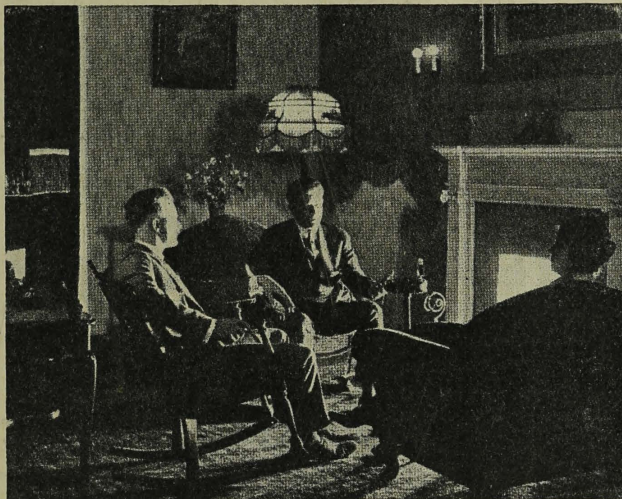


TORONTO DISTRICT EDITION
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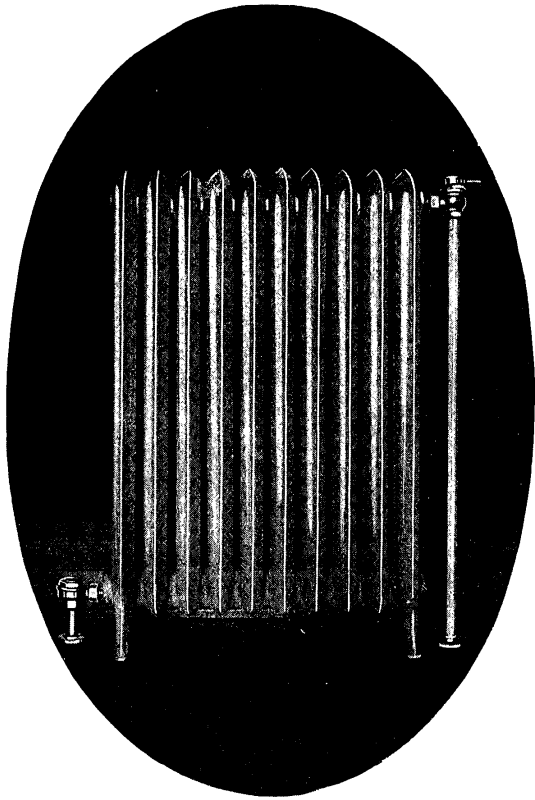


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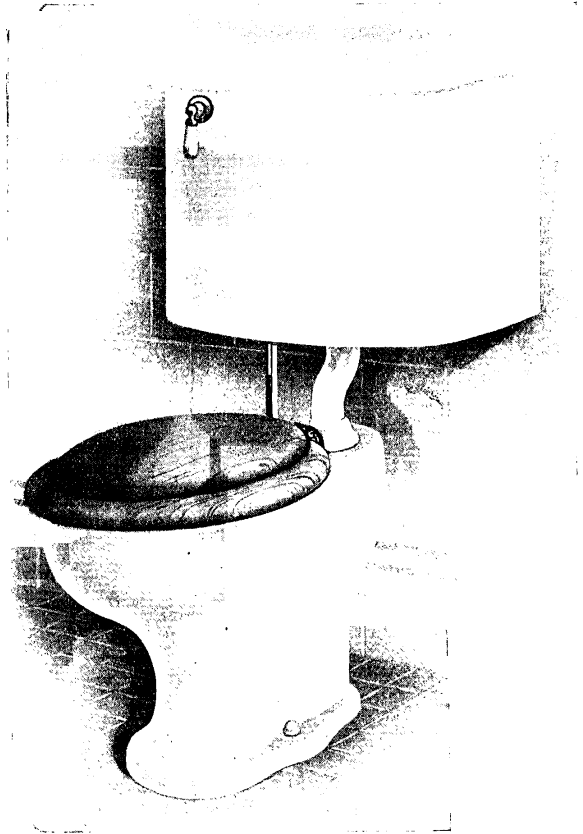
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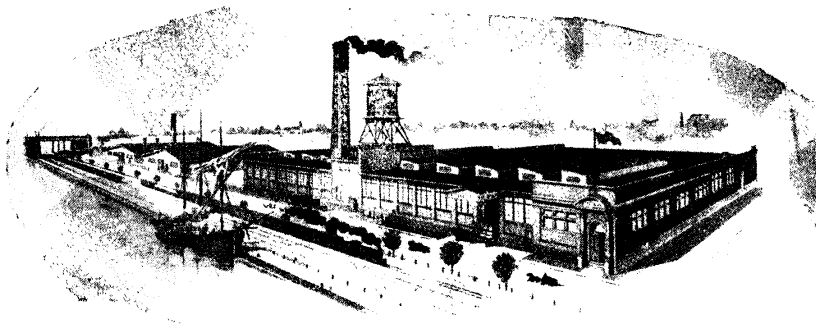
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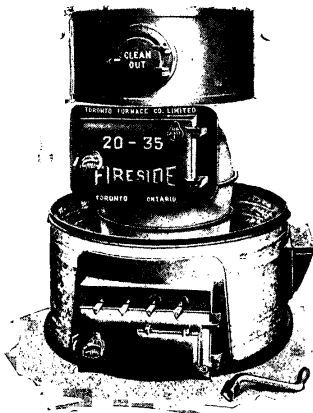
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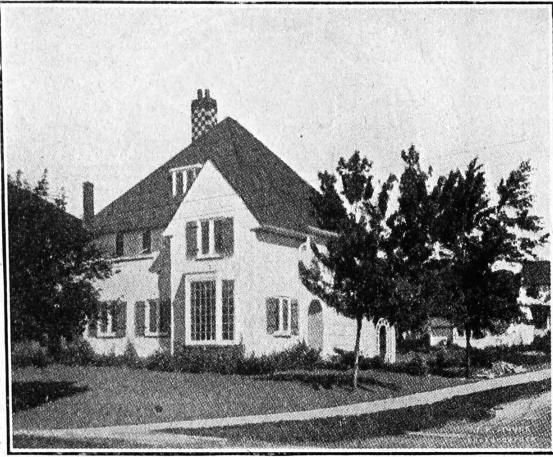
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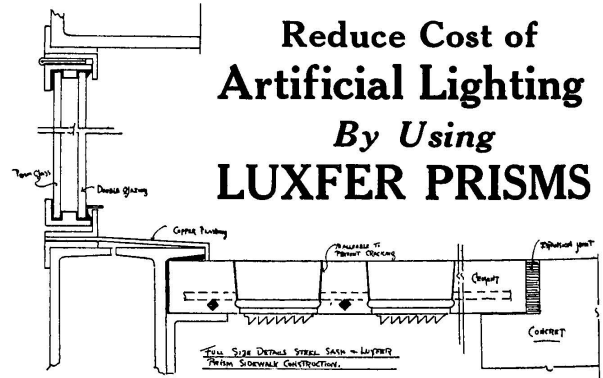
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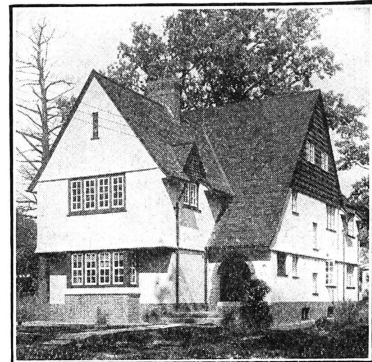
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MacLean Builders' Guide

An advertising service for distribution of information on Building Materials, Supplies, Equipment and Furnishings. Mailed regularly to all trade prospects such as architects, contractors, builders dealers and sub-contractors. Also sent to owners of new projects as reported from day to day in MacLean Building Reports. It goes to every man who buys, directs or specifies.

Frontispiece	8
A Good Building Demands Good Plumbing ..	9
FRANK BAGNALL	
Oak, The Sturdy	10
W. L. CLAFFEY	
A Practical Design in Brick	13
ARCHITECTS' SMALL HOUSE SERVICE BUREAU	
A Cottage Worth Your While	14
COL. W. N. MOORHOUSE	
Economical and Quite Impressive	15
ARCHITECTS' SMALL HOUSE SERVICE BUREAU	
Making the Most of the Bedroom	16
BERTRAM T. BROOKER	
The Electrical Kitchen	18
JOHN LANDELS LOVE	
Building Brieflets	18
P. G. MORROW	
Editorial Page	19
Questions and Answers	20
ARCHITECTS' SMALL HOUSE SERVICE BUREAU	
Pictures for Every Room	24
Simple Charm in Small Groups	25
Dignified and Interesting Design	27
Radiant Heat	28
Fish Pot Walls and Others	31
ROBT. T. JONES, A.I.A.	
Practical Information on Planning, Building and Financing	35
BERTRAM T. BROOKER	
Readers' Bureau	44
Classified List of Advertisers	45
Alphabetical Index of Display Advertisers ..	45



KNOWING you are interested in building we have sent you this complimentary copy of the MACLEAN BUILDERS' GUIDE, believing that you will find it helpful in securing the best service in work and materials. The interesting articles and advertisements which it contains suggest many things which you might otherwise overlook.

Building requires the use of sound judgment. The MACLEAN BUILDER'S GUIDE aims to set down the broad outlines of the problem and to describe the steps and precautions to be taken in carrying out the transaction with the least possible risk and the best assurance of final satisfaction.

If you desire any information we shall be glad to answer any questions through our FREE INFORMATION SERVICE as outlined on page 40. Keep this magazine for future reference.

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Antoinette Bennett



IT IS BALANCED GROUPINGS OF HARMONY AND BEAUTY, LIKE THIS CHAIR AND GATE-LEG TABLE, MIRROR AND HOOKED RUG, THAT MAKE THE HOME DISTINCTIVE. AND NEVER OVERLOOK THE EFFECTIVENESS OF THE SPRIG OF BERRIES OR JAR OF FLOWERS WHEN YOU SET YOUR TABLE FOR TEA.



A Good Building Demands Good Plumbing

Both Visible and Invisible Plumbing Supplies and Fittings Mean Much in Determining a Building's Value

By Frank Bagnall

A RECENT discovery of a Roman villa in England revealed the fact that the ancient Roman was a master plumber of the first rank. Stone and marble had cracked and crumbled to the dust, but the plumbing work was intact and in as good condition as when installed. After the debris was removed, a lead pipe was discovered protruding through the wreck of a fountain, and when this conduit was cleared the stream that had been choked for centuries played merrily once more.

Modern plumbing could teach the Roman of old many things, but it could tell him little about the necessity of good plumbing in his private home and public bath which he did not know hundreds of years ago. The modern contractor is fully aware of the importance of plumbing supplies and fixtures as a factor in adding to the value of the buildings he erects, but not all act on this knowledge. To those who have insisted on good plumbing, civilization owes a bigger debt than it realizes for the ever-growing standard of public health.

Plumbing resolves itself into two elements—visible and invisible, and it is the visible plumbing, or fixtures, which are most readily appreciated by the builder and his client. It is important, however, that the contractor should have a thorough grasp of both sides of the art of plumbing, not only because the health of the community depends on excellence of workmanship and material, but because of the enhanced value which a good plumbing job gives to a building.

Plumbing fixtures should always be chosen from the viewpoint of the prospective occupants of a house or apartment. For instance, it was considered sufficient a few years ago to give a ten-roomed house only one bathroom, while kitchen sinks were ridiculously small and provided with a wooden drain board. Today very much higher standards prevail and yesterday's luxury has become a present necessity.

Luxurious Bathrooms

RECENT improvements in plumbing are nowhere more in evidence than in the bathroom. Bath tubs, lavatories, closets, shower-baths, medicine cabinets, towel rails, soap dishes, paper holders, tumbler and toothbrush holders, shelves, hooks, and so on, indicate to what a great degree this one room of the modern house

has benefited by the enterprise of the manufacturing plumber. To these accessories there may be added mention of laundry tubs, dental lavatories, bidets, dressing tables, built-in vacuum cleaning systems.

These, in brief, are the chief items of what has been termed visible plumbing, and in each case, utility and convenience are made permanent by the use of quality material.

The contribution which plumbing has made to health and hygiene is well illustrated in the campaign which was organized not long ago to popularize the daily bath, and whose advertising slogan, "A Bath a Day Keeps you Fit Every Way," did so much to inculcate a thoroughly healthy daily habit in the lives of thousands of people. The success of this propagandist work was such that in countless cases the one bathroom of a generation ago was insufficient, and two or three bathrooms are now needed for the same family which was formerly satisfied with one.

It generally follows that when a thing has been found to be practicable, the next step is to make it attractive, and this is what the modern plumber is doing for the bathroom. A moderate size house may have a bathroom with appointments and conveniences which would make the bath of the the luxury-loving Roman look like a deserted log cabin. Legs have disappeared from the tub which is now made with an apron down to the floor, or of solid vitreous china. Cabinets are built into the wall, and colored tiles make ideal and artistic backgrounds. Novelties such as sitz baths or bidets, oval lavatories, enclosed closets, enclosed shower baths, and big substantial lavatories have been also introduced and have helped make the bathroom still more desirable.

The foregoing applies more particularly to plumbing fixtures designed for installation in the homes of the rich and well-to-do, but there are cheaper grades of plumbing for the workingman's house which are beautifully made and which ensure him a luxurious bathroom.

Kitchen and Laundry

IMPROVEMENTS are no less in evidence if we consider plumbing equipment for the kitchen and laundry, for the modern kitchen sink is a thing of beauty as well as utility. This applies in greater

or less degree to all the fittings for what is the housewife's workroom, and rightly so. It is no less essential to the wife to possess the most up-to-date equipment suitable for her kitchen than for her husband to install the latest office devices in his place of business. Efficiency in the home is as desirable as in the plant and office.

Laundry tubs are an important item in the field of visible plumbing, and here again the tendency to combine utility with smart appearance is very evident. It is, however, in the sphere of invisible plumbing that the wisdom of insisting on the very best becomes clear. It is a fatal mistake to maintain that while the visible fittings and equipment must not only look, but be, good, it is immaterial of what quality the unseen accessories are made. When it is recalled that fully ninety per cent. of plumbing supplies are hidden behind walls and under floors, the wisdom of this statement becomes still more apparent. This hidden equipment which undertakes the dual office of providing hot and cold water, and carrying off all waste matter, should be of a quality that will guarantee its freedom from replacements during the life of the building.

In order to obtain all the advantages here enumerated, it is desirable to employ only responsible plumbing contractors and firms with standing and good reputation in the community. The plumber whose sole qualification for the job is a kit of tools and a license is a danger to be avoided. Faulty work will involve more expense than the entire original cost of an approved plumbing system, and a good plan to follow is in locating a trustworthy house is to look for one exhibiting samples of the supplies and fittings in which he deals. A firm offering such facilities of inspection is invariably reliable, and their stock may be examined with the certainty of finding those invisible supplies of that kind which, once in place, may be trusted to function without giving trouble. The same consideration applies also to fittings, and in this connection the contractor who confines his purchases to goods that are advertised will not go very far wrong. The steadily advertised article has a reputation to maintain, and, quality for quality, it is cheaper because the publicity given it increases sales and thus reduces selling costs.

Oak, the Sturdy

A Wood of Great Traditions, of Character, of Dignity, and Lasting Beauty

By W. L. CLAFFEY

"STURDY as an oak." What school-boy doesn't know this king of the forest as the symbol of strength and of rugged character. From the earliest days of recorded history to the present time, oak, as an article of utility and beauty, has held first place in man's estimation, with the widest range or use of any known wood.

The extraordinary durability of oak made this wood serviceable to primitive man, and as civilization refined itself and found room for expressions of beauty, this same durability led carvers and wood craftsmen to trust their finest inspirations to oak. The Middle Ages created oaken shrines, halls, churches, and public edifices of matchless beauty, standing as monuments of good preservation today. Shipwrights, ancient and modern, knew what wood to use for brave men who "went down to the sea in ships." Furniture makers, from the time when massive articles of oak graced the halls of medieval nobility, through periods of more refined and delicate design, to the present day dominated by demand for utility, appreciated and used the strength and enduring qualities of oak. It remains the wood by which all others are judged—"as strong as oak; as beautiful as oak; as enduring as oak"—such expressions are common.

Of all oaks that grow in various parts of the world, the leading American varieties are considered

the highest type. Botanically speaking, there are perhaps close to one hundred varieties, but commercially, there are two,—white oak and red,—wide-spread throughout the country east of the Rockies. Both white and red oaks are tough, strong, and hard

in fibre, susceptible of high polish. Red oak is coarser grained, has the faster growth, and may be identified in the tree from the fact that its leaves have pointed lobes, while those of all other species are invariably rounded. White oak is strictly an American wood, growing only in the United States and Canada, and is the only hardwood of the highest quality growing in abundance in the known world.

Oak, the Age-Long Friend of the Builder

Oak has tremendous strength, and for this reason has always been a favorite wood in construction, and in furniture manufacture.

You can trust oak. Scars do not seem to mar oak as they do other fancier woods; as in men, they seem rather the marks of character. Furthermore you do not grow tired of oak. Perhaps it is this home-like quality of the natural wood, polished

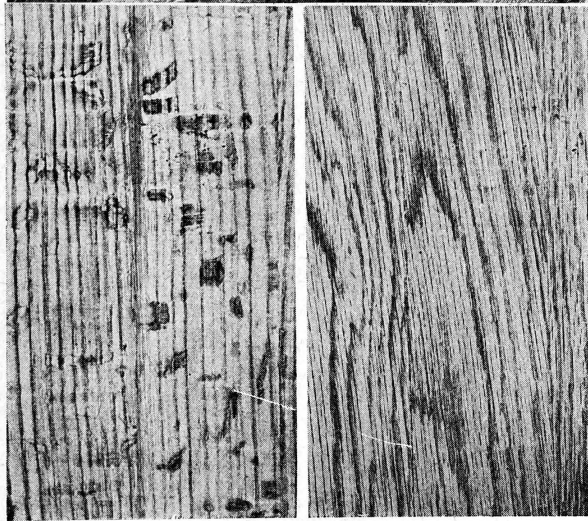
just enough to bring out the beautiful grain, that makes oak so well liked. Oak seems friendly, companionable, and however we may fancy other woods for occasional use, or for some special decorative effect, we always come back to oak as the satisfying wood.



Strong as the Oak; Beautiful as Oak; Enduring as Oak—These Are the Expressions Which Fit Well the Oak, the Monarch of the Woodland, Raising Its Graceful Strength from the Tiny Acorn.



These Are the Logs That Make the Lumber That Makes the Trim, the Floors and Furniture of the Homes We Live in. Some of the Logs Will be Sawed Parallel to The Radii, to What are Known as Medullary Rays, Producing a Flake in the Grain—Quartered Oak.



Quartered Oak.

Plain Oak.

The Beauty of Oak Grain

Nature grew in oak a grain that is distinctive, that cannot be imitated, and it is this beautiful grain that distinguishes oak from all other flooring material. No man-made composition can compare with the natural grain of oak and there is something about the very "feel" of oak that suggests comfort and ease. The choice of white or red oak, quartered or plain, is simply a matter of taste, and different rooms may be treated individually in this respect.

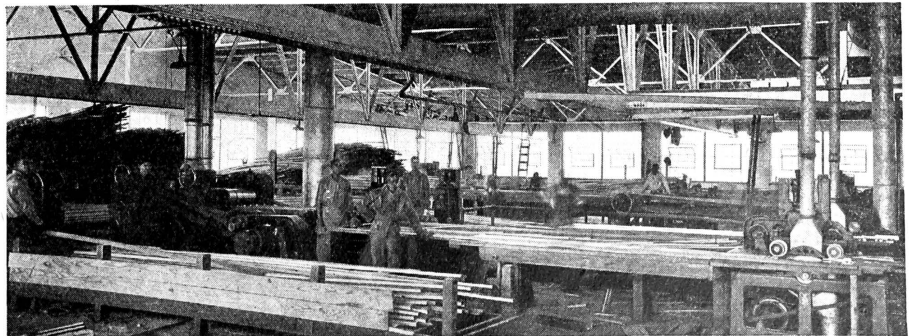
Quartered oak is especially attractive. Logs are sawed parallel to the radii, and to what are known as medullary rays, producing a "flake" in the grain,—the characteristic appearance of quartered oak. Plain sawed oak, however, is fully as beautiful, if more simple in figure, and is less extreme over large surfaces. Ceiling beams of oak, with paneled walls, oak floors,

and oak furniture, all in harmony, mark the acme of taste and character in modern home libraries, dining and living rooms.

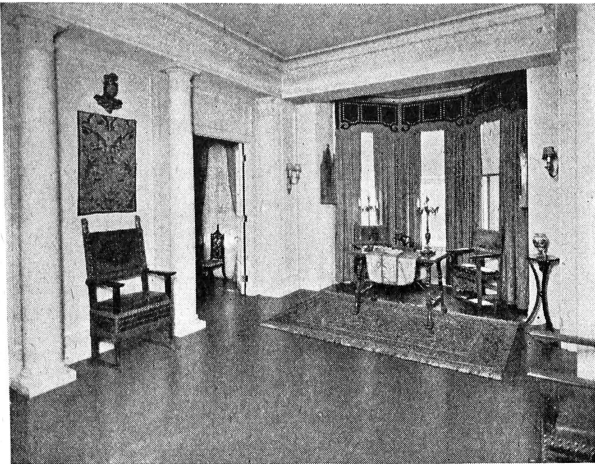
Oak Flooring is Beautiful and Enduring

One of the most important uses of oak today is in flooring. Oak has always been so used, and floors laid a century ago are still giving service, and have grown more beautiful with time. But high cost confined such use to homes of the well-to-do. Today, with modern quantity production, and accurate milling, making oak floors easy to lay; with scientific kiln drying, permitting oak floors to stay in place when laid, oak is accepted as the universal floor, within reach of every purse. Oak floors in the home should be regarded as an heirloom.

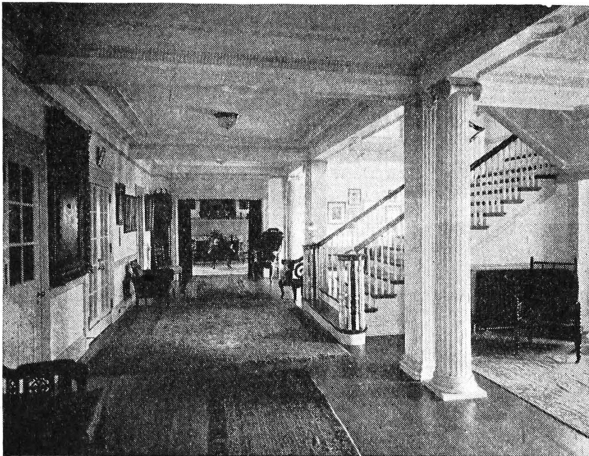
Nothing gives the appearance of richness and dignity so desired in a modern home as a floor of oak. Shafts of sunlight cross the grain, and bring out the natural beauty of the figure. The graceful lines of



Modern Kiln-Drying Methods, Accurate Milling and Quantity Production Combine to Make Oak Flooring Perfect for Its Purpose, Easy to Lay, Inexpensive, Durable and Always Beautiful.



Oak Floors in the Living Room Lend Dignity and Charm to the Appointments. They May Be Finished to Conform to the Scheme of Room Decoration.



As Guests Enter the Home, the First Thing Noticed is the Oak Flooring in the Hallway, Reflecting the Beautiful Grain and Figure That Characterizes Oak

In the Lower Right-Hand Illustration We Have Proof That the Oak Furniture of Today Becomes the Cherished Heirloom of Tomorrow. Paneling, by the way, is again very popular.

the furniture are reflected in the polished surface, and when rugs are sparingly and tastefully placed, so as to leave a wide floor expanse, the effect is all a home lover can desire. In schools, hospitals, factories, and other types of buildings, as well as homes, oak floors are sanitary and economical, giving permanent, satisfactory service.

Oak Lends Character and Durability to Interior Trim

Another field in which oak reveals its natural beauty and character is interior trim, paneling, doors, and wainscoting. Oak flooring and trim are really the

foundation of room decoration, and can be finished to harmonize with the color scheme adopted. It is quite the thing to have oak flooring or trim finished to suit the individual taste—for example, natural finish or "weathered" in the library and living rooms, gray in the dining room, "forest green" in the sun-parlor, so that each room becomes an expression of the owner's idea, different from others about him. When treated in this way, oak adapts itself readily to the requirements of modern interior decoration.

A special thickness of oak, called $\frac{3}{8}$ inch, is recommended to lay over an old floor, which is used as sub-flooring, making it possible for every home to have modern oak floors, at very little trouble and expense. The old floor is scraped level, if necessary, and the oak flooring strips laid at an angle to the boards of the old floor. No interior woodwork need be disturbed except the quarter-round and the entire house may be oak floored one room at a time, with little disturbance to the household. Carpenters find profitable work during slack times laying $\frac{3}{8}$ inch oak over old floors. The appearance of the finished $\frac{3}{8}$ inch floor is as beautiful, and the wearing qualities are as great, as if oak had been laid when the house was built. There are four simple steps in laying $\frac{3}{8}$ inch oak flooring; scraping, if needed, laying out the strips, laying the new floor, and finishing. The cost is low. Oak floors laid in homes half a century and more ago are in good condition today; laid in railway stations, factories, schools, and subject to heavy wear, they are still, after decades of use, giving full satisfactory service. Architects and builders recognize the economy of specifying oak for the "heavy-duty" floor.



A Practical Design in Brick

THIS plan is another example from the builder's point of view where the adage that "well planned is well built" can be truthfully applied. The construction is brick veneer on wood frame. It is planned for a 40 foot lot.

From the small vestibule one steps into the large living room where the walls are paneled and where a handsome fireplace of split field granite reaches to the ceiling. This mantle is flanked on the left by the bookcases, which are placed on each side of the cased opening to the dining room. These bookcases are the height of the wainscoting, with openings above to give a colonnade effect. This arrangement gives an agreeable air of spaciousness to the living room.

Most Economical Plan

On the other side of the fireplace there is a small door to the kitchen, and to the right of that you will find the staircase with open space above its paneled stringers.

The dining room is to be unusually attractive, with paneled walls, convenient closet and alcove with a built-in china closet. A door in this alcove leads to the porch, facing the garden, which may be a pleasant place to dine in hot weather.

The kitchen of this compact little home has been the object of special study. It is equipped with cupboards and closets, built-in ironing board, clothes chute and delivery wall pocket, one piece sink with double drain board and casement windows over the sink. There is still ample room for a large range and kitchen table.

The arrangement of the bed rooms on



the second floor gives a maximum amount of floor space. There are three corner bedrooms with closets and wardrobe provided with poles and telescope carriers.

This is an exceptionally well planned home, and we want to call your attention to the economy of space displayed on the second floor. The central hall could easily win a prize in a race for economy in floor area.

The Cost To Build This Home

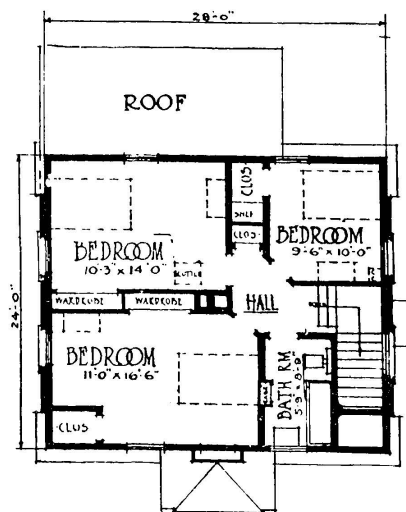
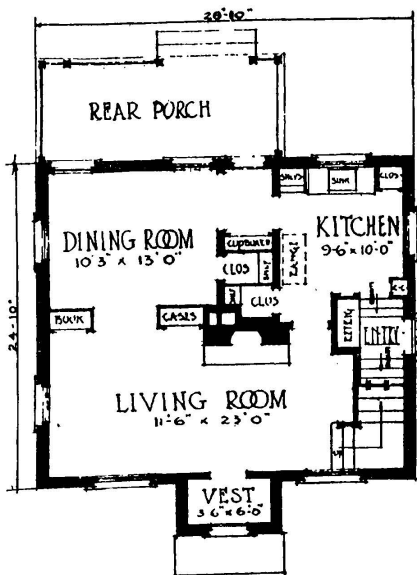
The cost will depend upon what the house is made of and what you put into it. The cost will also be affected by the locality in which it is built. In certain cities costs are much higher than in others. Simple equipment will decrease the cost—expensive equipment and materials will increase the cost.

The house has been planned to give you the advantage of all reasonable economies in construction; the use of stock materials; simple, yet sound methods of building. If your requirements are not too high, the house should be inexpensive to build.

EDITOR'S NOTE The plans for small homes are furnished by the Regional Bureau of the Architects' Small House Service Bureau of the United States, Inc., an organization made up of the representative practicing architects from leading architectural offices throughout the United States. This bureau is controlled by the American Institute of Architects, and has the indorsement of the Department of Commerce, United

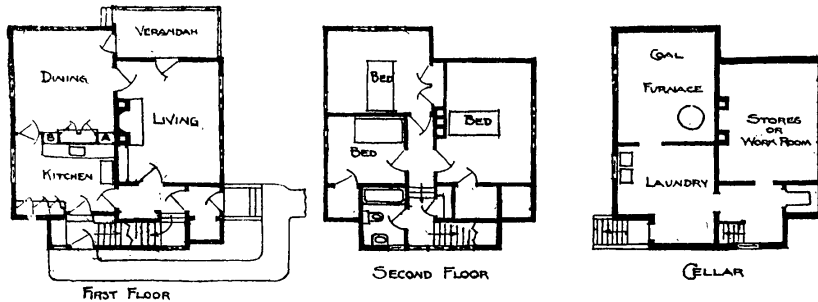
States government. It is practically a non-profit making public service, and has as its purpose the furnishing of a very complete and dependable small house plan service at modest cost. For information regarding the blue prints and specifications, address the Home Building Editor of this paper. The United States Bureau maintains an Information Department to answer home builders' questions at no charge. Enclose stamped addressed envelope.

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A Cottage Worth Your While

By Col. W. N. Moorhouse



CONSIDER what the effect would be in some of the streets of our towns and cities, if we reversed the houses. In the majority of cases, I'm safe in saying, they would appear even worse than in statu quo. It's right and proper to consider public opinion, and beautify or at least attempt to beautify our streets, but over-consideration of this has unfortunately developed the "back garden" idea.

When people realize the advantage of living more in the gardens, they will begin to place their own aesthetic requirements on a par at least with what they now think the public demands. Thus, some progress in the home idea will have been gained.

Let us now consider the plans before us, which represent one of the many developments of the simple plan illustrated in the last article. May I venture to hope that some of my readers may even study the comparison?

The general features are almost identical with those of the plan already described, so that very little explanation is necessary.

The materials used are also similar, namely, brick and stucco, with shingled roofs and gables. The rooms are slightly larger and the simple rectangular plan is broken to produce the gabled treatment shown in the elevations. Care is taken in the consideration of the points outlined in the last article, such as simplicity of the roof, position and proportion of windows, and the avoidance of broken and unrestful lines. In general, an attempt has been made to study the features in relation to the whole design, and to one another. The plan shows a novel feature between the dining room and kitchen, in a device to economize labor in serving meals.

On the dining room side there is a recess for a built-in sideboard. On either side of this is an opening through to the kitchen, provided with hinged doors on

the dining room side and doors sliding upwards on the kitchen side. These openings, marked A and B on the plan, have two or three shelves, and are made deep and wide enough to take a fairly large tray. On the kitchen side, between the openings, is the sink.

The method of operation is as follows: The clean dishes for the table are kept



on the lower shelf of A. The meal is cooked, placed on the upper shelves of the same, and served from the dining room side. Dirty dishes are moved from the table to B, where they are conveniently accessible from the kitchen side near the sink, washed, replaced in A and the process repeated ad lib.

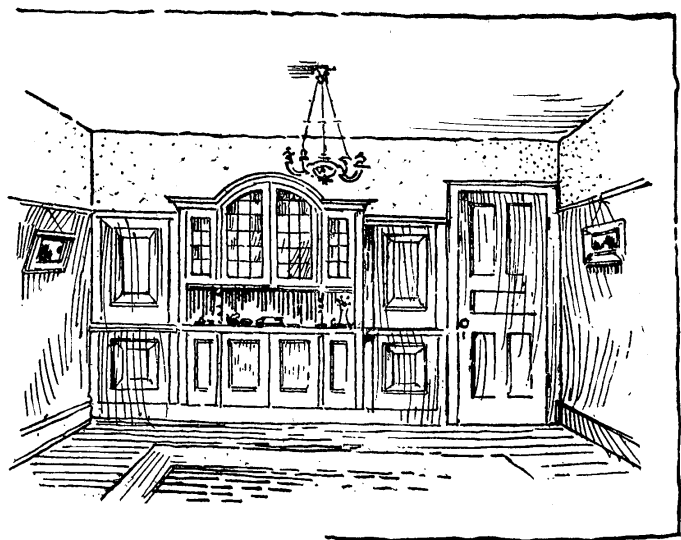
The lower shelf of the openings, the table top of the sideboard and the sink are all on a level, regulated by the height of the sink, which is so placed that the busy housewife will not suffer from "dish washer's back." Below the openings cupboards are provided on both the kitchen and on the dining room sides, possibly with glazed doors on the latter. With a little care this may be made quite a decorative feature in your dining-room, especially if you have some good china to display. The sketch indicates how such a design might be worked out.

The reader is not asked to accept this little home as a model, but rather as an exemplification of certain ideas, which I hope have been made clear. The plan may be sadly deficient in the eyes of many. It doesn't provide an attic for genius, nor a parlor for funerals to flourish in, and it isn't a bungalow. There are

many points about it that may be criticized, but don't stop at criticism. Follow up your line of thought and apply it to your own surroundings. If you are perfectly satisfied, I'd like very much to get some photographs of your home. If you are one of those kindred spirits

(Continued on page 32)

A novel device in the dining-room to save steps. On each side of the built-in sideboard is an opening through into the kitchen.



Economical and Quite Impressive

HOME builders are turning to the small, compact, space saving home because it is economical to maintain, and easier for the housewife to take care of.

This six room semi-bungalow, 6a 44, follows the English Cottage half timber style. It is a model of economical planning and offers many step and labor saving features.

The house is planned to be built of stucco exterior or frame construction with shingle roof. There is a full basement, attic space, six rooms, bath, porch. The house will require a 45 foot lot. By omitting the porch it can be placed on a 40 foot lot.

One feature of the plan is the large kitchen. The sunny front end is lighted by five windows and set apart for dining purposes. Built in corner cupboards for china on either side of the arched doorway practically convert the front end of the kitchen into a dining room. When guests are present a screen can be easily drawn across the doorway for privacy. Combining kitchen and dining room means a decided money saving in building costs as well as saving in space and house work.

One chimney serves fireplace, range and furnace. The fireplace is recessed and the brick hearth is slightly raised.

An appealing feature of the plan is the first floor bed room and adjoining toilet, and wash bowl. Because the bed room opens directly onto the side porch this room can easily be converted into a small office or study.

Each room in the house has outside exposure and cross ventilation. There are seven closets.

The Cost To Build This Home

The cost will depend upon what the house is made of and what you put into it. The cost will also be affected by the locality in which it is built. In certain



cities costs are much higher than in others. Simple equipment will decrease the cost—expensive equipment and materials will increase the cost.

The house has been planned to give you the advantage of all reasonable economies in construction; the use of stock materials; simple, yet sound methods of building. If your requirements are not too high, the house should be inexpensive to build.

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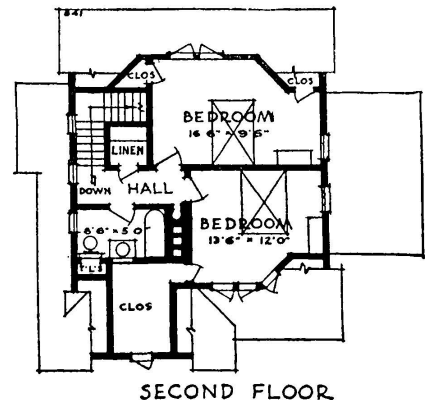
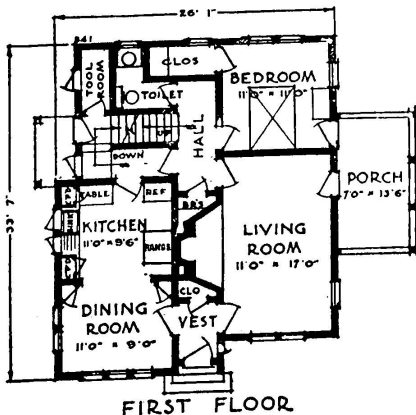
Don't forget that your local dealers, contractors and supply men are equipped to give you great help and valuable information. Their reputations are at stake. Most of these men consider their reputations far more important than the materials they supply.

* * *

Don't make the mistake of building from sketchy plans, or no plans at all. Nothing is more expensive than rule-of-thumb planning, or hit and miss building. Railroads cannot operate trains without time tables. There is no quicker way to wreck your purse than building without an accurate buying and building schedule. This means carefully prepared plans that are complete in every respect.

* * *

Don't give the builder his final payment until his job is completely finished.



Making The Most of The Bedroom

HAVE you realized that probably thirty-three and one-third per cent. of your time is spent in your bedroom? The fact that most of that time you are asleep and unconscious of your immediate surroundings does not lessen the importance of your bedroom as a factor in your life. The influence of your environment both on retiring at night and rising in the morning are subtle but strong, and this influence exerted day by day through a long course of years cannot but help in coloring and moulding your mentality.

Of all the rooms in the house the bedroom is the most intimate. There you relax with complete abandon, and there, consciously or otherwise, you express in innumerable ways your individuality. If love of order is second nature to you; if harmonious color, cleanliness, comfort, and artistic taste mean anything at all to you, they will all be in evidence in your sleeping apartment no less than in the "den" and other living rooms of your house.

An Important Preliminary

A REALIZATION of these truths is leading many to give greater thought to the place of the bedroom in the home, and to award it more consideration when planning the house. An important preliminary is the shape and size. When as generous proportions as possible have been allotted there comes the question of door and window arrangement, because when this essential is left to chance or haphazard choice the result will almost inevitably be an improper balance and unsatisfactory light. Doors that are convenient and windows that catch the maximum of light are not only attractive but contribute greatly to the comfort and health of the inmates. The number and position of the doors, for example, have everything to do with the problem of placing bed and furniture in the most advantageous positions. If twin beds are preferred, there must be room for space between them sufficient to accommodate a night stand, and they should be placed near an electric outlet. Incidentally this matter of outlets is becoming more and more important as all sorts of electric attachments in bedrooms are being called for, including not only lighting attachments but such as are used at the toilet table, and for cleaning and sewing. Another point to be noted is that heating arrangements, of whatever nature, should not interfere with the proper and logical placing of the furniture.

No bedroom is considered complete that does not have one or more roomy cupboards—the roomier and better lighted

Comfort, Convenience and a Touch of Unconventionality Should Mark the Room Which Claims More of Our Time Than Any Other Single Apartment in The House

By Bertram T. Brooker

the better. The old-fashioned wardrobe of yesteryear has gone. Cupboards may be built in an outside wall so that a small window will furnish both light and air, although the more modern ones are fitted with wire-caged electric lights. Such cupboards should also have built-in drawers, shelves, shoe and hat racks, as well as cedar-lined compartments as a protection against moths. A pier glass or long mirror attached to the outside of the cupboard door is not only a handsome accessory to the room but an article of great assistance, particularly in a lady's bedroom. Sometimes it is necessary to build a closet out into the room and where that plan is followed it is advisable to have it reach from floor to ceiling. The corner formed by the jutting out wall may be made very picturesque by placing in it a desk or other article of furniture.

A Pleasing Background

As in the case of any room, the walls of the bedroom form its general background, and care should be taken to see that they harmonize with the general scheme of decoration. Fortunately there is an infinite variety of wall treatment available, due not only to the ingenuity of decorators and manufacturers, but the revival of period styles. One's selection may range from simple stucco as a setting for old-world furniture, quaintly sprigged Colonial papers suggestive of the early settlement days, to modern papers of subtle color and charm suggesting the French or Chinese motif of centuries ago. In all cases the patterns are wisely kept subdued to avoid a too-garish effect the reverse of soothing.

The irritating effect which badly designed wallpaper has on invalids compelled to contemplate its atrocities is no less operative on healthy people who

open their eyes to it every morning, and too much attention cannot be given to a wise choice. A flowered paper gives a summery aspect to a room the year round, and, whatever the pattern chosen may be, it exerts its effect of apparently enlarging or contracting the size of the room. A north room that gets little sun should be papered with a warm buff, while a room with a southern aspect needs a cool blue or green. Two-color schemes often prove effective, and a few of the most successful are buff and blue, gray and rose, lavender and green, and green and white.

In a man's room striped paper or a plain wall is often appropriate and conveys an impression of solidity which most males will appreciate. Stripes tend to enhance height, while, if cosiness is desired, patterns should be selected. Paralled effects are a fad with papers that imitate a fabric but their general influence is to dwarf. Brocade is undoubtedly elegant, particularly when set off with a "frame" or "styling" of plain paper in moire effect. A Louis period paper is particularly appropriate where the furniture is also modelled on that at Versailles. Pictures in a bedroom are a matter of personal taste, but it is inadvisable to have any hung where the wall covering is already sufficiently decorative in itself. It should always be borne in mind that the simpler the wall finishing the greater is the sense of space, and that no better background than simple stucco is obtainable for period furniture styles such as Italian, Spanish Renaissance, or English cottage.

A Word About Draperies

AFTER wallpaper, draperies are a close second in accenting the color scheme of the bedroom. The newest idea is not only to have curtains of matching or contrasting colors, but to consider texture in relation to walls. It sometimes happens that the simpler the walls, the richer the hangings should be. Plain stucco walls, for example, need warm, rich, deep-piled fabrics to relieve their austerity, and period styles also demand this "atmosphere." Dainty floral patterns naturally call for light, sheer curtains either of frilled dotted Swiss or modern weaves of Tuscan nets. Other suggestions for up-to-date drapery fabrics include dotted grenadines, colored dotted Swisses, marquises, unbleached cotton, pongee, changeable taffeta, frost finished sateens, duplex glace cloth, fibre silk gauze, devonet, cloister cloth, double faced warp print, damask effect cretonnes and Italian art weave in natural

color specially designed for draw curtains with stucco walls.

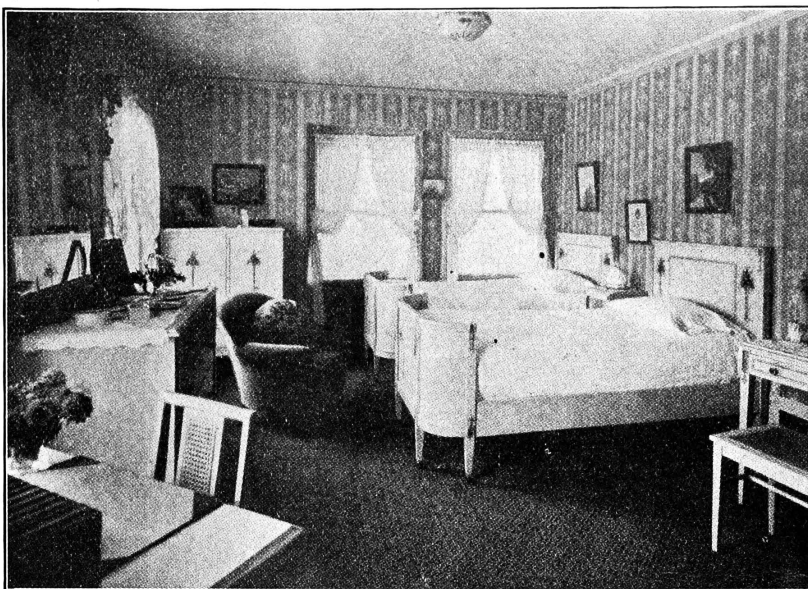
Whether the general style of the room is formal or informal will, of course, determine the style of the draping. Tie-backs are charming for simple little bedrooms where there is privacy, suggesting, as they do, vistas of the countryside beyond. Another popular arrangement is two sets of curtains, one of light material to screen the pane, with an over-drape to add color. In spite of the prevailing vogue for rich materials reflecting period styles, the demand for light and sunshine has placed on the market some lovely new glaze weaves the effect of which is to give a golden or silver sheen without sacrificing light. For bedspreads to match, the same rich appearing drapes, and poplin, may be used.

What Furnishings to Favor

JUST as the color scheme is determined by walls and draperies, the bed, logically enough, sets the style of furnishings. When the house is being furnished throughout, it should be remembered that, as far as possible, the general architecture of the house should be reflected in the bedroom furniture, although the possession of some Colonial inheritance or an art treasure from abroad may provide the motif.

Favorite mediums for bedroom furniture are walnut and mahogany, the latter often dull finished. Enamels in white, cream and grey, garlanded with floral decorations either hand-painted or gilded, and inset with cane panels, feature many suites. Sets include dresser, dressing table and bench, chiffonette, desk, chairs, rocker and night stand. The bow-foot or curved footboard bed is obtainable in both metal and wood, and a stool, chaise lounge, or davenport specially designed to stand at the bed foot is almost a sine qua non in the modern sleeping apartment.

Few things enhance or detract from the appearance of the bed more than the spread. To place a white cotton spread on a walnut period bed is like crowning a king with a straw hat. While the simple spread has its place, something silk and colorful is needed to obtain the desired rich effect. Some of the newest white weaves show much art, the white satin marseilles being scalloped and provided with a sham to match. This weave also comes in rose, blue, and canary, although the scalloping and pattern are generally white. Other choices are silk, net, lace, crochet, unbleached sheeting, Swiss, cretonne, and so on. Trimmings may include applique, silk fruits and flowers, lace, braid, fringe cretonne, cross-stitch and other hand embroidery. Where carved furniture has been selected, filet lace makes an effective combination



with its richness, although colored silk as a rule best sets off mahogany or walnut. Green taffeta or duplex glaze cloth is attractive with any brown wood. Mahogany favors blue in any shade, and iron beds lend themselves well to a deep valanced spread, trimmed or otherwise, according to the richness of the material. Enamelled sets go best with a cretonne spread, and if the decorations are a floral motif, such as rosebuds or morning glories, the prettily artistic effect is greatly increased. Those wishing to give the room an individualistic touch may do so with a home-made spread of unbleached sheeting stamped to embroider with flowers in lazy daisy stitch, French knots, cross stitch, or to pattern with crepe or gingham patchwork.

Taking Heed to Arrangement

IN addition to the items comprising a suite, already enumerated, there may be added an easy chair, floor lamp, table, sewing cabinet, footstools and screen. A window may offer an opportunity for an upholstered seat with cushions, and in this recess also may be placed bird cage, bulbs or growing flowers, books and writing materials.

It is in arranging the various sets of furniture that individuality is given full play. Fresh air fans may subordinate much to the advantage of having the bed placed near the window, and my lady may desire the dressing-table in the same well-lighted position. On the other hand few positions are better suited for the writing desk or table than in front of the window.

Mirrors should always be hung where they can reflect light and their correct position contribute not only to the general artistic effect but adds to the comfort and convenience of the inmates. The location

of electric outlets will decide where such things as the floor lamp and night stand are to be placed, and if possible their installation should have such factors in mind. Monotony and lack of balance can be avoided by taking care that all the tall or heavy articles of furniture are not placed on one side of the room, the bureau and chiffonette, for example, giving the correct sense of proportion if facing each other across the room. A dressing table situated in a corner is often attractive and serves to "round off" the room. Even the placing of a screen plays an important part in contributing to the proportioned *toute ensemble* of the bedroom.

So far nothing has been said about the floor-covering which is so vital a part of the color scheme of any room. A safe general rule to follow is to select subdued colors and patterns. Either hardwood, linoleum or any one of the infinite variety of woven carpets is good style, the latter being easily kept clean with the vacuum sweeper. Rugs in combination with Wilton carpets are most attractive, and soft blue or mulberry rugs appeal to the most fastidious taste. The coldness of hardwood floors may be tempered with rugs and runners at "strategic" points.

Stop leaks before they start, with horse sense.

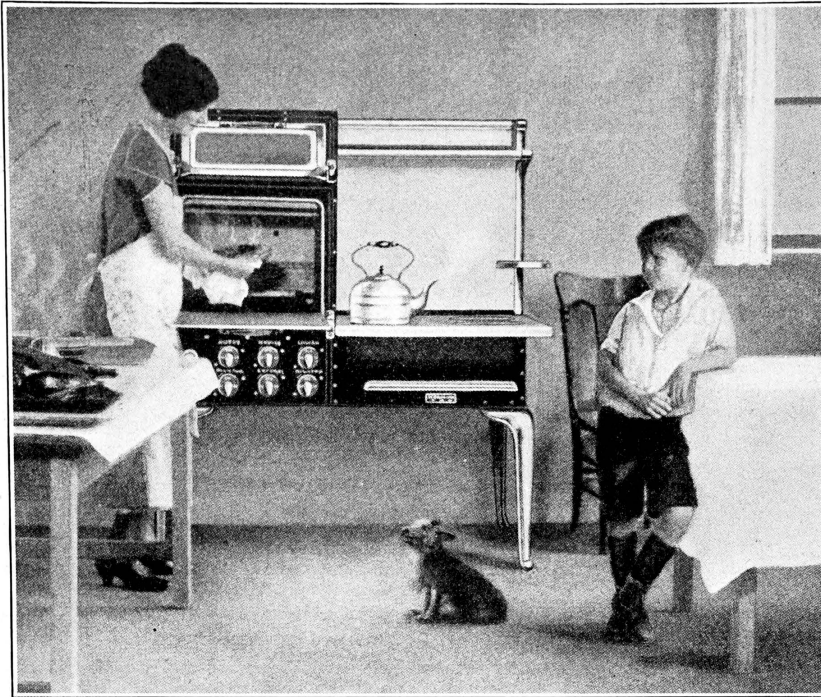
Test the plumbing system before it is plastered in—not afterwards.

Put in flue liners, they cost less than they are worth.

Bridge the joists if you want a sound floor.

Don't expect a tight floor if the boards are the least bit damp.

Sub-floors should run diagonally.



The Electrical Kitchen

By John Landels Love

WHAT office and plant are to a manufacturing business, the kitchen is to the modern home. No up-to-date man of business allows his time, efforts and profits to be dissipated by antiquated and inefficient equipment. Above all he realizes that the health of his workers is one of his greatest assets. There are numerous reasons why the same enlightened policy should rule in the kitchen of his home.

In the kitchen of the average home the housewife spends a great deal of her time, and, no matter how deep and real her affection for her husband and children may be, if her working environment is not cheerful, her duties become drudgery. Not only should the wife's office and plant for running her home be as large and well-lit a room as possible, but it should be so arranged as to contents and equipment that every unnecessary step is eliminated. "Lost motion" in the kitchen is as wasteful of time and health as it is anywhere else.

The question of the kitchen equipment is of the greatest importance and it is one which the development of electricity has simplified to a large extent. The mistress of a house that is adequately wired for easy, continuous use of all ordinary electric appliances is in an enviable position. She has at her command main feed or service wires large enough to carry

the combined load of all heavy equipment, appliances and lighting. What this means in the kitchen particularly can hardly be exaggerated.

Take, for example, the convenience of an electric range with its freedom from dust, dirt and fumes. It is the insignia of health and cleanliness. It means better cooking with its attendant benefits of better health for all in the household. As a time saver it functions in numerous ways not the least important of which is that it allows the housewife to absent herself from home for several hours while the range continues its service unattended.

The electric kitchen has knocked sideways that old saying: "Woman's work is never done." Electricity is ready to enter her home and relieve her of the brunt of a housewife's drudgery. The home that is adequately wired and fitted with the necessary outlets in all of its rooms, is the abode of the happy and healthy wife and mother. If only for the benefits that accrue to a family from the possession of an "electric kitchen," every intending home-builder should definitely plan to have the house wired during erection. Omission to do this will mean regret later on, a regret that can only be relieved at considerable cost and inconvenience.

Building Brieflets

Sentence Sermons That May Save You Trouble in Building

By P. G. Morrow

A new home should be "contemplated" long before an architect is appointed. Many interesting, instructive and profitable hours may be spent in this way by all who intend to build.

No matter how efficient or conscientious your architect and contractors may be, remember, you pay for and live in this home of yours.

You are the best one to look after your own "purse strings."

You and your family are the logical ones to take the most interest in your home.

The more definite ideas you have of your own the better will an architect be able to determine exactly what you want.

Read lots of appropriate literature.

Take more than a casual interest in other houses.

Ask yourself lots of questions and don't guess at the answers.

Consider the location of all furniture when planning each room.

Fuel consumption can be greatly reduced and additional comfort assured by insulating your walls and roof—"warm in winter, cool in summer" is the slogan of those who manufacture materials for this purpose.

Don't try to eliminate the architect—you're skating on thin ice if you do.

Some of your own ideas likely need changing while others are like a "hot potato"—better be dropped.

Your own ideas and rough sketches likely violate numerous building by-laws.

The more interest you take in your new home the better chance you have of getting precisely what you want.

The interest which men and women should take in their own homes can not be purchased from others.

Use the middle class of materials if you wish to be economical.

If you can't season the wood or burn the brick be sure that the man who does these for you knows his business.

You pay the price of good materials anyway—whether you get them or not.

Use another bag of cement.

Don't rest one beam end on masonry and the other on wood.

Don't gamble on materials that the architect hesitates to use.

Remember the crooked houses you've seen. Build a tight wall.

THE · EDITORIAL · PAGE

Some Inside Stuff

GLANCE over this issue of **MacLean Builders' Guide** and ask yourself if it is not an excellent illustration of the proverb—"Good gear goes in little bulk."

From the outset the editorial ambition for this publication has been to make the contents appeal 100 per cent to every individual on the mailing list. Each succeeding issue reaches more completely this high standard.

Take this issue, for example. A copy has been mailed to all architects, builders, contractors, sub-contractors, dealers and owners connected with jobs that are reported in MacLean Building Reports. These are not possible buyers, but **actual buyers in the market**. They are not waiting until "next month" or for "better times" before they sign the dotted line. They are, to a man, immediate prospects, ready to invite bids, award contracts, purchase or specify materials, equipment, supplies or furnishings. What has been provided for this imposing array of men in the market? A good, sound, healthy, appetizing bill of fare! Here's the menu—

THERE is a valuable article on "Practical Information on Planning, Building and Financing." Numerous house plans with descriptive letter-press are given. Something about "Oak—the Sturdy" shows the possibilities of that material. "Making the Most of the Bedroom" is an article you should study. After doing so, pass it along to your wife who will also be interested in "A cottage Worth While." The "Secrets of Strong Framework" are explained, and the why and wherefore of "Good Plumbing" are emphasized.

For the writing of these articles the Editor has employed the services of a number of writers whose names are familiar to the readers of the foremost trade journals on this Continent. These men have gained the confidence of their editors because they are painstaking investigators who do not merely "write out of their heads," but who delve for their material, write it up authoritatively and in an interesting manner.

TO how great an extent **MacLean Builders' Guide** is meeting a real need is indicated by the large number of inquiries sent in by buyers who desire additional information concerning supplies and equipment. Some of these inquiries are answered in this issue, and elsewhere will be found the "Readers' Bureau" through which answers to all manner of building problems will be given. Use of the fill-in coupon provided in this Department has saved many time and money. Advertisers, also, have testified to the value of the **Guide** as a medium for reaching the most desirable prospects with minimum expenditure of time and money, and the growing list of advertisers in evidence with each issue is practical demonstration of this service.

RECEIPT of this copy of **MacLean Builders' Guide** indicates that you are in one or other of the two classes which, broadly speaking, the magazine serves. Either you are a trade prospect, such as an architect, general or sub-contractor, or builder, and so on, or you are a consumer prospect associated with some job as owner.

In whichever class you may happen to be, every page of the **Guide** has a message for you. Every advertisement has something vital to tell you. The **Guide** is not "just another magazine." It is not crammed with a bewildering mass of unrelated matter, editorial and advertising. It is not departmentalized into sections most of which you can well afford to ignore, or glance through negligently at the best. Both advertising and editorial contents are right in line with your immediate interest, whether you are buyer or seller.

MACLEAN BUILDERS' GUIDE is not one of that flood of magazines which sends a tributary stream into the home on the first of every month, or thereabouts, to be followed by another stream next month, before the previous one has been absorbed. It comes once a quarter, full of live, pertinent material which you can study at your leisure an digest before the next issue appears. While its contents are interestingly written, they are not ephemeral, but of lasting value. The **Guide** is one of the few periodicals that repay you for the trouble of fling away for further use in the future.

Questions and Answers

Diagonal Sheathing Best

Q.—What difference does it make whether sheathing on side walls is put on horizontally or diagonally.

A.—In tests recently performed in a testing laboratory it was shown that under a load that corresponded to that which would be exerted by the wind, a lateral displacement of a frame sheathed with six-inch boards laid horizontally was over six inches when the load was 2,000 pounds. The same frame with a sheathing inclined to 45 degrees deflected less than one-half inch with the same load. At 2,400 pounds, the frame sheathed with horizontal sheathing failed. Twice that much load was necessary to break down the diagonally sheathed frame. On the basis of this test the diagonally sheathed frame was 12 times as rigid and twice as strong as the other.

Insulated Walls Mean Comfort

Q.—Can it be proved that insulation in wooden walls really pays for itself? What is the good of it?

A.—The value of insulation is a proved fact. A great many experiments have been run by testing laboratories to determine the merits of various materials used in this way. You can obtain the results of these from the United States bureau of standards at Washington, D. C. Many state universities' testing laboratories have data to distribute on this subject. Insulating manufacturers report an enormous distribution of their products in the zone south of the Great Lakes, showing that this material is being used even where the winters are not generally severe. Remember that insulated walls are also a protection from summer heat.

Furnace Coils Not Efficient

Q.—Which is the best way to heat water, by means of a gas water heater, or by means of a coil in the furnace?

A.—We recommend a combination of these for small homes, the furnace coil for winter and the gas coil for summer use. The furnace coil is not an efficient device, especially in larger buildings, but it has desirable qualities for small homes.

Cesspools Unscientific Makeshifts

Q.—We live in the country. Our house sewer runs into a cess pool that is always filling up and backing water into the house. How can we avoid this.

A.—Build a water tight septic tank of approved design. Run the discharge pipe a considerable distance away from the building where it will discharge underground through a series of perforated water course. The discharge will not be disagreeable. A cesspool is an unscientific

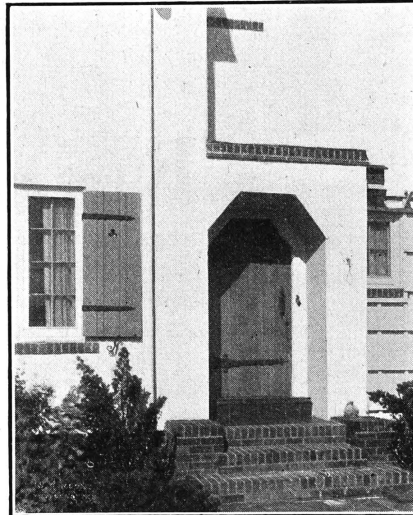
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fic makeshift. Write to this department for a drawing of a septic tank.

Do Not Buy Unknown Varnish

Q.—I want to varnish my floors. I find that there are a great many kinds of varnish—which shall I use?

A.—This is a product that is very easily manipulated. The safe way for you is to require your painter to supply only a known and guaranteed product. See that it comes to the job in the original cans



Doorway of Residence C. A. G. Matthews described on page 27

with unbroken seals and that it is used for all the coatings. Never allow shellac to be put on a floor. Varnish is made from vegetable oils and gums. The finest of these are imported from China and Australia. A cheap but wholly unsatisfactory varnish can be made from rosin. Do not buy cheap unknown varnish.

Should Back of Trim be Painted?

Q.—Is it necessary to paint all wooden trim on the back before nailing against wall?

A.—This is not necessary. However, it is desirable. The advantage of back painting the trim is that the woodwork is thereby protected from absorption of moisture and there will be less swelling and warping due to this condition. It is of prime importance that no wood trim shall be brought into the building until the plastering is entirely dry. We advise you not to have any of this woodwork

brought on the job until after you give your contractor permission to do so. Do not hurry this part of the work.

Flush Tub or Leg Tub?

Q.—Please tell us which is the more expensive, a flush bath tub with a tile floor or a leg tub with a tile floor.

A.—The expense is about even. The tile work and labor saved by putting in the flush tub will just about balance the extra expense of the flush tub over the leg tub. The accommodation you get from the flush tub is so superior that we recommend its installation. You improve the resale value of your home by using high class fixtures of this kind.

Have a Brick Base Course

Q.—Is it proper to stucco a house all the way down to the grade?

A.—We recommend that stucco be discontinued at least a foot above the grade line and that you employ a brick base course for the remainder of the wall. This will give you a more durable wall and one with a finer appearance. If the stucco runs down to grade it soon is discolored with the splashing of mud. Deterioration will be rapid at this place.

How to Remove Mortar

Q.—The brick in the face and hearth of our fireplace is spattered with mortar that the masons did not clean up. We tried to scrape it off, but we only made matters worse. Is there any way to remove this?

A.—The best method is to use a diluted solution of muriatic acid with a wire brush and vigorous brushing. Cover all the wood nearby before you start to work so as not to spatter it with the acid. Increase the strength of the acid until you get the stains removed. Avoid scrubbing of the mortar joint. Clean up the work with clear water when you are through.

Paying the Contractor

Q.—What is the proper way to pay a contractor for work performed in the building of my home.

A.—This should be handled through agreement made in connection with closing the contract. The contractor will ordinarily be satisfied with payment at 30 days intervals. The amount paid is usually 85 per cent. of the work done and materials delivered on the job during the previous 30 days. This can be verified by the contractor's bills for materials and labor and by inspection of the work. This is part of an architect's service. The final payment to the contractor is made after all the work is done and the job finally accepted.



This is the Red Seal of the Electric Service League that designates the properly wired house.

“The ‘Red Seal’ sign sold us our house”

“**W**HEN Mr. Jones, the real estate agent showed us so many nice homes on Reed Road we were at a loss to choose between them. But when my wife saw the Red Seal on No. 26 we signed the ‘offer’ right there. Ever since she read about convenience outlets and heavy wiring she set her heart on “an Electric Home.”

Builders and Architects can hardly realize how much they help the real estate agents when they specify “adequate wiring.” Adequate electric wiring simply means wiring that is heavy enough to supply power to an electric range, electric water-heater and an electric ironer, as well as deliver the usual current for lighting and small appliances; it also means numerous convenience outlets and wall switches.

The people who buy homes are not content with merely “electric lighting”—they want the full and convenient use of electricity in the laundry, the kitchen and other rooms. Only a house “adequately wired” can offer them this.

The Toronto Hydro Shops will gladly offer advice and free information on the subject of proper wiring. Phone or call in at any of the branches listed below.

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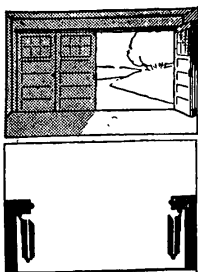
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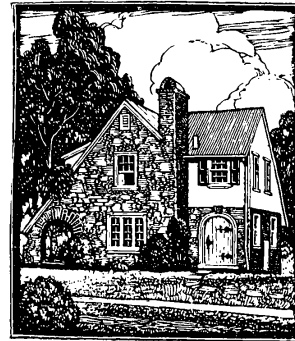
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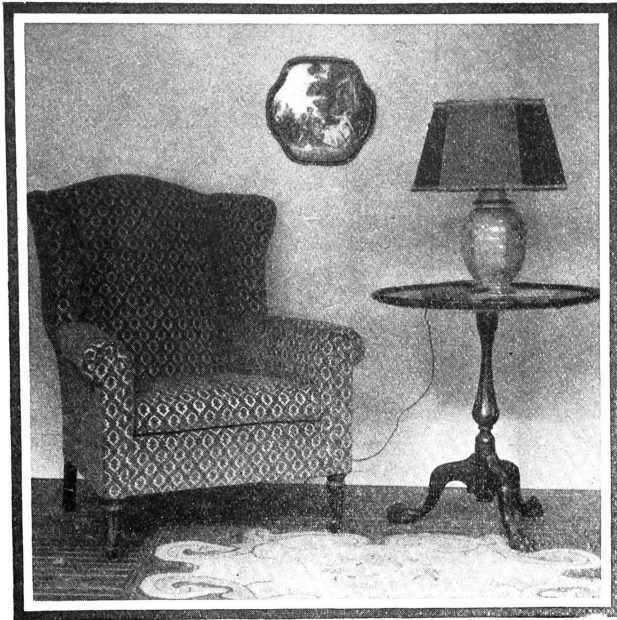
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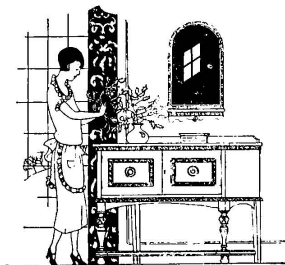
The day of the matched living room suite is on the wane. 'Tis well to have two pieces, the davenport and one chair, match; but have your other chairs in contrast rather than in too close harmony. Your room will be less unweildy and more intriguing to the casual observer.

The tilt-top table beside the old style comfortable wing chair is in keeping with the period of early America. We are showing these great reading chairs in various coverings and slightly different styles—but all have the supporting wings on each side.

Whether it's the bedroom, library or living room these small table-and-chair groups are always in good taste. We will set them up in our store so that you will be able to visualize their importance in your own home.

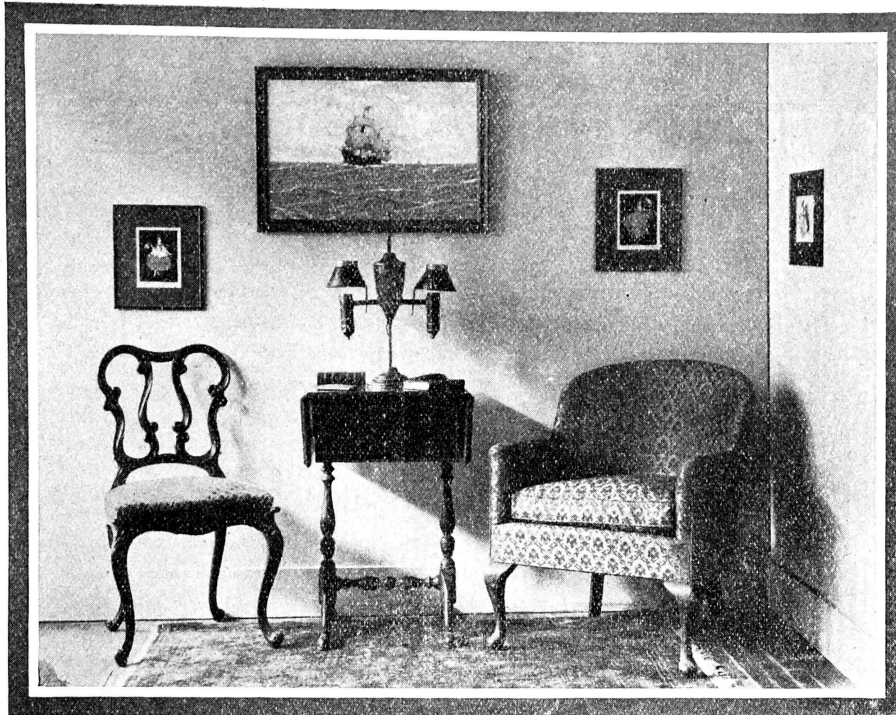


PICTURES OF EASE FOR EVERY ROOM IN THE HOME

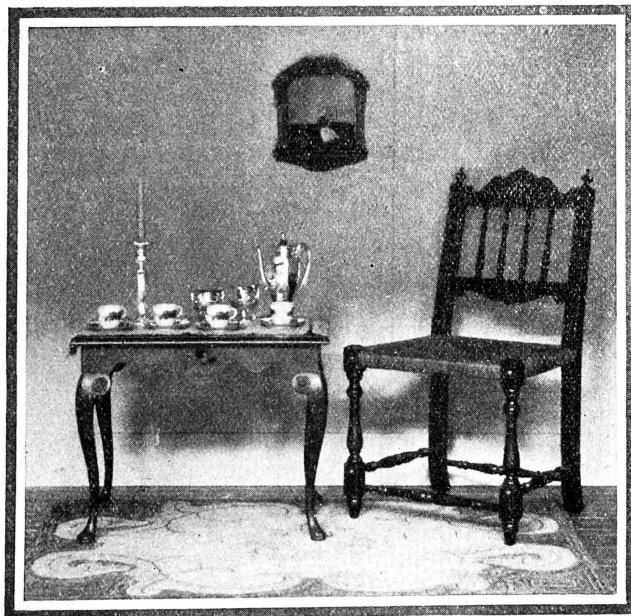


When you are "up a tree" about the furnishings you should buy for a certain room that doesn't have to be too formal, come down to earth and procure some Spanish types for the room. These nic-turmed chairs with rush seats and the table with the legs slightly slanted and the cutout stretcher—they are decidedly different in feeling from the usual furniture styles. We are showing several pieces created with this Spanish antiquity in every line.





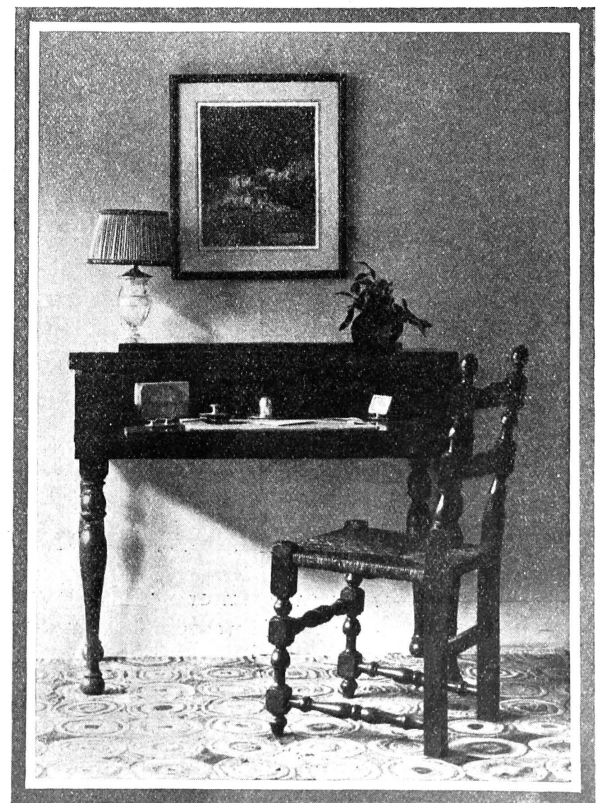
Stand in the center of your living room and notice, as you turn completely around, each wall and the impression it makes on you. Are they drab and uninteresting, or do they have snap and sparkle like the small groupings on these two pages. Here we show balance and harmony between furniture, pictures and accessories. We will plan groups like these for your home at any time.



Coffee tables are the latest home accessory for the woman who serves a demi-tasse after dinner. A straight chair beside the coffee table is appropriate and well chosen—not with the same cabriole legs but interestingly different.

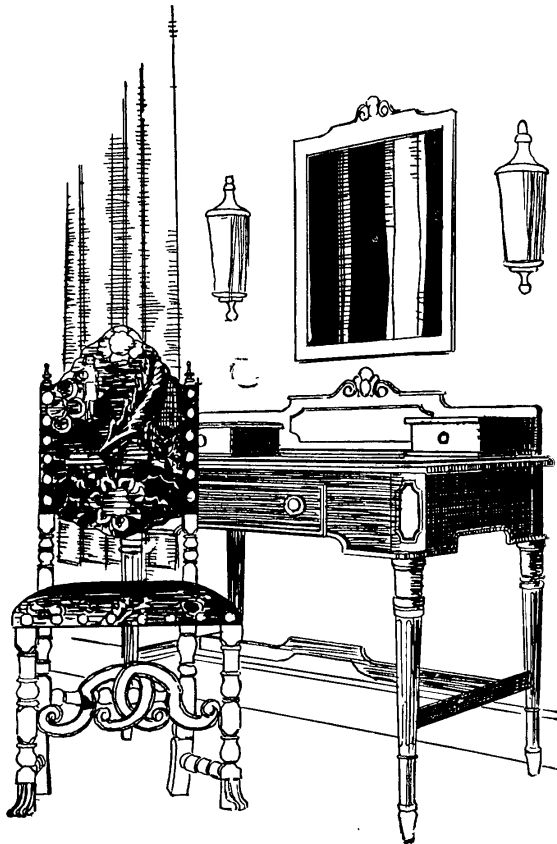
Desks don't grow on trees—they have to be carefully designed and constructed and finished to find show places in our store. The spinet at the right is typical of the charm of the smaller desks, while we also show bedroom escritaires, large secretaires, decorated cabinet desks, and numerous odd styles.

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Dignified and Interesting Design

ONE may safely say that the majority of residences are built with an absolute disregard of the aspect of the site to be built upon, the same plan being used no matter in what direction the house is to face.

In consequence we often find houses with a large area of glass to the cold northern exposure and with the minimum to the south. It is being recognized still more every day that in a climate such as ours windows should be concentrated as much as possible to the southern aspect, it being found that rooms with an abundance of window area to the south can be heated during some parts of the day in Winter by the rays of the sun alone. This naturally reduces the consumption of fuel and at the same time is of utmost value from a health standpoint. It is claimed by some medical men that the sun's rays have more health giving propensities in Winter than in Summer.

In addition to the aspect of the site there are also such things as views and contours, etc., which call for special study in planning so that one may truly say nearly every lot has its own particular plan.

In designing this dignified and interesting residence for Mr. Matthews, the architect (Mr. Murry Brown) has evolved a charming and comfortable home and has taken advantage of every opportunity



House of C. A. G. Matthews, Esq., Lawrence Park, Toronto. Murray Brown, A.R.I.B.A., Architect

offered by the site for the warmth and cheer of sunlight.

The lot is a corner one, 50 ft. x 150 ft., facing south, with a street at the east side. The main exposure of the house

is also to the south with an entrance at the east side opening into a comfortable hall.

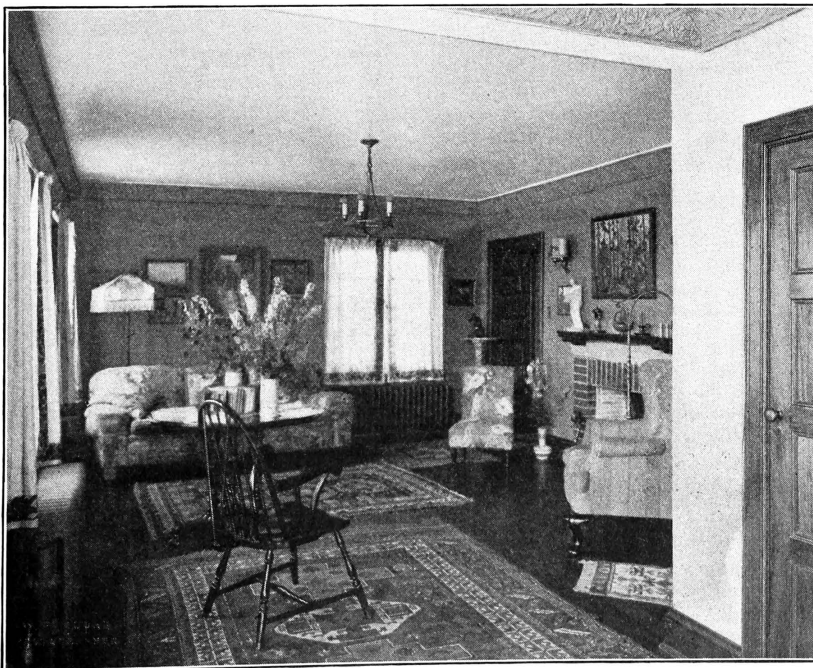
The large living room, sunroom and dining room get plenty of sunlight through ample window area at all times of the day, and not content with only letting it in through the ordinary windows the sunroom has a high bay window extending from floor to ceiling. Any Winter day when the sky is clear in addition to making this room a very cheerful one the sun alone plays an important part in the heating of it.

The kitchen, while bright, is protected from the heat of the sun during the hot Summer months.

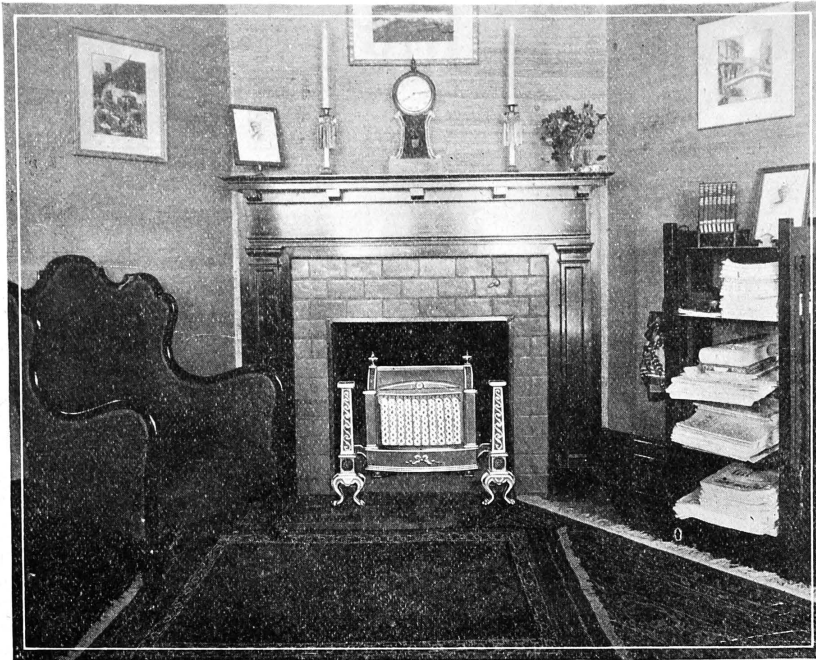
Upstairs are three large bedrooms, one smaller one and the bathroom. Here in addition to providing for an abundance of air and light for the rooms themselves, the bedroom closets have windows and openings between one closet and another. With light and air thus introduced to the closets the havoc by moths will not be so deadly. Provision has been made in the attic for two more bedrooms and another bathroom.

A full size basement contains a billiard room, lavatory, laundry, fruit and vegetable rooms, etc. A large double garage at the rear of the house is entered from the side street.

(Continued on page 28)



This charming living room is always bright and cheery



Radiant Heat

The Perfect Method of Heating

ORDINARY heating devices supply warmth by the familiar method known as convection. The stove, furnace or steam radiator heats the air immediately surrounding it and depends on the circulation of the air to warm the room.

However, it is a well known fact that the warm air rises to the top because it is lighter than cold. This explains why a room may be uncomfortably warm near the ceiling while there may be a cold draft on the floor.

If we could manage to control this warm stratum of air so as to bring it down where it would do the most good, there still remains another objection. Such air is dry and unhealthful to breathe. It is responsible for most of the sore throats and colds common during the winter season.

No doubt you are familiar with radiant heat but have never realized the basic difference. The blazing campfire and the ordinary wood or coal grate fire throw off radiant heat. You feel it from red hot metal and in some measure from the old-fashioned baseburner.

The sun heats the earth by rays which radiate warmth. The light rays travel millions of miles to bring their cheering warmth.

Radiant heat warms the body, yet

leaves the air of a room fresh and cool to breathe. It is the most hygienic heat known.

The wood or coal fire in an open grate is inefficient because most of the heat goes up the flue. Comparatively little warmth is radiated until the fire is a mass of live coals.

With radiant heating there is a minimum of heat lost up the chimney. The radiating elements become incandescent and throw their rays at a right angle into the room where they will do the most good.

This affords perfect ventilation for the air is constantly moving about. It does away with the overheated, confined air common in the modern home—air which is the cause of the present day sensitiveness to colds.

Gas fire installations in your living room, sun porch, your den, and at least one of your bedrooms, will add immensely to the comfort of your new home.

Many people build in haste and spend the rest of their lives longing for the great comforts and conveniences that have been overlooked.

Do not make this mistake. And, above all, do not underestimate the importance of **instantaneous heat** in your home. Nothing is more essential. Nothing can contribute more to the health, comfort and general welfare of your family.

Dignified and Interesting Design

(Continued from page 27)

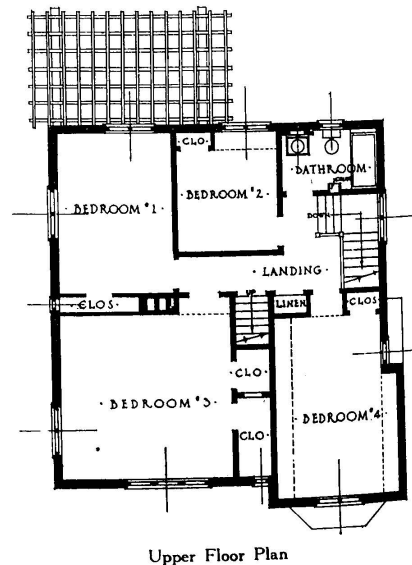
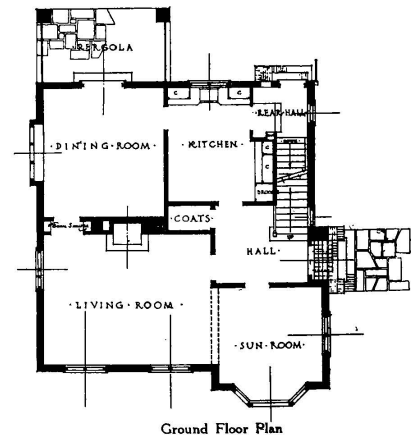
The walls are of concrete to grade level, a base of rug brick and then hollow tile and stucco. The roof is shingled with a very fine quality of wood shingles, they being 2 ft. long with $\frac{1}{2}$ in. butt, which is larger than generally used.

Other outstanding features of this home are the chequered chimney and shaped doorway. The entrance door is of oak, stained grey by using aluminum paint. Quite prominent in this connection also is the wrought iron hardware. The shutters are formed of moulded boards and splayed battens painted a bright blue green.

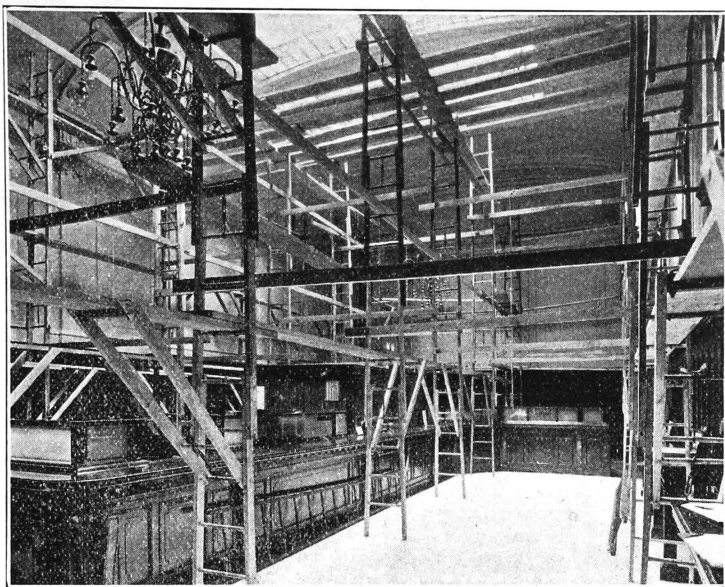
The work on this residence was executed by the following firms:

General Contractor, Walter Osborne; Plumbing and Heating, T. H. Ferguson; Electric Wiring, Roxborough-Dean Ltd.; Plastering, W. J. Hynes, Ltd.; Painting, G. E. Hill.

The plan for the first and second floors is reproduced below.



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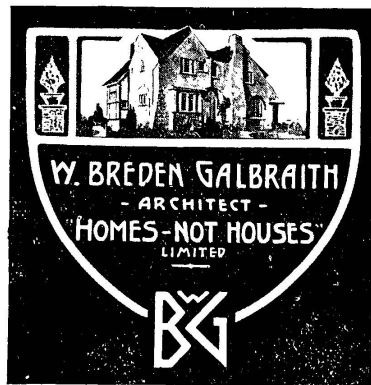
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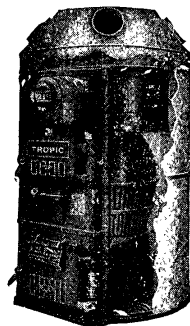
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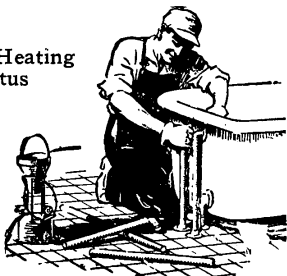
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Fish Pot Walls and Others

How to Build an Outside Wall That Won't Come Tumbling Down

By Robert T. Jones, A. I. A.

Technical Director, The Architects' Small House Service Bureau

WHEN Joshua mobilized his army to break down the walls of Jericho, he fitted his people out with fish pots and rams' horns, and with Right on his side, made such a resounding din, we are told, that the walls crumbled down into ruins.

Perhaps the only din that you will have around your house will come from children's voices or the rattling of skillets and breaking of pottery in the kitchen, but if you do not have Architectural right on your side, it is only a question of time when your walls will, more or less, come tumbling down.

This story is about the modern wall. I want to tell you what makes it stand up—how you can build a wall to bequeath to those who will follow you—a wall that will bear you a good reputation. I know you want to build a wall about which your grandchildren can say, "Grandfather built this wall. He built it for keeps." That is the kind of wall every home builder wants to have.

Different Kinds of Walls To-day

We have come a long way in the building of walls since the cave man first learned to daub mud around reeds and the branches of trees. He built a temporary wall. When it rained, it probably did not trouble him much to have a thin trickle of mud insinuating itself down his spinal column. His walls are all down, but some later people built mud walls that are still standing—the adobe walls of our own southwest.

The cave man was followed in the course of time by advanced civilizations whose builders used blocks of stone. Some of the work they did was without mortar, but the blocks were so accurately fitted that many of the walls exist to-day. As time went along, people learned to make good bricks and how to put them together and when they got a good wall all the tearing of the elements could not break it down. These stone and brick walls were thick and extremely heavy. We cannot build such walls to-day. What we want is less wall and more space—less weight and therefore less expense.

We still use stone and brick in the building of the modern wall, and we use wood also, but our walls are very different from those of the ancients because of this definite principle of present day building which necessitates construction that can be put together quickly, and that will not have excessive weight.

In many of our great buildings, we do

not use walls in the proper sense at all, for we have found that as a building becomes greater in height, the necessary thickness of walls to support the great loads is such as to make walls an uneconomic form of construction. For this kind of building, we substitute columns and beams. Then we fill in between these with walls that are only one storey in height. No doubt most of you have seen sky scrapers or pictures of such buildings in the process of construction. You may have noticed how they sometimes build the outside walls of the tenth storey before there are any walls in the stories below. They can do that because these walls are supported at the different floor levels with steel or masonry beams, and each bit of wall is only one storey in height. Architects have devised a good many strange things, but they have not yet learned to deny the laws of gravitation. It takes a poor builder to do that—to make a wall hold together with a coat of paint. That tenth storey wall will stay in its place long after you and I are gone.

But for smaller buildings, and more especially for homes, we do not use the column and beam construction; we have real walls and these support the floors and roof directly.

The processes of building in America have been similar to those in all new countries—that is, we have used the materials most easily obtained and worked. This no doubt explains to a large extent the reason we have so many wooden houses. It explains also why we have combined wood with cement, stone and brick in veneered walls. As time goes along and our supply of lumber becomes more and more depleted, we shall unquestionably use less wood and more masonry. In countries like France, Italy, and England where timber has been a scarce and expensive article for many years the economy of building has brought forth brick and stone small houses of enduring beauty.

It is easy to think of a stone wall as being the strongest wall that can be built but this is not necessarily true. Everything depends upon the quality of the stone that is used and the mortar that joins the blocks together. Even with good stone and good mortar if the workmanship is not sound, the stone wall may be far from permanent. One of the peculiarities of a stone wall is that the

rougher the stone the thicker the wall must be. If the stones are absolutely square, we can set them together very accurately and get great strength and durability with a moderately thin wall, but when the blocks are rough hewn, it is difficult to get them to bond together to secure sufficient strength. If the stones are round, or nearly so, the walls must be very thick in order to secure sound buildings. If you think of building your foundation with boulders—make up your mind to use a great volume of mortar and to build an unusually thick wall.

A sound wall of concrete ten inches or a foot in thickness would have to be matched with a stone wall of eighteen inches in thickness to get equivalent strength. This does not mean that a stone wall is less satisfactory than a concrete wall. The simple fact is that for these materials, and for others, to get adequate strength the thickness of the wall must be varied.

In foundations we use stone, concrete—poured or in blocks, tile blocks, and brick, all depending on which material can be most easily obtained, and that means which material is the least expensive and best suited to the conditions of the soil. For example, we would not use a tile or brick wall where there was an actual head of water to be walled off or even where the sub-soil was exceedingly wet. It is easier to waterproof a poured concrete foundation wall than it is the other types, but if you live in a country where the underlying soil is fairly dry and where well burned bricks or tile blocks are to be had at less cost than other materials, you are perfectly justified in using them in foundations. If you live where concrete is inexpensive, where there is plenty of gravel and sand, concrete would then be used and the selection of concrete blocks or a poured concrete wall would probably be simply a matter of which one would cost the least. If you have a concrete wall just remember that a bag of cement has a terrific power. Be generous with it. Use clean sand and gravel or broken rock and no more water than is necessary and use plenty of cement.

These walls in the foundation are not different in any real way from the walls that were built by the forefathers, but when we get up above grade, we often work out some stunts in wall building that are absolutely innovations of our

present day. Here is where the walls of wood and combinations of brick, cement, and stone with wood come into their own.

We have perfected walls of masonry to get warmth, strength, durability—let us consider walls above grade.

Wooden walls are often thought of as being only temporary but they need not be so by any means.

Assuming that the wooden members can be kept dry so that they will not rot, a wooden wall will stand up a shorter or longer time, depending upon how much bracing it has. If it does not have any bracing the wall will simply compose of so many small sections of wood with boards nailed crosswise over them, and it is only a question of time until they will get out of plumb, the plaster come off, and the boards pull away from their nailings. Ten years may make an improperly braced house look like the plaything of time. On the other hand, a house framed with only the simplest regard for engineering principles may stand the storms of a hundred years. There are plenty of wooden houses in the Colonial period built right that stand to-day as an example of what can be done with this material. A few thin strips of board nailed diagonally over the studs will do the trick. The extra cost can hardly be found in the labor bill. It seems too bad to fail to observe this small, but most important detail of wood wall building.

In spite of all that can be said about the first economy of a wood wall and its qualities as a durable type of construction, it is certain that in a conflagration, wooden houses are more difficult to protect than houses built with materials of a less inflammable nature, as, for example, stucco or brick. In our larger cities where houses must be built very close together, the wooden walls with wooden finish will not do at all. We must protect them with some of these other materials. Furthermore, a variety of materials is necessary to satisfy the tastes of all. Not everybody is satisfied with a brick house or with a wooden house.

Happily, this country is blessed with a quality of brick and stone which is hardly exceeded by any other nation on earth. Our bricks, especially, have a distinct quality of beauty that will intrigue anybody to use them who is interested in brick walls.

Beauty With Durability

In order to accomplish the external appearance given by a brick wall, but with a type of construction that as far as first cost is concerned is still below that of solid brick, we have combined brick and wood. The brick is the external finish of the wall only. It does not stand as part of the structure of the wall. The floor joists are supported on a framework

of wooden joists almost exactly like the frame work for a wooden finished house. Here again, in the interest of long lived building, we must not forget that little board that is the key to the whole affair, namely the diagonal brace. It is easy to forget this when you build. If you do not put it in, you will have plenty of chance to remember it.

Another way to finish a wooden wall is to put a cement coat over it—a stucco exterior. We have learned how to put this stucco on so it will stay on—so there need not be any element of hazard about using such a wall. There are a lot of ways of experimenting with exterior stucco, using different kinds of materials to which the stucco will be applied, and using different kinds of materials in the stucco coat itself. Ordinarily home building mortars rush in where architectural angels fear to tread. Let your architect tell you what to do. He knows.

Brick can also be used as a veneer on other bricks, or you may have bricks facing a tile wall. We often build solid brick walls or walls with air spaces in them. Walls of this class act as supporting parts for the whole thickness of the wall. They support one end of the floor beams. Now here is the trick for this kind of construction. You see for a solid brick or tile wall, there will be practically no settlement—just a little shrinkage perhaps in the mortar joints, but with a wooden wall we always know that settlement is bound to take place because it is natural for wood to shrink as it dries out. This is perhaps the most characteristic thing about wood, so if you put one end of a wood beam on a masonry wall and the other end on a wood wall, the wooden wall end of the beam is bound in time to be lower than the other. That is the reason many city ordinances require that the girders supporting wooden beams in buildings with outside walls of masonry shall be of steel. Of course there is no shrinkage in steel. In this way we avoid uneven floors and cracks in plaster. The extra expense for the steel beam and the gas pipe columns necessary to support it is so small that it seems futile to try to save on this item. Get the steel beam in there. You will never regret it.

Coming back to the outside walls of solid masonry, we sometimes build these with air spaces in them as in the tile wall. Or the solid brick wall may have these spaces included. There are various ways to do this so that cold and moisture will not penetrate. When these air spaces do not exist in the wall itself, it is necessary for us to devise an air space between the plaster and the wall. We do this by putting strips against the masonry and nailing the lath to these. Plaster is then applied. Such a wall will be warm

and dry. If it is built of good materials and good workmen are employed, it will last a long time and will not give you any trouble. Depreciation will be low.

Kings of Babylon Made Good Bricks

Think of brick and tile walls as a multitude of small blocks piled one upon the other. If the blocks overlap each other properly you have greater strength. Bonding is the name we give to this overlapping. It must go back into the wall as well as along the face of it. That is one of the first principles of masonry wall building. If the mason does not forget that the square and plumb are his important instruments you will have another principle well observed, and then if the blocks are cemented together with a mortar generously made and skilfully applied you will have durability and strength. But one thing more. The block itself—what about that? A well burned clay unit, be it tile or brick, is something like a mass of impure glass. It has temper as far from that of a poorly burned product as Damascus steel is from pot metal. The better the temper the stronger it will be. The Babylonian kings turned out tiles and bricks some of which have resisted the onslaughts of twenty-five centuries, but we can do a better job of brick making to-day for we have learned the secret of it. You don't have to build your walls of pot metal bricks and tiles for there is plenty of the sound material.

Do you remember how some great English sea fighter spoke of the "wooden walls of England?" He was telling about sea power—the protection of the "tight little island," and the emphasis was not on wood but on walls.

Build your walls soundly, whatever material you use, to protect your own tight little island.

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A Cottage Worth Your While

(Continued from page 14)

whom I am groping to reach through the inky veil of the Press, you'll do some thinking, and perhaps get busy, though I do you wrong, my friend, for you are even now busy at it.

Each individual that improves his home, improves Canada, the Homeland. But the root of the matter lies even deeper. The great need of the modern man and woman is the sane appreciation of the fact that the greatest happiness is that derived from what we have toiled to build with sincere purpose. And where can such effort be better expended than in the home, from which radiates the soundest social philosophy we know? It's as old as life, but shining brighter after the storm than ever. You can't hitch your wagon to a better star.

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"Thirty bushels of dates are due to Bel Nadin Shun, son of Marashu, by Bel Bullitsu and Sha Nabu Shu, sons of Kirebti, and their tenants. In the month of Tashri (month of harvest) of the 34th year of King Artaxerxes 1., they shall pay the dates, thirty bushels, according to the measure of Bel Nadin Shun, in the town of Bit Balatsu. Their field, cultivated, and uncultivated, their fief estate, is held as a pledge for the dates, namely, thirty bushels, by Bel Nadin Shun. Another creditor shall not have power over it."

The stone that these words were carved on was dug up by an expedition of the University of Pennsylvania.

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Practical Information on Planning, Building and Financing

By BERTRAM T. BROOKER

FEES for service as rendered by qualified architects are a worthwhile investment. They include preliminary consultations and sketches, plans and specifications, inviting tenders, letting contracts and supervision of construction from the turning of the sod to handing over the keys. Partial service may also be obtained at a reduction.

It costs no more to employ an architect before a site is purchased than after and his advice on this matter alone may be worth a large percentage of his fee.

Building is a complex "manufacturing process." It involves many trades and interests. These if left to themselves do not always consider their own tasks in relation to the whole as carefully as they should. An architect guides these diverse interests into a proper relationship. You are, therefore, recommended to consult an architect. You may do this without placing yourself under any obligation whatever and it would be much better and more satisfactory to you.

Selecting the Site

A RELIABLE agent or real estate man, on whose reputation you can count, is usually in a position to safeguard your interests and point out the advantages and disadvantages of locations you may think favorable. There are many things to be considered. For instance, you should find out whether there are any restrictions in the neighborhood, if you are expected to make improvements, or whether you are likely to be assessed later on for new sidewalks, curbs, roadways or gradings. Then there are the possibilities of railroads, trolley lines, public utilities or manufacturing plants later affecting the property. On the one hand, these may be beneficial, if not too close or of an offensive character; on the other hand, they are likely to be a detriment to the neighborhood and decrease the value of your land.

Another thing to investigate is the nature of what are called "easements." This is a term indicating the rights of certain persons or firms to install water or gas mains, telegraph or light poles or wires, etc., which may not occur to the land-buyer at the time, but may disfigure the property when the district develops. In a built-up locality these easements are generally apparent, and often are not

Important things to consider when planning, building, financing and furnishing. Published in previous issues and reprinted in condensed form for the benefit of those receiving this publication for the first time.

objectionable. For this and other reasons it is almost always safer to buy a lot in a district that has passed the initial stages of development. The land will cost you more in the first place, but you are able to form a better idea of whether the locality will be a pleasing place to live when thoroughly settled and built up, and hence you are more certain of a steady increase in the value of your property.

In better class districts there are usually restrictions on the type of house permitted, and also upon the erection of places of business within the vicinity. This restriction is fixed in order to prevent good residential districts from being disfigured with shacks and other unattractive buildings which reduce values and greatly reduce the possibilities of re-sale. To build a substantial and handsome home in a district where small dwellings are likely to predominate is to court an eventual loss.

Another thing to remember is the relation of the value of the house to the value of the lot. It is not advisable to build an expensive dwelling on a cheap lot. Generally speaking the value of a home should not be more than three or four times the value of the land on which it is built. A costly dwelling cramped on to a lot with very little frontage is not liable to re-sell easily.

Remember, too, especially if the district is undeveloped, that the eventual level of the roads and sidewalks has a bearing on the water line, which, in turn, may result in damp basements. The best plan is to have a surveyor make a "pro-

file" showing just what the grades are, or, if there is no sidewalk, the Roadways Department of the city or municipality will inform you of the future level.

Having selected your lot with the utmost care the next move is to make an agreement or contract of sale with the owner. A certain percentage of the purchase price is usually stipulated as the first payment; generally, about ten per cent. This payment makes the contract legal and binding for a limited period, usually thirty days, and during this period the title should be searched for claims or other impediments to clear ownership of the property. A clear title is imperative at once, especially if your financing of the proposition involves a loan to carry on building operations.

If the search of the title reveals no flaws or hindrances, there is one more thing to be done before completing the purchase and starting to build. That is to have the lot surveyed and staked so that you make sure of getting all the property you have contracted to pay for, and also to insure against encroaching, even by a few inches, on neighbouring property. Failure in this respect is likely to bring about costly litigation in the future.

Having attended to these details you are safe in completing the purchase. Once you are in possession of a deed of the land this document should be promptly registered with the proper authorities, in order to officially establish your title.

Financing the Purchase

IN regard to financing the purchase of a lot and the building of a home it is important that you should carefully weigh both your existing and future circumstances. It is unwise to count too heavily upon the prospective resources of your pocket book, and perhaps burden yourself with a load that your later situation may not enable you to continue bearing. On the other hand, it is often a mistake to skimp on the first cost and deprive yourself and your family of conveniences and comforts which will cost much more to install after the building has been completed.

To strike a judicious balance between these two extremes is not an easy task, and in working it out you should not trust to hearsay. Before you decide on

the size and type of dwelling you propose to build, before you select a plan, it would be wise to consult a number of people who make building, home planning and financing a special business. They will be able to counsel you as to the pitfalls of skimping on the one hand, or of plunging, on the other.

Generally speaking it is better to plunge a little than skimp a lot, for it is usually possible to sell a well-built house with modern conveniences without much trouble if it becomes too heavy a burden to carry; whereas a skimmed and inconvenient structure is invariably a drug on the market.

As to cash, it is necessary, as a rule, to have available about twenty to forty per cent. of the combined value of the lot and the building. Suppose, for instance, that your lot is going to cost you \$2,000, and the home you propose to build will cost another \$8,000. On this total of \$10,000 it should be possible to arrange mortgages of about \$5,000. If you already own the lot the cash necessary to swing the transaction will amount to \$3,000, or about 30 per cent. of the total value.

Building and loan companies, trust companies, trustees of estates, private individuals and other sources will usually lend from forty to sixty per cent. of their own estimate of the total value of land and buildings on first mortgage security and you will usually receive this in three payments as follows.—

1. When roof is on, 50% of loan.
2. When the first coat of plaster is on, 25% of loan.
3. Thirty days after completion, 25% of loan.

Should additional funds be required there are reputable firms making loans on second mortgages as security. Such a loan should be for as small an amount as possible an payable in full within five years. It is necessary to pay a bonus for such accommodation.

When giving a mortgage deal only with reputable firms or individuals and get dependable legal advice. The terms of payment of principal and interest vary a great deal. Very often a first mortgage should be what is called a straight mortgage or one on which interest only is paid periodically and the principal not until the end of five years. This is particularly desirable when a second mortgage must also be carried as in this case substantial periodical payments plus accrued interest must be made on the principal.

You should not only consider the terms of mortgages in relation to your own

ability to pay, but also as they affect the sale of your property at any time.

Selecting a Plan

WHAT are the chief considerations in selecting a home-building plan? Arranged in order of importance they are roughly as follows: Economic use of materials and labor; Convenience; Comfort; Interior attractiveness; Exterior attractiveness; Finish.

Building a home is a serious business, and you should undertake it only with a serious sense of the future advantages or disadvantages that may arise from the careful or negligent study of those features which make a home valuable or the reverse.

It is well to reverse what would seem, at first sight, the logical method of planning a home. Don't look at your dream

terior frills serve no real purpose. They add to building costs, are constantly in need of repair, and serve to collect undue quantities of dirt and refuse.

Modern housekeeping methods have placed a very strong emphasis on the interior arrangement of the home, and has tended toward greater compactness, so that steps may be saved and the housework conducted with a minimum of wasted labor. This tendency, coupled with improved ideas as to ventilation, and more regard for the amount of sunshine which can be counted on from the rising and setting sun, which involves the planning of windows in relation to the direction the house faces; all these things have affected the planning of every room in the modern, efficient, convenient home.

Kitchens are smaller but better furnished with built-in and other devices for saving steps and labor. Bedrooms are smaller than they were, but better ventilated, and usually with more closet space than was the rule even in the old-fashioned rambling houses. Dining rooms, too, are being reduced in size or eliminated altogether; their place either being taken by breakfast rooms, which are usually sufficient for small families or for homes where there is little entertaining; or else dining facilities are included in the plan of the living room. The latter is the pivotal point of the entire modern dwelling. Gone are the days when the parlor or drawing room was practically closed to the household except on Sundays or when company came in. Living rooms are being expanded to take care of the tendency of the modern family to live in the front of the house, instead of cooping themselves up in the smaller and darker rooms at the back.

Improvement in ventilation ideas have enabled modern architects to reduce the height of ceilings without impairing health. The saving in building costs and in heating expense, on this account, is well worth calculating.

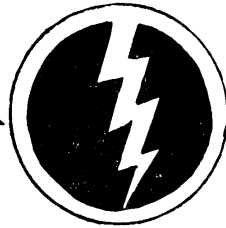
The most marked advancement in interior arrangement, however, is the growing utilization of space that otherwise might be wasted for built-in features such as buffets, china closets, kitchen cabinets, book-cases, cosy-corners, etc. All of these things save time and steps in the housekeeper's scheme of things. They do not as a rule collect as much dust and dirt as the ordinary portable furniture, nor do they have to be moved about in order to sweep and clean behind them. Less tiresome to the housekeeper, they are also less expensive than

ASK FOR FACTS

Questions regarding any phase of building will be gladly answered by our Readers Bureau. Use the form on page 44 and enclose self addressed, stamped envelope for reply.

house from the outside inwards. Look at it from the inside out. Try to place yourself in imagination inside it. Study the arrangement of the rooms, stairs, passages, cupboards, windows, recesses, etc., take into consideration the saving of steps, the later installation of labor-saving devices, the question of lighting, heating and ventilation.

These are the first things to be concerned with, inasmuch as it is inside of the house that you will spend most of your future hours. The exterior shape and attractiveness of the home will develop of itself into a pleasing and harmonious design, if you deal competently with the interior room arrangement. The outworn idea of making a home a show place from the outside, with useless gables and ornamentation of all kinds, has been exploded by the more modern trend toward interior convenience. Ex-



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the individual portable items which they replace.

Greater satisfaction will be assured if, before building operations are commenced, you have a preliminary set of plans made. You can then study each room, put the plans aside for a while, and then pick them up again, thus, over a period of time, familiarizing yourself with what the various rooms will be like, almost as though you were actually living in them. By so doing you will doubtless be struck from time to time with improvements that might be made, and after thinking these over, a revised set of plans can be made from which the home finally will be built.

Two Ways to Build

NOW that you have the site and have selected the plan, the next thing to consider is just how you are to build. There are two ways of going about it.

First, you can throw the responsibility for the entire job on the shoulders of a general contractor, with whom you can make arrangements to have the house built by a certain date at an agreed-upon total price, plus extra charges for any changes that you wish made during the period of construction.

Second, you can buy the materials and employ day labor, and practically build the house yourself, with the advise and supervision of a building contractor. In this case the contractor has "no axe to grind," and he may be depended on to see that everything is done in the most efficient manner. There is no inducement for him to skimp anything. He will make a charge based on costs, plus a percentage for profit.

The drawback to this scheme is that it is difficult to estimate what the final cost will be, and it gives rise to the tendency on the part of the owner to make changes as the work proceeds. These changes speedily increase the cost, and in the end your home is likely to cost you much more than you figured. It is true the added cost will almost always represent added value and convenience; but if your resources are small and the house an unpretentious one the contract method is usually the best. You get what you pay for, and you know in advance just what the total cost will be.

Payments to Contractors

PAYMENTS should be made at regular intervals at the rate of eighty per cent. of the value of the work done. The remaining twenty per cent. to be retained until thirty-one days after the completion of the work to safeguard against liens for unpaid materials or labor. Liens must be registered within thirty days

from the completion of a contractor's work and not more than twenty per cent. of the contract price can be collected from you.

This thirty-one days also gives you an opportunity to thoroughly inspect the work and be satisfied that it has been executed according to contract.

Arrangement of Rooms

SOME practical hints follow as to the layout and arrangement of various types of rooms.

BASEMENTS should have either a direct outside entrance or a grade door providing an indirect means of egress and ingress. This enables ashes and refuse to be removed without carrying them through the upper rooms. Also, with regard to ash-removal, it is well to have pits in the chimney stacks to receive ashes from fireplaces in the upper rooms. If these pits terminate in the basement with a metal clean-out door, the ashes can be readily removed with a minimum of fuss.

LAUNDRY ROOMS: Two stationary wash tubs should be placed in the best lighted portion of the laundry. The most convenient place, when possible, is under a window. Drains are essential so that waste water can quickly be drained away, or the whole floor flushed and cleaned after the week's wash.

VEGETABLE ROOMS: The better equipped with shelves and bins the less space need be allotted to these rooms. Roots, fruit and vegetables can be stored compactly if plenty of convenient bins and good wide shelves are provided.

FUEL ROOMS: These should be large enough to hold an entire winter's supply of coal, so that in times of shortage or high prices an advantage can be gained by buying the entire supply at one time. Where soft coal is likely to be used the fuel storage facilities should be figured on a basis of 45 cubic feet per ton, heaped 5 feet high. A metal coal chute should be provided from the outside.

LIVING AND DINING ROOMS: Remember that you are going to spend most of your time in the living room. Make it roomy, light, and so arranged that the largest articles of furniture, such as piano and chesterfield, can be accommodated against unbroken wall space.

Take care that your fireplace, if you have one, is not going to be a source of annoyance, rather than pleasure. It should be equipped with a damper so that the draught can be adjusted to suit the wind conditions and the fuel used; and also, as before stated, with a pit at the base of the chimney in the basement, so that it is not necessary to clean out

the ashes from under the fire basket and carry them through the main floor rooms. If the flues are lined with tile the danger of fire is minimized.

In many modern homes the dining and living rooms are combined, facilities for dining consisting in an alcove with built-in table and seats. Usually the accommodation is for four people, but this can easily be augmented by an additional table set near by.

Where separate dining rooms are planned the tendency is to make the outlet to the living room as large as possible, thus making the living quarters of the house appear inviting and commodious.

KITCHENS: If properly planned the kitchen need not be large; but it should have space for at least the following: Stove, sink with drain-boards, table or work-shelf or kitchen cabinet, refrigerator, cupboards. If there is a pantry these arrangements may be changed. Built-in refrigerators that can be replenished from the outside and provided with a drain to the basement are a very great convenience. A flue connection is required by law in many cities, if gas is to be used for cooking.

BEDROOMS AND SLEEPING PORCHES: If the house is a one-storey structure and the bedrooms on the main floor, make a firm resolve not to have these rooms connect directly either with the living room or with a bath-room. Entrance always should be by way of a hall or passage. Good sized closets with shelves and poles for clothing hangers are now considered essential in modern bedroom. Cross ventilation is another important matter, and the placing of the furniture should be such as not to interfere with the opening wide of doors and windows. If a sleeping porch is included in your plan, see that the entrance is off a hallway or else one of the bedrooms. Window openings in these porches should be above the level of the beds, so that ventilation without draughts may be obtained.

Interior Woodwork

FLOORS and doors, base and picture moulding, window and door trim, panel-work, cupboards and shelving involve many different kinds of wood. The finishes and effects obtainable from different kinds should be carefully considered from the viewpoint of cost and utility. For floors oak, pine, fir, birch and maple are all suitable but some are more desirable than others.

Woodwork or millwork should not be brought into the building until the plaster is perfectly dry. Unless this precaution is rigidly observed you are apt to be

confronted with open joints, twisted trim, doors that won't close and windows that stick.

Built-in furniture of all kinds is growing in favor with home-builders for many reasons. For one thing it may be appropriately designed in relation to the rest of the woodwork in the house, and hence gives closer harmony to the entire household scheme and its architectural expression. Furthermore, if properly constructed in the first place, it is usually more durable than movable furniture, partly because it is not so much handled or moved about for purposes of cleaning and so forth. And finally, it is more economical, both in money and space, for the materials may be purchased in the one outlay when the home is being erected and fitted into nooks and corners which would otherwise entail only slightly less labor to finish.

Make Your Plumbing Safe, Sanitary And Satisfactory

IF your plumbing system and fixtures are up to standard at the outset your first cost is likely to be your last. If properly installed there should be few leaks, freeze-ups or other breaks, constantly adding to upkeep. Remember that your plumbing system is not unlike a transportation system. There is a main or trunk line with connecting lines converging to a terminal. This trunk line is usually a four inch cast iron pipe running from basement to roof. In the basement there is a connection with a sewer or a septic tank to take care of discharge from this "stack," as it is called, which usually protrudes through the roof about a foot to permit a constant flow of fresh air to ventilate your plumbing system.

Traps in the basement, to prevent sewer gas and other odors, provide further escapement below. These traps hold a little water which stays at a certain level and provides a seal between the stack and the house and prevents odors rising.

If your house is situated in the rural districts you will probably feel the need of having a septic tank, to take the place of the city sewers. A wood-lined cesspool is sometimes fairly satisfactory, however, especially in sandy soil.

Septic tanks are constructed underground and are made of steel, cement or tile, consisting of two chambers, the upper one taking the sewage disposal first, where the solid matter sinks to the bottom while the liquids overflow into another chamber, pass through a further discharge pipe and are carried to purifying ducts just below the ground level. The solids automatically turn to liquids and are carried off to be purified by the

action of the soil. The tanks, which are provided with clean-out covers, require cleaning only at long intervals. They are simple and quite sanitary, but should be chosen with care and with regard to the character of the soil, the size of the family, the size of the plumbing system and the slope of the ground in your neighborhood.

An automatic water supply system will bring to the rural and suburban resident water service identical with that enjoyed in the city. No matter how many places it is needed—in kitchen, bathroom and laundry—at the stock troughs and in the barn and dairy—upstairs and down—the modern pneumatic pressure system will force the water under ample pressure the same as city water works.

Should a plumbing system be out of the question it is possible to get a "chemical closet," which requires no water supply. Chemicals dissolved in water turn the sewage into liquid, which flows off in to a tank that may be placed so as to be readily accessible for cleaning out from outside the basement wall. Any sediment that collects is odorless, but must be removed frequently.

To return to the plumbing system; this should be provided with screw clean-outs, absolutely tight, situated at convenient places through the building where a wire or flexible rod can be used to clean out any obstruction.

Plumbing fixtures are mostly of three kinds: Enameled iron, the first cost of which is low, and hence appropriate for small homes; Vitreous Ware, which is a kind of glazed china, is used for water closets and washbowls in the better type house, although rarely for so large a unit as a bath-tub; Porcelain, which is the most expensive, used in the best houses for bath-tubs and washbowls.

Faucets, which are more used than any other fixture, should be of the very best in any home, and it may be said generally of the plumbing system that it should be the last feature of the house to be skimped, for nowhere else will cheap materials and slipshod work cause so much annoyance and inconvenience.

The Heating System

BUYING a heating plant is not unlike buying a watch; the inside is more important than the outside. The actual appearance of the furnace is no criterion of how it will work, and in order to save trouble and expense it is worth while giving a little study to the question of heating. Your plant should give no trouble if, first, it is properly installed according to the suggestions offered by the manufacturer, and second, if it is properly conducted by the owner according to the directions.

Climate, of course, has a bearing on the selection of a heating system, and so also has the exposure of your home and its size. Vapor and vacuum systems or steam and hot air furnaces are best in districts where changes in temperature are frequent and sudden. Hot water, on the other hand, requires a long time to heat up, and of course, cools less quickly. For a long winter in which few marked variations occur, radiator heating will give you equable warmth at very reasonable cost, and especially if the home is exposed to sweeping winds on all sides, no other system will distribute and maintain heat in all parts of the house so efficiently and economically.

Metal weather strip, storm windows, and even the pulling down of window shades at night, greatly reduce heating costs. Weather strip of the right kind, properly applied, should save from five to ten per cent. of your fuel bill. Storm sash, in addition to weather strip, provides an insulating air space that breaks draughts and helps to maintain an equable temperature.

If the home is small and the plant centrally situated there is not much difference in the cost of efficiency of upkeep in either of the various systems. Hot air heats the home quickly, but requires constant attention. This is also true of steam, whereas with hot water your system will maintain a good heat without attention for several hours. Combination hot air and hot water systems are practicable, some furnaces being constructed with coils which pass over the fire and force the heated water through pipes to your rooms. Hot air furnaces should be located as centrally as possible in the basement, so that the cold air return pipes operate equally all over the house. Radiators should be situated near windows, wherever possible, so as to prevent draughts reaching the floor. Your boiler and pipes should be covered with insulating material both as a matter of economy, and also as a prevention against fire.

Sheet Metal Work

THE use of high grade metal always pays, avoiding repairs that may otherwise be necessary within two or three years. High grade work in this trade costs little extra in proportion to the total cost of the building, while poor quality of material and careless workmanship may lead to leaks and damage to various parts of the building, plaster, decorations and furniture. All work should be well soldered and every weak point properly "flushed." A rigid specification, carefully drawn to properly cover every little item, and a thoroughly

competent contractor are of great value.

The Electric Home

A HOUSE that is well wired for electric conveniences is usually a winner in the sales market. The plumbing and heating of a house are left to the man's judgment, and the garage may appeal to a son or daughter, but the wife and mother has to do the house-work and, to her, electric appliances mean the difference between drudgery and economical ease. The electric-service of a house in this day of labor-saving electric appliances is the most effective appeal that can be made.

The argument in favor of ample wiring provision in homes applies to any community served by electric power, but especially so in the cheap current areas of which Toronto, Montreal and Winnipeg are centres. For instance, municipalities served by the Hydro-electric System in Ontario have 40,000 electric ranges—one-fifth as many as in the United States. Winnipeg has about 7000 and Toronto has nearly 6000 electric ranges. There are about 50 electric appliances commonly used in households, which include water-heaters, grates or mantels, ironers, irons, toasters, washing machines, vacuum cleaners, heaters, fans and cooking grills. New electric labor-saving devices are coming on the market constantly.

In the wiring of houses, therefore, it is wise and indeed necessary to make provision not only for present electric conveniences but for those of the future. The main feed or service wires should be heavy enough to carry the current load of any or all conveniences. There should be wiring for a range, with capacity added for water-heater and grate; plenty of switches and lights; and some "base plugs" or convenience outlets in each room.

Electric conveniences can be divided into two classes: the "power" equipment and the "socket" appliances. If the main feed wires and switch box are heavy enough, changes or additions in the house can be readily made without disturbing the service. Hundreds of cases arise where the main service has to be torn out and replaced because it was insufficient for the requirements of the appliances wired for inside.

When one has seen to it that his electrician puts in a heavy service the next consideration, outside of adequate lighting, is the provision for small appliances. The "base plugs" set in the baseboard or wall are outlets from which floor lamps, vacuum sweepers, portable heaters or percolators are fed. They are put in here for easy access. The old way was to attach them to lighting sockets

but this involved not only climbing and reaching but trailing cords, and sometimes unpleasant accidents. The little brass plate in the baseboard is the sign of service supreme. These outlets are of two kinds—single and duplex. The duplex ones are twins attached to the same wires, and cost very little more than the singles. There is no more cost for wiring, but the double outlet gives twice the service—the opportunity to use two light appliances at a time instead of only one.

The cost of adequately wiring a house is far less than that of heating or plumbing, but the ultimate selling appeal is greater, for plumbing is almost standard while the electrical installation varies greatly. The following is recommended as a fair moderate installation:

Service—Three No. 2 wires, 100 amp-switch, provision in box for water-heater or grate.

Range wiring to kitchen—3 No. 6 wires.

Plenty of lighting outlets controlled by switches.

3-way switches on upper and lower hall lights.

Convenience outlets—2 in living room or den, and one in each of the other main rooms, including bedrooms.

Special outlet in laundry for washing machine, etc.

An average of 40 outlets per house is fairly good and represents the effect of a strong public demand for good wiring.

Painting, Inside And Out

ALTHOUGH you may have nothing to do with the painting of your home when it is erected it is wise to pay some attention to its use, for paint is something that you will be constantly using if you intend to keep your house in good repair. The real test of paint, according to the experts, is the surface it leaves for re-painting. In other words you should learn to choose paints that will not peel, crack, blister or produce an uneven surface. This is important in the first painting of the house, for a stripped or peeled surface will require much preparation when you come to re-decorate, making it a long and costly job, involving more paint and more labor than is the case when the surface is in good shape.

Damp, cold weather is not suitable for painting. Wood surfaces should be thoroughly dry and clean. Unless your interior plaster has thoroughly dried before exterior painting is started there is some danger of dampness working through the wall into outside woodwork. Do not put off, however, for this reason, your exterior painting for too long a time, as in that case the outside woodwork is

liable to be affected by the elements, absorbing rain and moisture, and being liable to warp as well as becoming infected with the germs of decay. A priming coat should be given to all woodwork first, and a first coat on top of that, at least, should be applied as soon as possible after erection of the home.

If the painting does not come into the contract, and you are not prepared to do it yourself, be sure to employ a skilled and reputable man and provide him with standard quality paints made by responsible manufacturers. In the end you will find the cost will be less. Especially is this true of interior wood finishing, which is so often loaded with stain or varnish that the natural beauty of the wood is lost. Finish of this kind should never be assertive, and you may choose between having it stained, filled, varnished, waxed or enameled. The same wide choice exists with regard to your wall surfaces which may be painted or calcimined or papered as you wish, with a great variety of paints, treatments, colors, etc.

Hardware

HARDWARE is an item of interior and exterior finish that often causes trouble when not wisely selected. There are many different kinds of locks, knobs, latches, sash-fasteners, cupboard-turns, drawer-pulls, and other articles comparatively insignificant in themselves but of great importance. These things should be purchased with the understanding that "cheap goods" will not stand the test of time. Brass-plated iron or steel cannot be expected to give the same service as solid brass.

Home Lighting

THERE are few places where money can be spent to as good advantage in the home as in electric lighting fixtures. Most of our relaxation and pleasure is enjoyed after the supper hour. It is after dusk that most entertaining is done, at which time we must depend upon lighting fixtures to bring out the beauty of rugs, draperies, paintings and furnishings. It is, therefore, essential that we light our rooms with a cheerful, radiant, well diffused light that is in perfect harmony with our entire scheme of decoration.

A fair allowance for electric lighting fixtures should be made when the home is first planned. If a proper allowance is made and kept for that purpose you will not be disappointed by having to skimp and install lighting fixtures that are not suitable. The average sum spent for electric lighting fixtures, arrived at by investigation of over one hundred thou-

sand homes, averages three per cent. of the selling price.

The porch, verandah or entrance light should correspond in general design with the front part of the home. This fixture must be dust and bug proof, constructed absolutely weatherproof, and should give sufficient light to beam—"Welcome"—to the visitor at your door. Either ceiling light or wall brackets may be used and should be controlled by switch inside the hall.

The hall light should give a warm, comfortable glow. This is part of the home where a quaint or odd type of fixture may be used—a hand wrought lantern with candles, a colonial lantern with glass panels or an old ivory glass urn. There are many other pleasing designs in unusual hall lights. A bracket light is decorative and useful when placed in the rear of the hall near the telephone or cloak closet. The upper and lower hall lights should be controlled from three point switches in either hall.

The living room is really where one takes the most pride and comfort in the home. This room must be lighted not only to banish all dullness and give a good light for reading but, withal, to provide a cheerful, homelike glow to the entire room. This delightful combination can only be had through placing at least four bracket outlets in the walls and a ceiling outlet in the centre of the room. The ceiling type fixture should be installed quite close up. It is the source of proper light for card playing and entertaining. The candle type brackets are prettiest, and with silk or parchment shades to match the draperies a lovely effect will be had.

An important feature in lighting the living room, dining room or other ground floor rooms is to keep the bracket outlets five feet eight inches from the floor level.

The dining room must be lighted in a very bright and cheerful way. The light from a nice silver candelabra fixture, fitted with silk shades and suspended at the proper height, will bring out the beauty of the silver-ware on the white linen. At the same time, be sure that there is no bright light which will cast a glare into guests' eyes. Brackets are not only decorative in the dining room but also serve a useful purpose before and after meals in giving just enough light to dress the table.

The kitchen is the office of the home and someone spends a great deal of time there. The lighting fixture should have a very strong lamp entirely enclosed by a diffusing glass unit, attached directly to the ceiling, and individual brackets should be placed near the stove and sink

The bed rooms should each be treated in a different manner. Most bed rooms demand a three or four light candelabra or cluster fixture from the ceiling. These fixtures should be fitted with silk or cretonne shades to match the drapery. There should be at least two bracket lights in each bed room, one on either side of the dressing table. The wiring outlets should not be over five feet four inches from the floor level. Bed room fixtures may be had in ivory, silver or Florentine finish to harmonize with any decorative scheme.

The bathroom should be lighted with a similar ceiling fixture to that used in the kitchen. To get a good light for shaving purposes a bracket light should be installed on either side of the mirror. These fixtures should be finished in a

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baked white enamel finish to match the white in the room.

The day is here when everyone does—"NOTICE THE LIGHTING EQUIPMENT."

Furnishing the Small Home

FURNISHING a home is a joy—and also a trial. It requires careful planning and discriminating buying if the result is to meet with your approval for any length of time.

There are three distinct problems that arise every time that anything is purchased. First, the objects must suit the house in size, coloring and style; second, they must look well when placed together if they are to be used together, and must be comfortable and well made; third, they must fit the family purse and answer the needs of the family.

Starting with the floor coverings, a general rule is that they should be several shades darker than the walls and should be in plain colors or in a small, all-over design. If the walls are to be plain the all-over design is generally preferred. When walls have a great deal of design in their covering plain rugs should be used.

The backgrounds of the home are just as important as the floor coverings. Plain painted or tinted walls and wallpapers of a hazy, indistinct all over pattern make the best backgrounds. For rooms facing north the best colors are the yellows, ranging from a soft cream to a deep yellow, a little deeper than golden glow. Light grays, pale greens and deep putty color are all satisfactory colors to use in the room that has a south exposure.

Hangings are always thought of in close connection with the floor coverings and walls. The hangings should have the same relation to the walls as the walls have to the floors. If the walls have plain coverings, striped or figured hangings may be used; but in rooms where the wall coverings are figured the hangings should be plain colors, repeating the dominant color note in the walls, however.

Furniture does not have to be heavy and massive to be durable and comfortable. This is obvious when a Windsor chair and an overstuffed chair are compared. There is no intention to persuade the home-maker to refrain from buying comfortable upholstered furniture. There should be two or more comfortable chairs and a davenport, daybed or couch of some sort in every living room that is really a living room. The intention is rather to suggest the buying of pieces that have been designed for a small home.

It is easy to make mistakes in not observing a proper proportion between the furniture and the objects used on or near them. Examples of this are seen constantly in the small table with the extremely large reading lamp, the console table underneath a very large and elaborate mirror, the electric fixtures that were designed for a pretentious mansion and somehow found themselves in a bungalow.

Limiting the pictures, everything that is not essential, gives an appearance of space.

The Small Garden and Its Development

THE limitations for development of the small city lot can be largely overcome by careful planning, and wherever possible it is well to seek good advice in this matter before proceeding.

(Continued on page 46)

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Alphabetical Index of Display Advertisers

Art Electric	43	Mickle Dymont Lumber Co.	5
Bennett & Wright Co. Ltd.	30	Milton Pressed Brick Co. Ltd.	22
Britnell & Co. Ltd.	30	Molesworth, West & Secord	38
Canadian Pozzolano Co.	43	Mueller Limited	2
Cole Co., The Grant E.	43	Myers Lumber Co. Ltd.	6
Consumers Gas Co.	47	Newman, G. A.	43
Disher Steel Construction Co., Ltd.	38	Oakley & Son Ltd., Geo.	29
Duggan, Gibson & Smith	38	Ontario Agency Co., Ltd.	38
Dunham Co., Ltd., C. A.	3	Ontario Gypsum Co. Ltd.	2
Electrical Contractors	37	Ontario Lime Co. Ltd.	48
General Products Ltd.	43	Pannill Door Co. Ltd.	5
Granite Concrete Block Co., Ltd. .	43	Reid & Co., Lumber Ltd.	30
Hill, A. G.	43	Richards-Wilcox Can. Co. Ltd.	22
Holman Bros.	43	Robertson Co., Ltd., The Jas.	3
Homes-Not-Houses, Ltd.	29	Rogers Supply Co.	30
Interlocking Tile Co. Ltd.	6	Roxborough-Dean Ltd	43
Johnson & Son Ltd., S. C.	23	Rumley & Thompson	30
Kay, Edwin	43	Ryan & Co.	23
Kent Ockley Ltd.	33	Seaman Eaton Flooring Co., Ltd. .	43
Lefroy Engineering Co., The H. C.	38	Simpson Co., Ltd., Robt.	26
Lord, W. A.	43	Steen, Arthur H.	43
Luxfer Prism Co., Ltd.	6	Sturgeons Ltd.	43
McDonald & Willson Lighting Studios	46	Toronto Brick Co. Ltd.	48
Ltd.	46	Toronto Furnace Co. Ltd.	5
McFarlane Manufacturing Co. Ltd. .	29	Toronto Hydro Electric System	21
Martin & Co., W. H.	23	Toronto Plate Glass Imp'g Co., Ltd.	4
Massey & Co., Ltd., A. L.	34	Trelford Paint & Varnish Co., Ltd.	30

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Practical Information on Planning, Building and Financing

(Continued from page 42)

The accompanying plan shows a house placed lengthwise on a lot 50 ft. x 150 ft. instead of across. This lends expanse to the lot, and is an advantage when the time comes to develop the garden.

When the cellar excavations are taken out see that the good top soil is not covered by the sub-soil excavations. This is a general fault, and invariably leads to trouble and expense, either in removing the sub-soil, or necessitating the purchase of good earth for growing purposes.

If any grading is to be carried out remove all top soil from the area to be

graded to a convenient spot on the property where it will not be disturbed. Then when building operations are completed grade the sub-soil to the finished grade, and lastly, replace the top soil. In this way no good earth is wasted.

Planning Borders.

In the arrangement of ornamental borders of perennial flowers or shrubs and evergreens it is advisable to develop as far as possible the boundary plantations and to avoid cutting up the lawn either by beds or individual shrubs dotted about. Borders should not be less than six feet wide.

Where possible avoid hard, straight lines. Soft, graceful curves lend greater interest. In arranging plantations it is better to plant fewer varieties in groups of three or four of a variety than to have a general assortment of all varieties procurable.

The massed effect is always more attractive, especially when arranged as to colour and period of bloom. Avoid strong, rampant varieties in a limited area, conserving space for growing the choicer varieties. Do not mix evergreens, shrubs and perennials. Keep them in separate borders.

The preparation for borders is of equal importance to that for lawns. A heavy dressing of well-rotted manure, deeply dug into the ground, is of great benefit and will repay the initial expenditure many times over in the success of the border.

Even "natural" gifts need to be diligently cultivated.

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To reach the heights keep your feet on the ground and your eyes on the stars.



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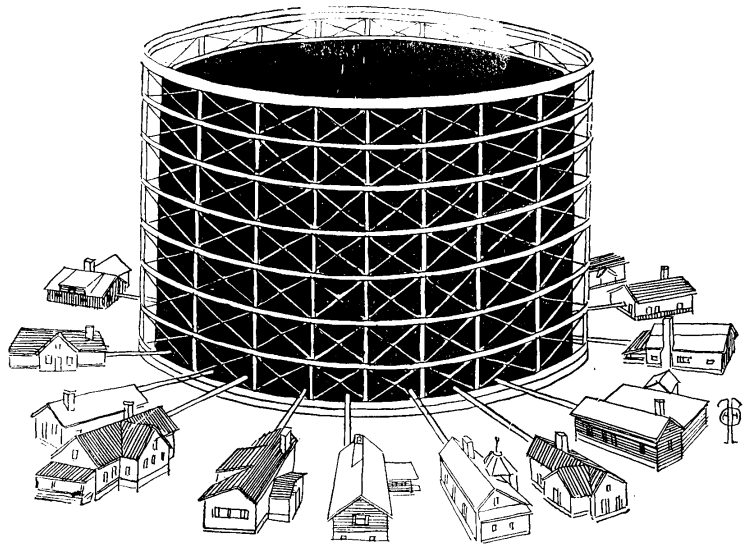
You might hear something
like the following:

“Send your boy round with
ten pounds of your best
gas. Be sure the bags
don't leak.”

“I'd like about 300 words
of snappy conversation.
How much is it to-day?”

“Quote me a price on a bolt
of that electricity you have
on sale today.”

Of course public utility
service is not measured or
sold that way. Gas ser-
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able on tap, regardless of
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more than just “goods.”
It is goods plus SERVICE.



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with gas.

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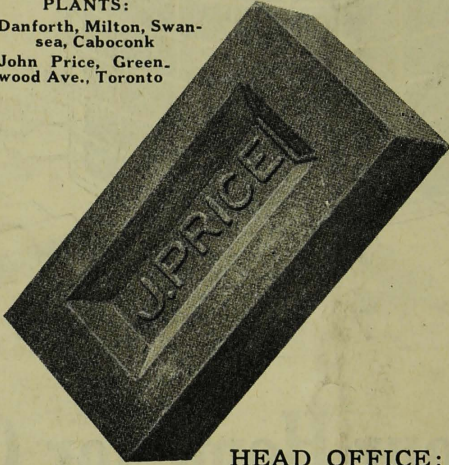
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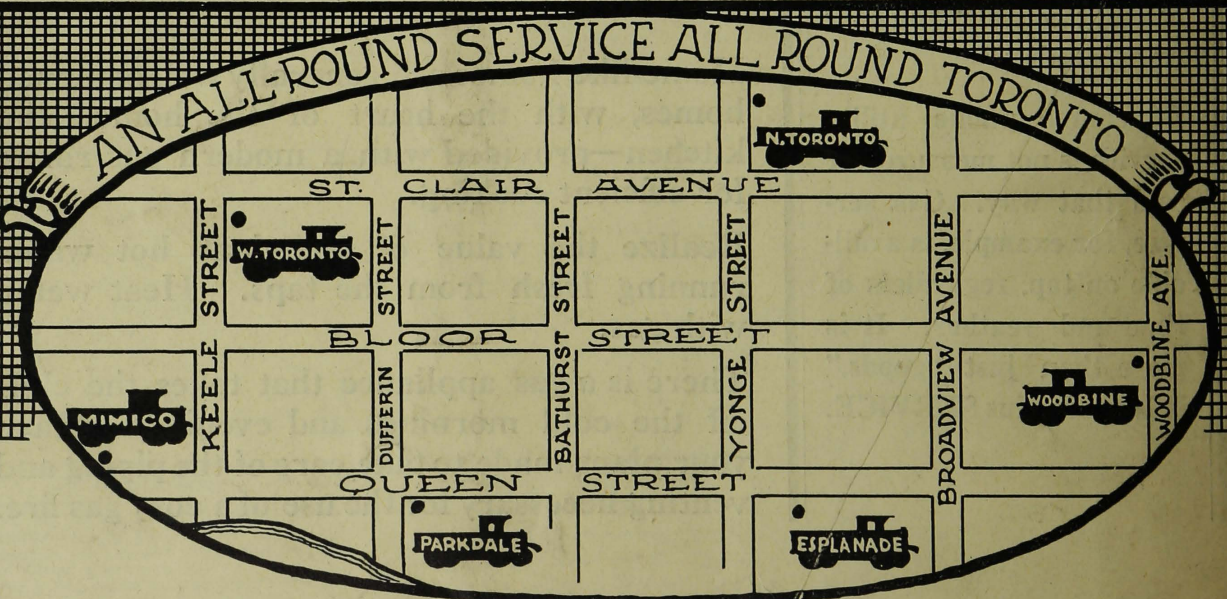
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