex laws and conventions by which his craft is governed.

The tea room is an attractive feature of Mr. Burk's garden—a feature that is frequently omitted in smaller gardens. This is simply a wooden tea room or tea house with conventional bamboo decorations, and set in one side of the garden just within the gateway. With rough posts, slatted enclosure and typical bamboo fittings and roof, it proves a charming addition when viewed from within the garden, while from without it is one of the most prominent features of the place, looming well above the curious twig fence enclosing the garden.

The main bridge of the garden is of attractive rustic design, and the varied stone lanterns are all interesting and picturesque. The available space is sufficiently large to admit of a comparatively high "mountain" at the back, which has winding paths leading to the summit, and from here excellent views of the entire garden are obtained.

Planning the Garden on Paper

(*Continued from page 36*)

covers its highest point but no more suppose a subsidence of five feet. This would leave a little island; draw a line at the base of this little island right at the water's edge, and you have the first or highest—the last, really—contour line.

Another fall of five feet makes the island very much larger, if its sides slope gradually, and another line at the water's edge all the way around is the second contour line. So on it goes until sea level is reached—only as a matter of fact contours are measured *up* from sea level at every five-foot rise in the imaginary flood, instead of down from above, but that does not seem as convenient a movement of the waters for purposes of explanation.

With your own boundaries laid out correctly to scale, go outside once more with line and tape and stakes. Go to the lowest spot on the place and standing there, lift one arm until it extends straight out from the body with the back of the hand uppermost and on a level with the eyes. By sighting from the back of the wrist along the hand to the finger tips you will come within a fraction of an inch of holding this level. Send

the vision straight on to the hillside you are measuring and have a stake planted at the point where it intersects the ground. Without moving from the one spot, work on along the length of the plot you are surveying, having as many stakes set as may seem necessary. The less regular the land, the more will it require to determine its irregularities. Measure from each stake to two convenient points on the boundary whose distance is established, and locate each stake upon the map by measuring similarly from the same points. Connect the dots representing the stakes and you have one contour drawn.

With the lowest thus fixed determine the next from the level of it in just the same way—and so on until the uppermost is reached. The fall between each will be usually about three inches less than the height of the "surveyor." Its exact distance can very easily be found out by measuring the level the hand points, thus extended, upon the wall. To avoid confusion in the drawing, it is given as even five feet.

Determining contours is, as I have already warned you, a tiresome proceeding and unless your land slopes decidedly, or has a brook or some marked irregularity to disturb its surface, I should not advise bothering with them; they are not an absolute necessity.

With the map laid out and boundaries inked, the points of the compass must next be indicated upon it. A watch will show them to you quite as well as a compass, if you haven't the latter—a watch on a sunny day. Point the hour hand towards the sun at any hour of the day: exactly half way from the 12 mark to the point on the dial at which the hour hand stands, *around the dial in the direction that the hands travel*, will be the north. Hold the drawing with its line A B parallel to the actual boundary A B and let the watch lie on it. Outline it with a pencil and make a dot at the north and another opposite at the south. Take the watch away and draw a line through these, marking an arrow head on the north end of it—and you are ready to begin actual design.

The transfer of the plan from map to ground is apt to be more puzzling to one who has not done such work than making the plan itself; so, assuming the details to be completed, we will go directly to this. Divide the map by lines running in both directions—north and south and east and west—into eight-foot, otherwise one inch. squares. Number the lines which run north and south, and letter those which run east and west.

Divide the ground similarly into eight-foot squares by measuring in the two directions and setting stakes firmly where the lines intersect. Number these stakes on the face corresponding to the north-south lines and letter them on the face corresponding to the east-west lines, the numbers and letters of course coinciding with the numbers and letters on the

plan and thus determining unmistakably which square is which.

Each eight-foot square will contain from one or two to seven shrubs, and the positions of these are very quickly located within the squares.

For planting on a large scale, squares of twenty-five to fifty feet are usual, while borders and flower garden designs may sometimes need dividing into little twelve-inch checkers for convenience and accuracy in planting. The principle is always the same, however, and though the preliminary work may seem "fussy" it is the simplest and quickest way of transferring any plan to the ground, much more than saving the time that it requires to do the work of measuring and dividing.

Bayberry Candles

THE maid of olden times used to go singing "Bayberry candles burnt to the socket bring luck to the house, and gold to the pocket," as she searched field and hedgerow for the fragrant berry of the Bay, with which to mold with her own hands two Bayberry dips, one for herself, and one for her lover over the sea. Then on an appointed night, when

"To learn your luck for the year, they say, burn a Bayberry dip on New Year's Day"

the dips were lighted, the incense from the candles was supposed to drift together, a symbol of the unity of their love, thus typifying the blending of their destinies.

Another old rhyme from the old "Country Almanack" runs "To learn your luck for the year, they say, burn a Bayberry dip on New Year's Day, and if flame burn bright and the light shines clear, good luck will be yours throughout the year."

As early as 1784 a Swedish naturalist, traveling in America, wrote the following

account of Bayberry candles: "There is a plant here from the berries of which they make a kind of wax or tallow, and for that reason the Swedes call it the tallow shrub. The English call the same tree the Candleberry tree or Bayberry bush; it grows abundantly in a wet soil and seems to thrive well in the neighborhood of the sea.

"The berries look as if flour had been strewn on them. They are gathered late in the autumn, being ripe about that time, and are thrown into a kettle of boiling water; by this means their fat melts out, floats on top of the water, and may be skimmed off into a vessel. The tallow, when congealed, looks like common wax, but of a dirty green color. By being melted over and refined it acquires a fine transparent green color. Candles of this do not easily bend nor melt in summer, and burn better and slower, nor do they cause any smoke, but yield an agreeable smell when extinguished, insomuch that nice people often put them out on purpose to have the incense of the expiring snuff." These berries were considered of such value to the Colonial communities that laws were made limiting their gathering. At one time a fine of fifteen shillings was imposed on anyone caught picking them before the fifteenth of September.

The hint of ancientry that lingers in the smoke of the Bayberry candle has revived the fashion for them, and now they are being made once more in the sea-coast villages of Massachusetts.

Book Reviews

The Garden in the Wilderness. By A Hermit. Illustrated, 16mo, cloth, 210 pp. New York: The Baker & Taylor Company. $1.50 net.

A delightful book of essays breathing the spirit of the garden through all its seasons, with a quaint humor running through it all. This is an excellent example of book-making, and its decorative chapter heads are especially attractive.

One Hundred Country Houses. Modern American Examples. By Aymar Embury, II. Illustrations from photographs and plans. 10½ x 11¼ in.; 264 pp.; bound in buckram boards; in box. New York: The Century Company. $3 net.

Mr. Embury's achievement is a notable one, for the collection of houses used as illustrations is undoubtedly the best that has been brought together in one volume. Starting with an outline sketch of the development of architectural style, we are led into an entertaining and instructive discussion of modern American country houses, which are somewhat arbitrarily divided into groups representing the chapter headings: New England Colonial, Southern Colonial, Classic Revival, Dutch Colonial, Spanish or Mission, American Farmhouse, Elizabethan, Modern English, Italian, Art Nouveau and

Japanesque. Chapters on the garden setting and on the important matter of plan are added, the latter being particularly helpful in suggestions regarding the essentials in size and arrangement.

Regulating the Heat

BY M. H. MILLER

IN the November issue of HOUSE & GARDEN a writer outlined the advantages and disadvantages of the available heating systems as applied to the home. In my opinion the problem confronting the home-builder of to-day is not so much "What system shall I install?" as it is "How can I warm my house with the system already in place?" Of course the choice of a system is an important matter when one is about to build, and the merits and defects of Hot Air, Steam, Hot Water and the Direct-Indirect systems should be carefully considered in relation to the type of house to be heated. For example, it is inadvisable to use Hot Air on a very long, narrow country house, such as one frequently sees on the edge of a lake or along the seaside. The reason is that the warm air would have to be forced too far, in the case of the end rooms, and the rise in the duct would necessarily be so little in proportion to the length, that these rooms would be very difficult to heat in cold snaps. Two furnaces would solve the problem, but either steam or hot water would be the more logical and economical system to choose.

The point is, however, that whether your system is Hot Water, Steam or a Hot Air furnace, it has been designed to heat your house and in all probability it can be made to do the work. The key to the situation is in knowing how to manage the apparatus.

Every modern heating equipment should have with it, to be posted in a convenient place, a full sheet of printed instructions. These are not advertisements, to be thrown away when you have glanced over them. It is to the manufacturer's interest to have the system work, and work economically, and he has made these printed instructions as clear and specific as possible to achieve that end. Follow them in every detail.

Many modern grates are triangular in cross-section, and a flat edge should always be uppermost, otherwise the fire drops through. In shaking a grate of this type it is not necessary, nor is it advisable, to turn the grate handle violently back and forth as in the old types. Instead, a third of a turn downward will turn out the ashes and bring another flat side of the grate-bar uppermost.

An annual overhauling of furnace or boiler and smoke pipes will prove itself real economy. Then when the first cold fall day comes along you will not wonder uneasily whether it will be

necessary to freeze for a few days until the busy heater man can get around to locate the trouble. And after the last spring fire take down the smoke pipe and shake the soot out of it, allowing the detached lengths to stand in a dry place on end until fall. If this is not done the soot that has settled on the inside lower side of the pipe will gradually take up moisture, forming an acid which eats through the metal. Convince yourself of this by taking the butt end of a pencil and pushing it against the under side of a pipe that has remained uncleaned for two or three years; the pencil will go through the thin weakened walls of the pipe.

You have probably noticed on the interior walls of a modern office building a thermometer-like instrument known as a thermostat. By means of the expansion and contraction of a metal rod, under changing temperatures, the instrument opens or closes the damper and draught door on the furnace or boiler, keeping the room at any temperature for which it is adjusted. These thermostats are now being made for use in the home as well as in large buildings, and they are not nearly so expensive as might be imagined—about $40, complete. Then you may have also a time regulator on the instrument, so that by setting it just as you would an alarm clock, the mechanism is started automatically a half hour or so before you get up in the morning, closing the damper and opening up the draught of your heater so that you can get up and find the house heated to 70°. It seems reasonable to suppose that the maintenance of an even normal heat saves fuel, to say nothing of numerous trips to the cellar. All you have to do to the heater is to supply fuel, and shake down and remove the ashes.

Concerning the Plumbing

THE sanitation of the dwelling is greatly dependent upon the proper plumbing of it. There comes to be less excuse for neglecting this matter as year after year brings with it the most modern and simplified appliances for effecting proper drainage, and a full supply of fresh flowing water throughout the house.

The safe trapping of all plumbing fixtures is far more essential to complete sanitation than almost any other detail, though of course drain, soil, waste and vent pipes must be in proper position or the system will be a menace to health. The height of water in traps must always be of sufficient depth to effect a perfect seal, and with vents to prevent siphonage.

Plumbing the new house is, comparatively, a simple matter, for the builder has only to consult the architect and the sanitary engineer. In remodeling an old house, and in fitting it for the first time in its history with a system of sanitation, all the resources known to the architect and engineer alike are often drawn upon in order that the

difficult problem of making an old house as convenient and safe to live in as a new one may be solved.

The sewage system of any house should be so devised as instantly to remove from the premises any liquid household wastes.

Let the plumbing be open everywhere. Boxed-in sinks, wash-stands, bath-tubs, etc., are unsanitary catch-alls, and should not be tolerated where it is possible to avoid them. At the same time plumbing of the open sort need not be ugly, for, now-a-days, design in piping arrangements is thoroughly understood by the sanitary engineer, and ought to be understood by the master-plumber.

Piping that conveys water through soil to the dwelling should be of iron. One cannot take too much precaution in the matter of lead piping, and leading at joints. Just here one may remember that many a careless plumber has endangered the health of a household through his neglect of this matter alone. For instance he may join the iron pipes with some soft lead paste and if he does, one may have every reason to look forward to the consequences of lead poisoning. Iron pipes through which drinking-water is conducted should be cemented most carefully with the best graphite mixtures.

When possible it is well to plan for piping of the following sizes in the different sections of the plumbing system:

Laundry supply pipes, ¾ inches.
Laundry waste pipes, 1½ inches.
House cold water pipes, ¾ to 1 inch
Kitchen sink waste pipes, 2 inches.
Kitchen boiler water-front pipes, 1¼ inches.
House soil pipes, 4 to 5 inches.
Lavatory waste pipes, 1½ inches.

Not only must one have things right to start with, but it is quite as important that any plumbing system be kept in good condition. Drains and pipes should be opened up once a year and swabbed to remove any accumulation of solids. Traps should be cleansed periodically, and strainers of fixtures looked after continually. Grease should never be permitted to run loose in sinks, nor solids allowed to enter waste pipes. Closets should be flushed at least once a week with boiling water and concentrated lye.

Builders and plumbers do not always take thought of winter seasons, therefore in planning for your plumbing system take into account the necessity of having the piping immune from frost.

Old Looking-glasses

BY MARY H. NORTHEND

(Continued from the December issue.)

LATE in the eighteenth century mirrors known as bull-eyes and girandoles were introduced. These were circular and the glass was usually convex. As this feature rendered them rather impracticable for common use, they were

elaborately framed and used as ornaments rather than as actual looking-glasses. According to an old definition these glasses alone have a right to the name "mirror," and all save "circular convex glasses" should, properly speaking, be termed looking-glasses.

A fine old bull's-eye, in the customary heavy gilt frame surmounted by an eagle, hangs above the fireplace in the home of Mr. E. B. George, at Rowley Massachusetts. A mirror similar in design, but having the branching candlesticks which were characteristic of the girandole, is now owned by an old Salem family.

Of the more common late Colonial looking-glasses there are two general types. The earlier dates back to about 1810 and is characterized by the overhanging cornice, beneath which pendant balls or acorns were frequently placed. Frames of this style were usually of wood, carved and gilded or painted. To add to the decorative effect there was often a panel beneath the cornice, ornamented with various designs such as a horn of plenty, floral subjects, or classical scenes. In the later type the cornice had disappeared and the frames were as a rule more simply ornamented. The upper panel, however, was retained and almost invariably bore a painting of some sort. Until within a comparatively few years it was not a very difficult matter to secure mirrors of this type, but in the recent fad for collecting old furniture many of the best specimens have been purchased and a really good Colonial mirror is rapidly becoming a scarce and, therefore, valuable article.

Accessories which cannot fail to interest every collector of old mirrors are the quaint "Lookeing Glasse Nobs" of 1770. These were small knobs, either circular or oval in shape, to which were fastened long iron prongs. They came in pairs and were driven into the wall about a foot apart to serve as supports upon which the mirror above might rest. These knobs were frequently made of brass, but some of the better ones were of copper overlaid with fine Battersea enamel in a variety of bright colors. China, too, was used for this purpose, and on these knobs different designs were painted or printed in delicate shades.

Landscapes, beautiful shepherds and shepherdesses, and the favorite urn shaded by a weeping willow, were among the most popular decorations for these quaint mirror supports. Patriotic subjects were also in favor and some old knobs may now be seen bearing a design composed of the eagle and thirteen stars, or the likeness of some great soldier or statesman. Whatever their design, however, looking-glass knobs are highly prized at the present day and the possessor of a good pair of genuine old mirror-holders may consider himself fortunate.