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AN INVITATION TO YOU

The AMERICAN BUILDER cordially invites and urges you to enjoy the privileges and benefits of its Correspondence Department. Any phase of any building question may be profitably and instructively discussed in this department. If your problem is a knotty or technical one submit it to the Correspondence Department and secure the benefits of the opinions of other experienced builders. It's a "give" as well as a "take" department and you are asked to relate your achievements and tell how you have conquered difficulties as well as to ask for information and advice. Rough drawings are desired, for they make clear involved points. We will gladly work over the rough drawings to meet publication requirements. The Correspondence Department is your department. Use it freely and frequently.

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FRIENDLY CHATS *with the* EDITOR



Builders Build Prosperity

THERE is nothing surer than that we, the United States, are prosperous. There is also nothing surer than that the greatly accelerated building of this year and the latter part of last has formed the foundation upon which our prosperity rests.

To trace it through all its ramifications would be a task for the economist and the statistician, and would only prove the truth of the premise, which is, until the general resumption of building, business in these United States was in a bad way.

When building slumps, business slumps.

If we proceed at our present pace we are doing no more than what is *normally* required of us. A prosperous condition is a normal condition. Under modern impositions of living any progressive nation ought to be prosperous; the reverse indicates something wrong.

Here in America we shall be busy for at least ten years trying to catch up on delayed building due to the war; and for ten years after that we shall be trying to keep step with the vigorous growth of a nation which ever demands increased housing accommodations for itself and all its projects.

Twenty years is far enough ahead for anyone to look,—unless he wishes to hang out his shingle as a licensed prophet. Upon the building industry in America rests America's prosperity these next twenty years.



"Am I My Brother's Keeper?"

OUT in the neighborhood where the writer of this takes his train to work a group of small store buildings is being rushed to completion. They are one story high and are built smash up against an apartment building of the court type which until now has attracted a high class of tenants.

The result is that a profitable investment suffers a forced deterioration, and a few more shopkeepers will arise to swell the already over-crowded shop ranks in that neighborhood.

Zoning is necessary to check this kind of depredation. We don't seem to have advanced far beyond the days of Cain. We question whether we are our brother's keeper. The sad part of it all is that we work harder and are put to more expense and trouble trying to keep out of being our brother's keeper than if

we shouldered his whole burden wholeheartedly.

The crowning grievance we have against the man putting up these shops is that on the wall-return that leads around to the wall on the apartment building side he did not carry around the yellow face brick used for the front, but substituted common brick, thus saving a matter of \$13.99 or so, for the space was small. Small as it is, he made it an extra eyesore to the tenants of the apartment—whose building, by the way, is in dark maroon brick, thus making a greater contrast.

"Am I my brother's keeper?" demands just pure neighborliness, that's all. We might even give a person permission to insult us if he asks us politely. It is the unanswerable argument of so-called "barbarian" nations whom we try to convert that we, the self-styled "superior" Christian white race, still need lawyers and regulations and police. ✦

Forcing a Market for Toast

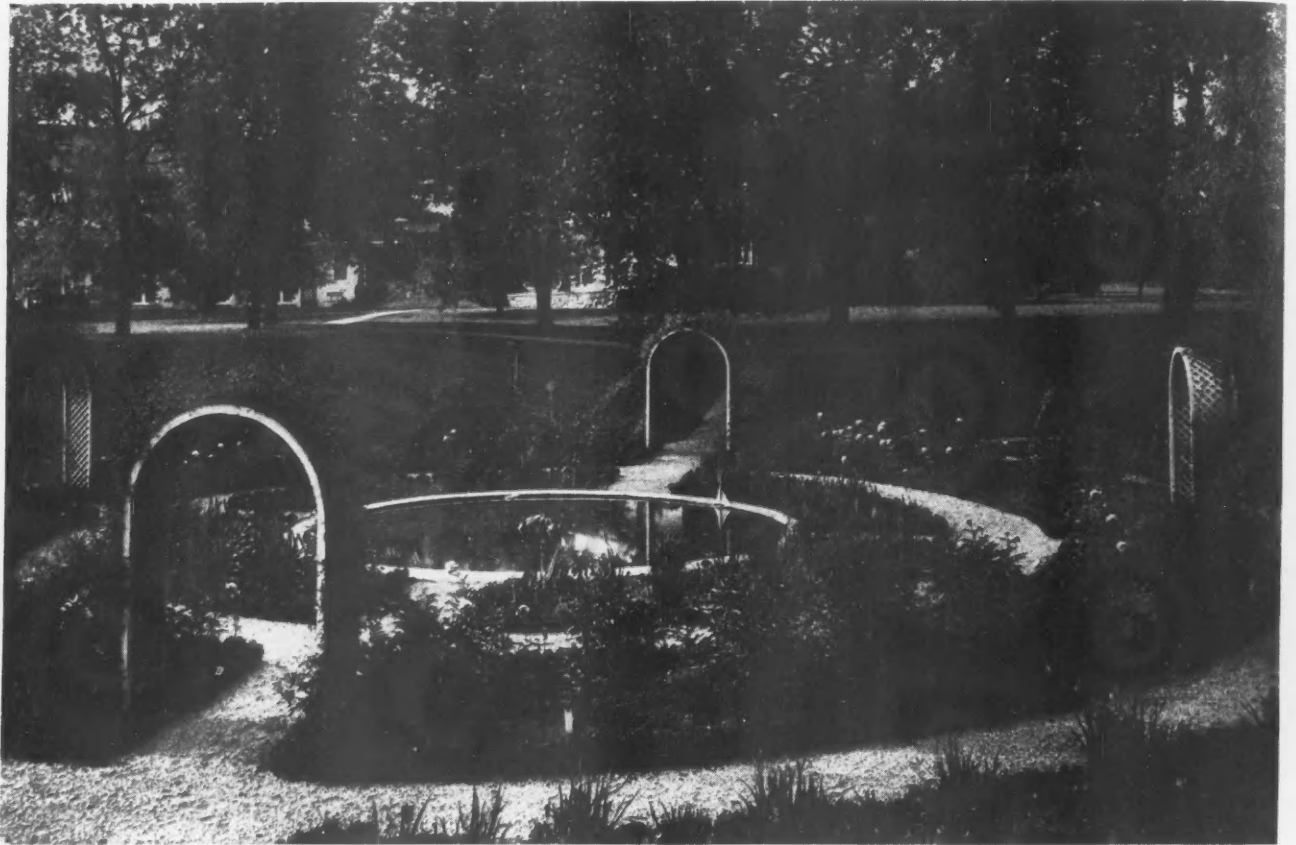
NOW comes the American Bakers' Association with a "Toast for Breakfast" campaign. Everybody is to be encouraged to eat more toast. More toast means more bread; a bigger market for the farmer's wheat; appetizing breakfasts; healthy stomachs.

Only our manufacturers of electric toasters are apt to be swamped with orders. For where, if not from American homes, from American kitchens, is to come this demand for toast?

The only real way to make toast is the electric way.

The only real way to insure having it is by the exercise of foresight. Every American home should be wired for electricity without delay. Otherwise, when our bakers electrify us with their campaign, there is apt to be a slip between the cup and the lip, between the toast and the wherewithal to make it.

It all goes back to a very real and fundamental fact, and one upon which the AMERICAN BUILDER soundly bases its policy. The existence of the American home is the one thing which makes possible participation in these very appealing campaigns. The American home structure is the foundation of not only our private, but our business life. Associations of bakers and electrical contractors, manufacturers of food and the means of preparing it—all these profit because the AMERICAN BUILDER sponsors the Blue Ribbon Home with its up-to-date kitchen.



Lattices Have Been Used to Excellent Advantage Here. They give character to this rose garden with its pool. By the way, this is an effective way of landscaping that vacant lot in your neighborhood.

The Lure of Lattices

A Lattice Is a Simple Affair, But Because It Is Such a Big Element in Garden Decoration Its Design and Construction Repay Study

By JOHN ARTHUR COURT

UNQUESTIONABLY the vogue of the lattice arose with the use made of it in the glorious gardens of the Villa Trianon at Versailles. Its first purpose was to give a small replica of a vine and flower embowered villa. From that it gravitated naturally into general appreciation for what it was: a graceful support for vines and flowers; a decorative adjunct of the garden, with its white, and often green, structure fitting well with the lightness and grace of the growing things to which it lent its support. With us of these later days it has come into usefulness more by reason of its hiding quality; we use it to hide unpleasant lot endings opening on alleyways and against jutting, surrounding buildings; to screen the garbage can; to separate other yard structures from the main portion of the yard occupied by the house.

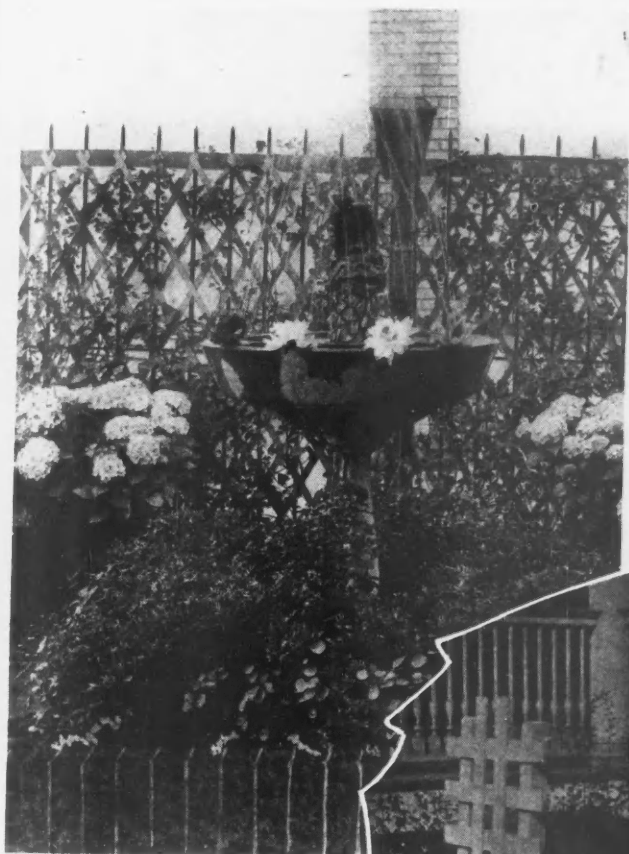
A Lattice Repays Serious Thought

Do not think that because a lattice is structurally simple it can be dismissed as a mere assemblage of light pieces of wood, assembled in formal fashion, and painted with the left-over paint at hand. Study

the location of it carefully, and plan the lattice structure accordingly. If it is at the end of a lot, and there are to be flowers in a garden there, make it high enough to discourage the milkman's horse from leaning over and biting the tops off the golden glow and the cosmos and the hollyocks. If it is to be used as a lattice in combination with overhead trellis, as a merely decorative setting leading to a garden, make it substantial enough to withstand the overhead weight of vines, or the drawing proclivities which these same growing vines exert from the sides, and which in time crush a lightly built supporting structure.

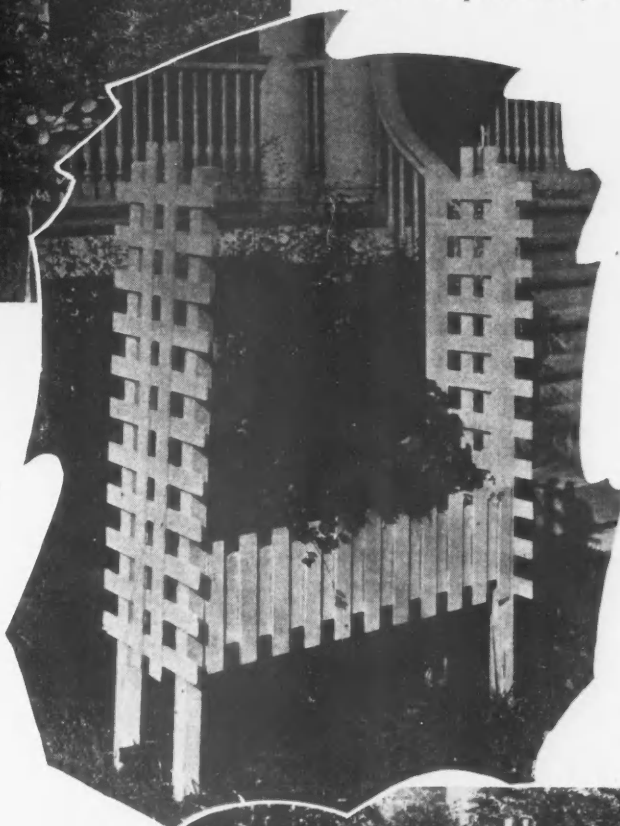
Patterns Lend Variety

There are a number of simple but effective patterns possible through a varied grouping of the material used, or through the use of contrasting colors of paint. This proper use of coloring determines, also, whether the lattice gives depth to the yard or has the effect of actually making it seem less deep. A lattice against a garage at the rear of a lot should not rise to the full roof height of the garage; a much better effect is gained, as to appearance and artificial distance, by



Above, the Lattice Forms a Decorative Wall, Hiding an Unprepossessing View, and Backgrounds the Vines, Hydrangeas and Electric Fountain.

At the Right, the Lattice Arrangement Is a Very Decorative Adjunct to the Flower Box.



designing it to come about two-thirds of the height of the garage. By arranging the yard in rising levels, each with a detail of lattice arrangement, an illusion of distance is created far out of proportion to the actual depth of a lot. In this case also the lattice ornamentation must not come too high, although the last lattice wall at the rear of the lot can be as high as requirements justify.

Lattices as Fences

One outgrowth of the use of the lattice has been the improvement in fences. There is no reason why the fence should not perform a decorative as well as a useful function, but it is only when lattices come into use in the garden that the ordinary style of fence seems hopelessly out of place. Our Colonial builders understood this

requirement of fences; they designed them carefully, to accentuate the general design of the house, and be, in addition, structurally durable and useful over a long period of time. There is no reason why the same should not apply to the lattice when used as a yard-dividing fence; it improves the appearance of one's property immensely.

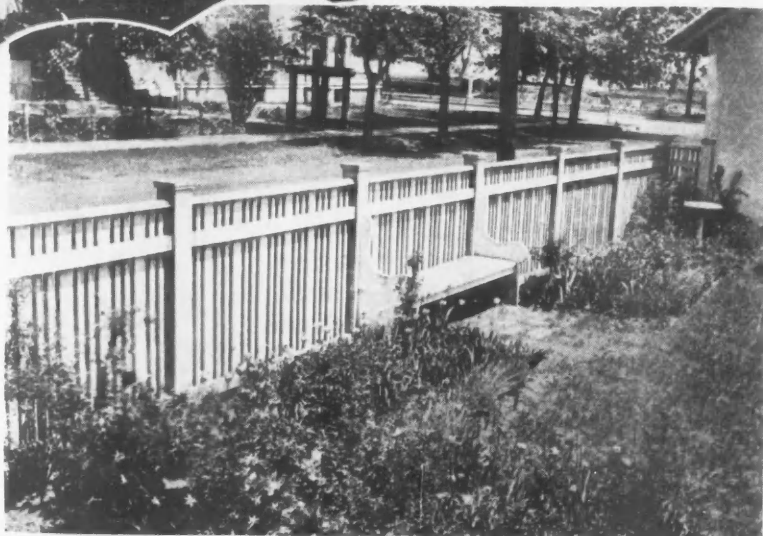
Other uses of the lattice offer decorative possibilities inherent with its use against a house's stucco wall; as a screening, yet decorative, adjunct of the home porch. Again, it can be used with advantage in connection with window boxes, and for small flower boxes placed here and there to add touches of color to the home yard.

One is not limited in the choice of woods when constructing a lattice; any wood will do, and finished lumber is preferable, since it is more easily painted and weathers well.



Providence, R. I., Considers Zoning

ROBERT WHITTEN, City Planning and Zoning Consultant of Cleveland, Ohio, has finished outlining a tentative zone plan for Providence, R. I. The purpose of his report, which has just been presented to the Joint Standing Committee on Ordinances, is to explain zoning in general and the tentative zoning plan for Providence in particular. Citizens of Providence have therefore an opportunity of calling at the zoning office in the City Hall, and examining the draft of the zoning ordinance and the maps, with the assurance that all suggestions for changes in the text of the ordinance in the districts proposed will receive careful consideration.



After All, Why Should a Fence Be Plain? Started as a lattice, this became a fence—worthwhile, with its built-in settle.



The Recreational Building of the Kingsessing Playground, Philadelphia, Philip H. Johnson, Architect. It has two stories and a basement with body of brick and cornices of terra cotta. Base is of granite as are also the copings.

Municipal Recreation Centers

Growth of Modern Recreational Facilities in Cities Exemplified by Kingsessing Recreation Center, Philadelphia

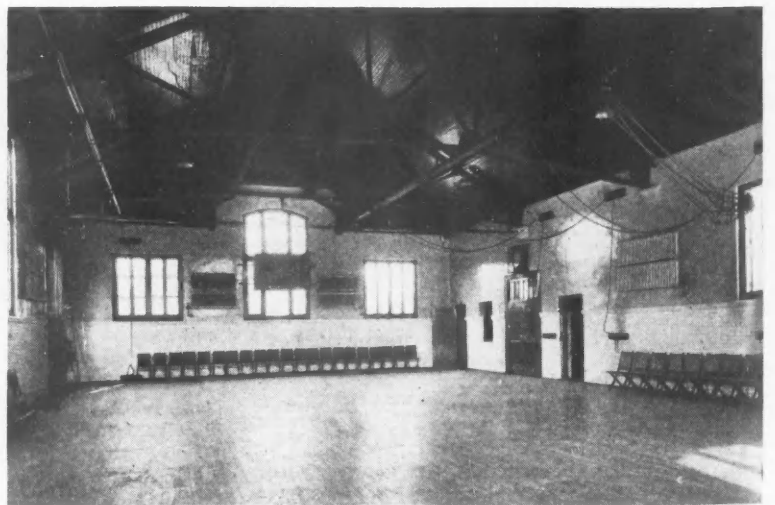
By JOHN F. McCLARREN

SOME very spacious and attractively designed buildings have been constructed in Philadelphia for exclusively recreational purposes. In fact, buildings of this character, developed in this city within a comparatively recent period, have been such as to draw favorable comment from those who are interested in recreation work and buildings of the kind. At the same time the designing of the buildings has been on such a scale as to cause more or less surprise that such elaborately designed structures could be so well developed and laid out in connection with recreation work. The buildings which have been constructed are all located at playgrounds and while in most instances are devoted to the use of boys and girls, there are a few instances where the buildings have been designed and equipped so as to make them available for recreational purposes such as would be interesting to adults. No expense has been spared in planning the buildings and as they stand today they represent millions of money. Virtually all of the buildings were designed by Philip H. Johnson, an architect employed by the city.

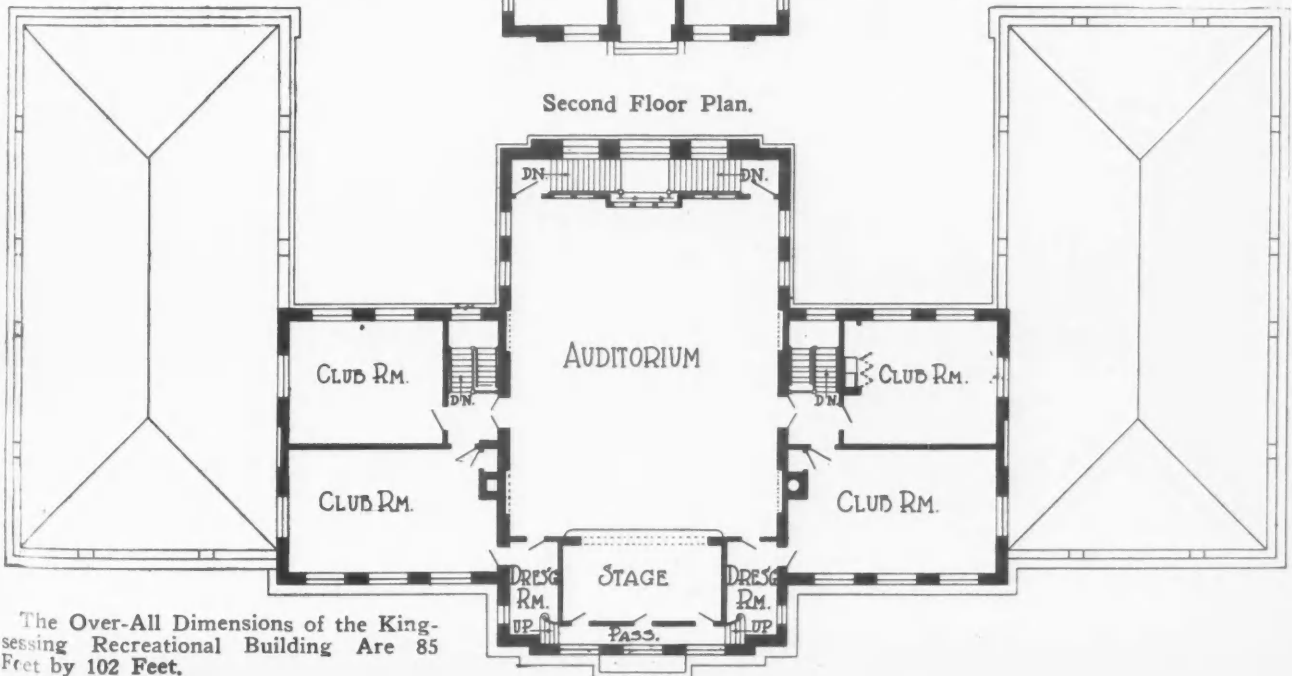
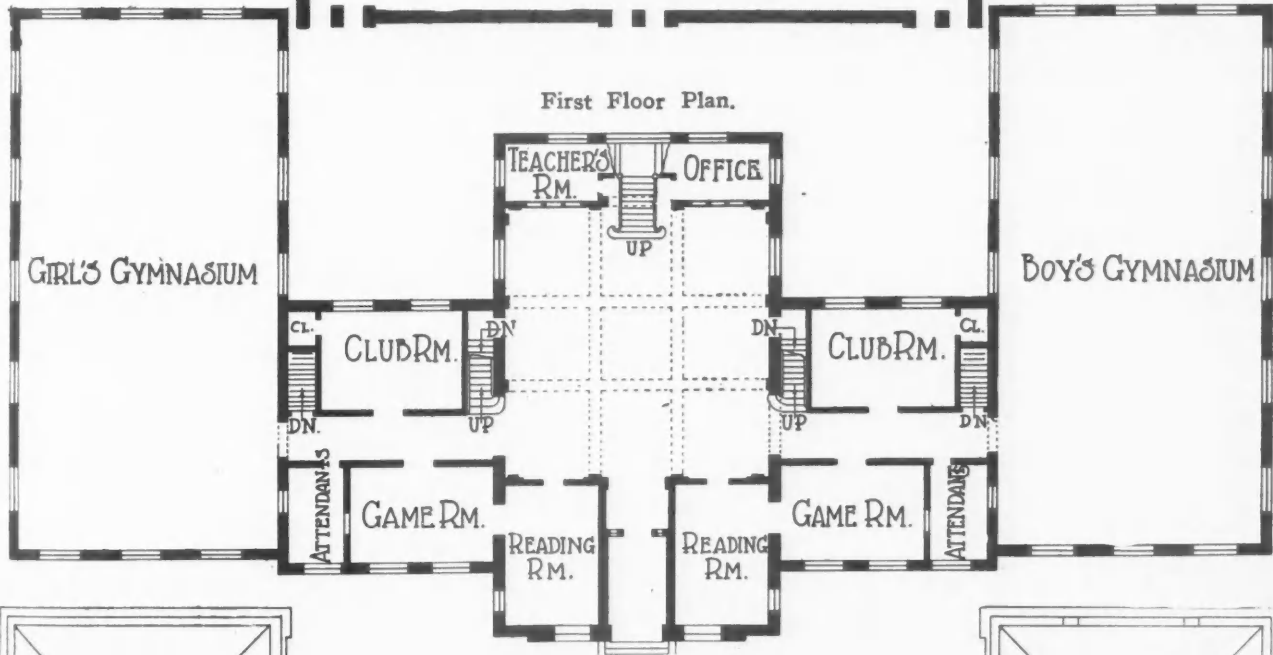
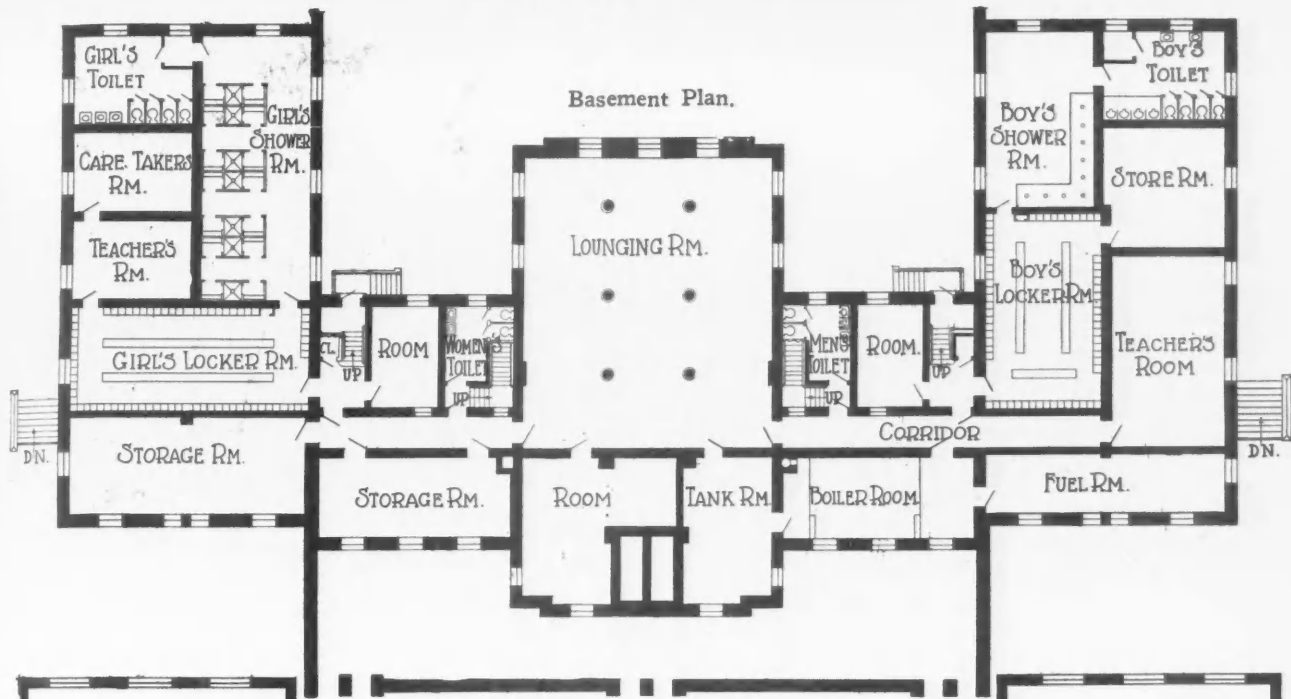
Of all the recreational buildings, probably the most beautiful and the most elaborate is one which is located in what is known as the Kingsessing Playground. A view of this building from one angle calls to mind pictures of ancient structures and in working out his design, it is apparent that the architect had such places in mind. The building at this center covers a large area and while it is considered only as one structure, it really represents a combination of three buildings. Those who have seen

this building and are familiar with similar structures consider the architectural design as exceptionally attractive and the general plan of the building very good. While it has the appearance of being a higher building, it is only two stories in height. Its body is of Sayre-Fisher brick with cornices of terra cotta. The front base is of Holmesburg granite and the copings are of similar granite. Like the cornices, the trimmings throughout are terra cotta. The roof is of slate. The interior woodwork is in oak.

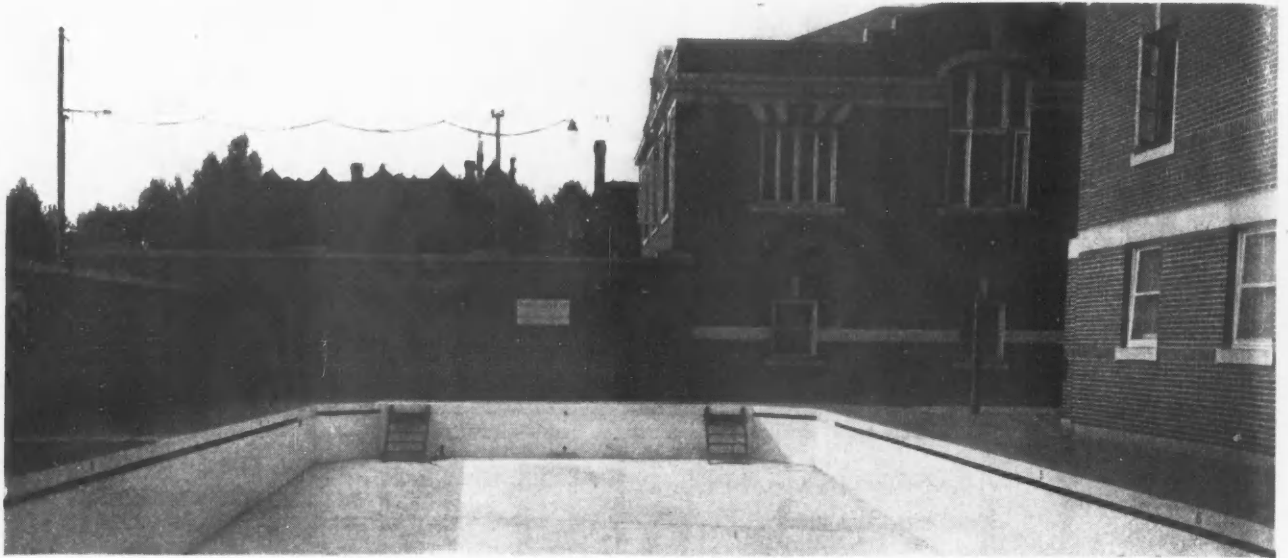
The design in the hallway of the main entrance is thought by many to be especially attractive. The doorway development which is in plaster and oak is considered very good. A similar scheme of development prevails in the hallway from which leads the stairway from the first to the second floor. In the gymnasium



The Gymnasium of the Kingsessing Recreational Center Is Fitted with Equipment to Help Keep the Bodies of Young and Old in Trim.



The Over-All Dimensions of the King-sessing Recreational Building Are 85 Feet by 102 Feet.



The Swimming Pool Is Easily the Most Popular Spot, and Is Graduated as to Levels to Make It Comfortable for the Swimmer or the Mere Bather.

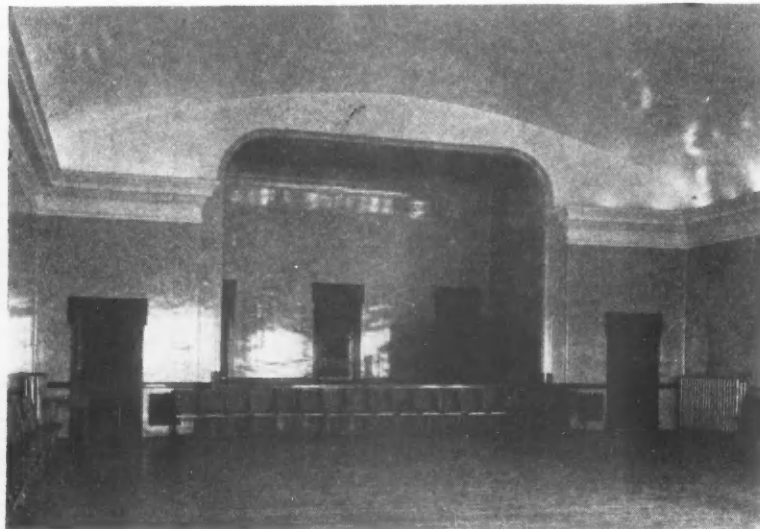
the walls are of plaster and white enameled brick. The steel structure supporting the roof, this structure being without columns, is considered a feature of this room. The swimming pool located on the street side of the building is equipped with every modern appliance. In fact, the entire equipment throughout all of the building is the very last word as to equipment of the kind.

Another of the buildings which is considered not nearly so large as the structure at the Kingsessing Recreation Center is located at what is known as Sherwood Playground. The facade of this building, developed so as to include attractive columns at the main entrance, is considered very pretty. This building is two stories high. It is constructed of Sayre-Fisher brick. The cornices are in metal and throughout the trimmings are of limestone. The roof is of slate.

The building of the same height and of very similar exterior design and construction is located at the Waterview Playground in a fashionable section of the city known as Germantown. The interior of this build-

ing is somewhat different from that of the other buildings. The scheme of development in the lobby is considered by many to be very good and shows a double stairway extending from a smaller stairway which is suggestive of the Colonial type. The columns are of steel covered with oak, the woodwork throughout the interior being of this wood. The panel effect in the ceiling places the ornamental woodwork at a good advantage. The gymnasium of this building is slightly different from the gymnasium in the Kingsessing building. The swimming pool is one of the features of this recreation center. It is immediately outside of the shingle covered locker rooms which are modernly equipped, one for males and the other for females. A distinctive feature of the playground is a wading pool, oval in shape, especially adapted for the little tots.

Those playgrounds which are not equipped with recreational buildings are fitted out with some very neatly constructed shelters and swimming pools. The swimming pool at the McCoach Playground is slightly different in design and equipment from the Waterview Playground. Types of the shelters are at the Smith, Tip-Top and Francisville Playgrounds. They are constructed largely of wood with a slate or tile roof.



The Auditorium Is Generously Proportioned and Will Be a Gathering Place for Neighbors, in Meetings, and for Plays, Drills and Pageants.

WHEN you develop a nice little space-saving feature in some home or building you are erecting, or put into effect some idea you have developed for the comfort of its future occupants, why be overly modest? Tell your local newspaper about it; mention the owner's name, the location, and your own connection with it briefly and supply a photograph or drawing of it if practicable. That sort of thing is news, and the newspaper will be glad to get it and give you full credit for it. Try it.

Colonial Residence of Distinction

Our Front Cover Home for July Makes the Most of a Prominent Location and Is Placed to Appear to Best Advantage at Whatever Angle Viewed

THE Colonial period continues to be a source of inspiration to American builders, and it is interesting to note how far variations upon the simple and dignified Colonial *motif* can go without creating the bizarre or the over-ornamented.

In our front cover home these variations have the merit of enriching the design, giving character to the house, and this is true regardless of the elevation viewed. Our second story is relieved of monotony by the roof line and the indenting dormers, and these are so well handled as to give the upstairs rooms all the spaciousness and ceiling room one could desire.

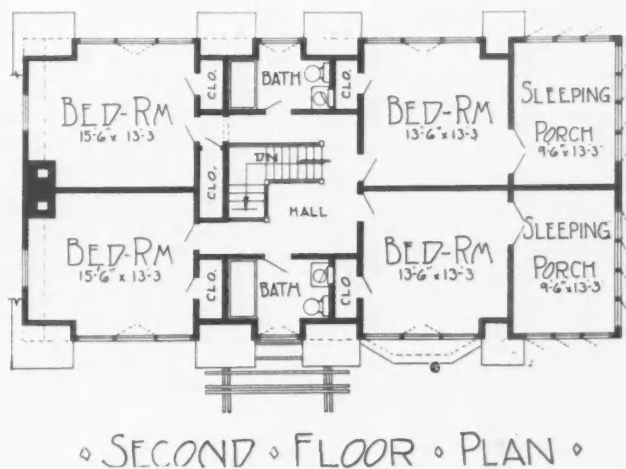
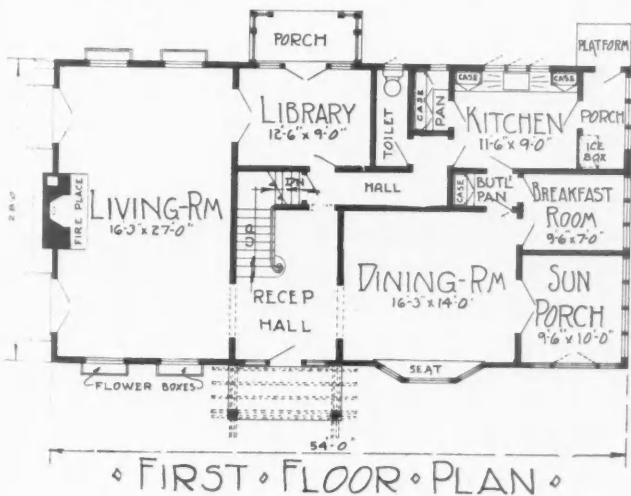
Exteriorly, the pure white stucco gives an impression of neatness and cleanliness which is very attractive. The pergola at the side, with growing vines trained thereon, seems to make more hospitable the handsome entrance. Leading into the reception hall we have a well-handled Colonial stairway in mahogany and white enamel and a door at the end gives a view of the library. On occasion, this room could serve as an auxiliary reception room for guests and offers a place for their wraps, etc. Double French doors separate it from the living room. This is amply proportioned and with a finely-ornamented fireplace and the French doors flanking it at either side holds many possibilities for the effective placing of furniture in a way calculated to add most to the comfort of the occupants.

Crossing the reception hall we are in the dining room, with a bay window seat which adds appreciably to the apparent size of the room, and offers every opportunity for the entrance of summer breezes. The sun porch adjoining will very likely be used as a miniature conservatory, adding to the pleasantness of the dining room. Aside from the breakfast room, a feature in-

creasingly popular in the better kind of homes, the service one would expect of the kitchen and its adjoining butler's pantry is of the best and most up-to-date kind imaginable. The sink in the kitchen is placed directly before the windows, with cabinet space on each side. The pantry is but a step away, as is also the rear porch, with its ice box so placed as to prevent ice deliveries soiling the kitchen. In line with the latest ideas, the kitchen is small and compact, saving space for other rooms. There is a downstairs lavatory, a very great convenience.

Upstairs we have four nicely proportioned bedrooms, and each two bedrooms is served by a bathroom. There are two sleeping porches serving the two rear bedrooms, and in milder climates the wall partition might be eliminated between these, thus making for greater spaciousness. Each bedroom has a very commodious clothes closet.

One might logically expect a Colonial simplicity of decoration to be characteristic of this home interior. Rightly handled, it will carry out the idea of the design; wrongly handled, the good outside impression gained may be lost as soon as the critical visitor enters. One will look for stained or varnished doors, for instance, and white enameled trim. In the hall one might expect a replica of some of the old-fashioned scenic wall papers, with a low enameled dado. The coverings for the other walls, regardless of whether paint, kalsomine or paper is preferred, should reflect a taste for the milder, more neutral tints. In this way a better background is gained for the furniture. This latter can be of any good period, fortunately; any kind of good furniture appears to advantage in a Colonial interior.



Arrangement of Our Front Cover Home. In the first floor plan observe how the kitchen has been made very compact. This saves steps and makes more room for other rooms where the saving of steps is not such an item. Study the well-arranged second floor plan. The whole arrangement of this home makes excellent use of the area employed, 28 feet by 54 feet.

Garages for the Better Home

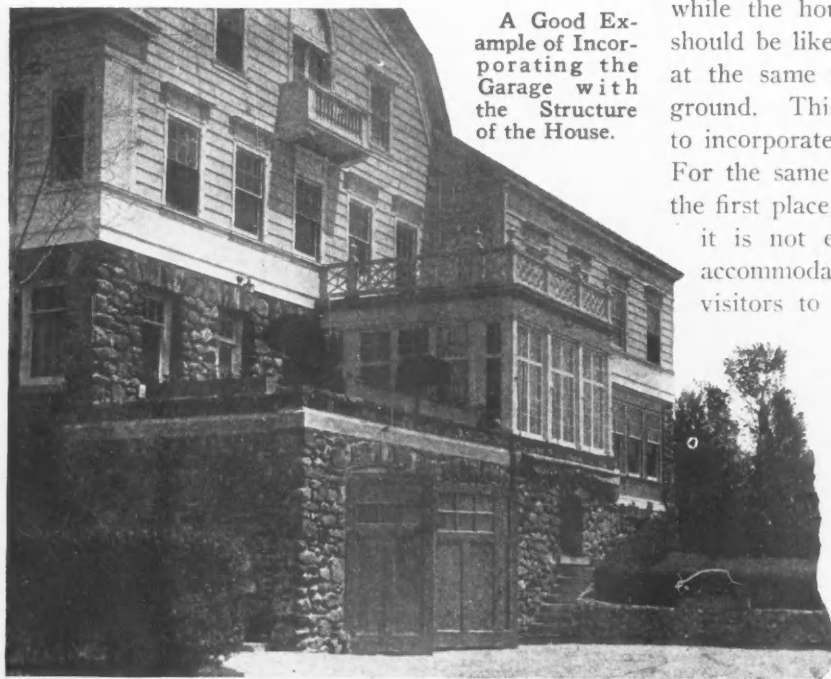
By ESTELLE H. RIES

WITH quantity production of motor cars and their consequent availability to the masses, nearly everybody sooner or later is confronted with the question of housing a motor car.

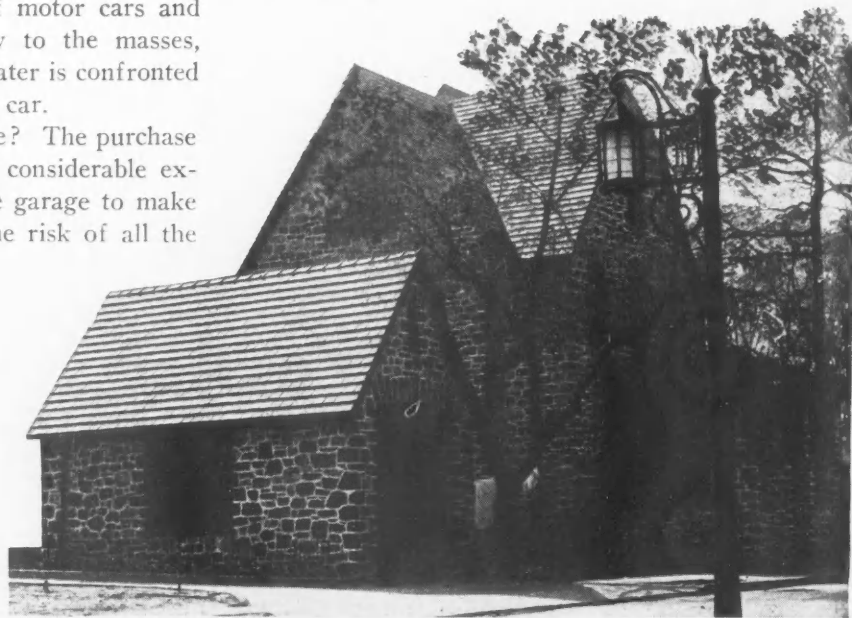
What does it mean to have a garage? The purchase of a car, even a little one, involves considerable expense. Shall we economize upon the garage to make up for the cost of the car, taking the risk of all the accidents, discomforts and inconveniences that are constantly happening, or shall we realize that our investment represents something really to be protected and that the upkeep of the car is directly proportional to the adequacy of its housing.

A cold, draughty garage may not only affect the personal health of its owner (which, as a husky, hardy person, you may be indifferent to) but it may mean a frozen radiator or gummed up pistons, or considerable strain on the battery that has to start the half-frozen car. These things mean more bills, and if this situation is permitted to continue, it is apparent that the upkeep of the machine will soon outreach the budget intended for it.

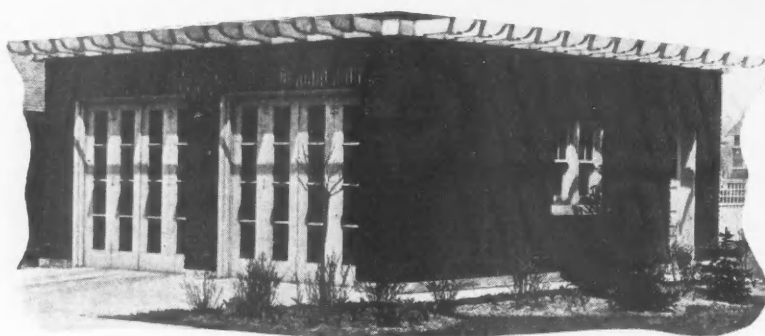
The present cost of fuel is another factor that makes it desirable to keep the garage warm in winter. Cracks



A Good Example of Incorporating the Garage with the Structure of the House.



The Integral Garage Complements the House and Should Use the Same Material, and Carry Out the General Design.



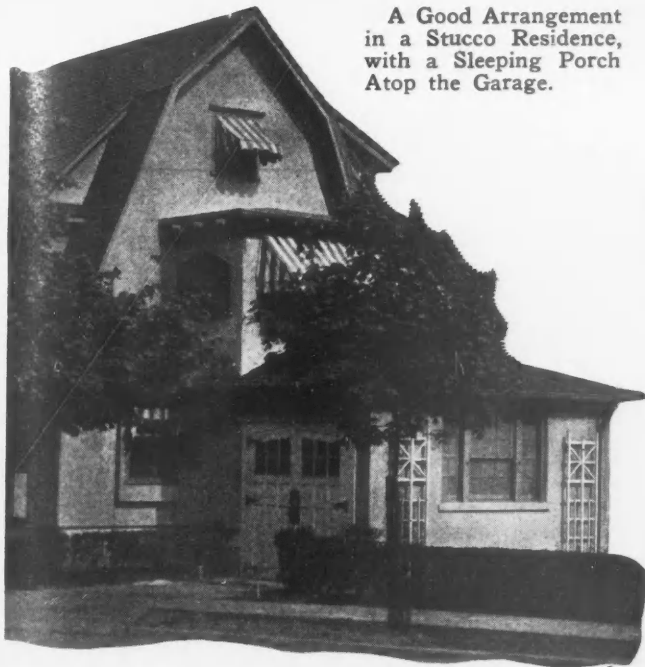
At the Left Is Shown a Two-Car Brick Garage with a Welcome Variation in the Pergola Effect at the Cornice Line.

around the doors and windows are wicked, and weather stripping will materially assist in maintaining the proper warmth.

A garage will cost least to build if it is constructed while the house is going up. The material, which should be like that of the house, may then be bought at the same time, and the labor is already on the ground. This is particularly true if it is intended to incorporate the garage as part of the house itself. For the same reason, when one builds the garage in the first place, even if you yourself have but one car, it is not expensive to make it large enough to accommodate one or perhaps two more for your visitors to "park" in. The height of a garage is usually figured at 10 feet, the height of doors, 9 feet, the length, 20 feet, and width about 12 feet per car.

An automobile is a fire hazard. There is naturally a large amount of combustible matter within the garage, and where the building itself is inflammable there is constant danger. The car may be destroyed, and irreplaceable damage to people and to property may result. The peace of

A Good Arrangement in a Stucco Residence, with a Sleeping Porch Atop the Garage.



rain from entering. It is also a convenience to have the driveway so planned that continued backing is not necessary. This may be accomplished by a double roadway, one way in and the other way out, with entrance and exit doors both, for the garage.

The only artificial light that is safe for this quarter is electricity. It is a common error to place electric lighting, however, in the center of the ceiling, as this is just where it is practically useless. The lights should be located fairly low on the side walls so that one may readily see the mechanism of the car. The socket should be fitted with double outlets, one for the permanent light and the other for an extension which may be held under the car or moved to any point that one especially needs to see.

Daylight should be freely admitted. The windows should be wide and low, and the garage doors them-

mind due to a fire-resisting garage is undoubtedly worth all it costs.

Unless the garage is fire-resisting, it must stand well away from the house, the further the better. If it is constructed of concrete, hollow tile, stone or brick, there is no reason why it should not be as close

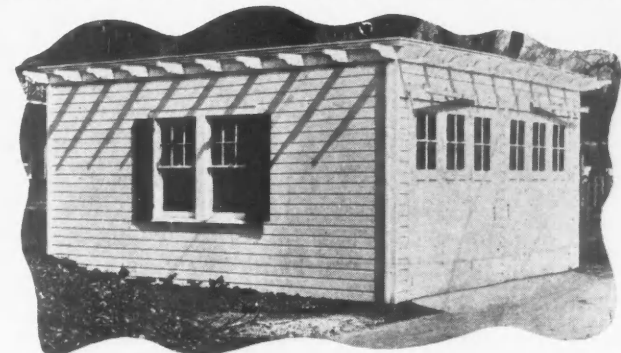
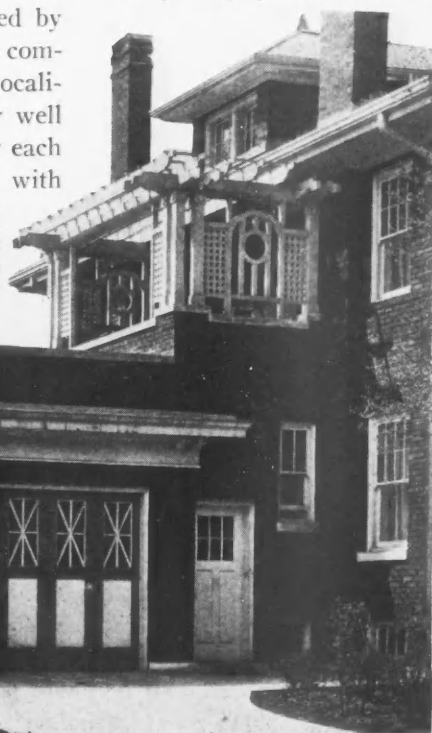


A Pleasing Design, Three-Car Capacity. Brick walls and tile roof make a very durable, substantial structure. This garage was built to match a residence.

selves may have windowpanes toward the top for further admission of light.

A concrete floor is not only very practical but is actually demanded by the fire insurance companies in some localities. There may well be a drain under each car connecting with

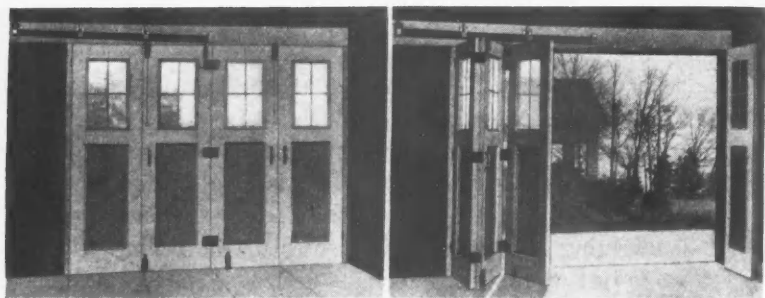
A Well-Handled Garage Treatment in Connection with a Two-Apartment Building.



If the House Is Frame, Why Not the Garage? It is practicable to have a fire-resistant material for the inner wall lining.

to the house as desired; it may, for that matter, form part of the house, thus simplifying the problem of keeping it warm in winter. It is convenient to have the garage an integral part of the house where the ground area is limited, or when the machine may be wanted quickly in emergency. Many doctors, policemen or other public officials would consider no other scheme. In these cases, the garage may be built beneath a porch, or into a terrace, or in other spaces as suggested by the illustrations. It may also be erected as a wing to the house, balanced on the other side by a similar wing that will serve as a porch.

The driveway should slope away from the garage to prevent



An Item of Prime Importance Is Proper Hardware. A door like this opening accordeon-like, saves clothes and temper in rainy weather.

the sewer, which will avoid dampness after the car has been washed. The floor may be further equipped by a pit under the car to facilitate repairs, and this pit should be covered by a heavy wire screen or floor-door when the car is out.

With reference to repairs, a work bench about five feet by two feet may be had completely equipped with every tool an amateur motorist requires. This should be placed near a window and within reach of the electric light.

Every garage should have a dependable fire extinguisher, and no sense of economy or any other motive should permit neglect of this very essential thing.

It is a safe rule to use the same material for the exterior treatment of the garage as that of the house, and to adapt as far as possible similar architecture. A "Colonial" garage may sound like an anachronism, but if the modern house may have Colonial feeling, it is entirely legitimate and desirable to support it with a Colonial garage. The garage is, after all, an evolution of the stable, and we have examples even in our large cities, of stables that were of beautiful proportions and much architectural dignity. Today many of them are used proudly as studios among the rich.

If the house is of a more elaborate style, the garage may reflect its character too, but like a reflection, it need not be so finely detailed as the original. The garage, it must be remembered, is always an accessory, and should not be more conspicuous or more dominating than the house of which it is an incident. It should simply be in the same spirit, to suggest accord. If the entrance door of the house be curved, let the garage door be curved. If the roof of the house be shingle or thatch or asphalt or anything else, let the garage roof be the same.

If the wood trim of the house be of a certain color, let the garage wood trim be the same. These are comparative trifles, and yet they are the telling things. If the exact material in each case are not obtainable, the color may be fixed by judicious use of paint. And by fixing color, there is not meant identity, for certain contrasts, inversions or complementary tones may be effectively employed. If the house is stone, do not build a brick garage unless there is some brick in the trim of the house. Let

interrelation of parts be always kept in mind. Especially if the garage is in the house itself must this architectural quality be considered.

To have a fire-resisting garage that will harmonize with a frame dwelling is quite possible by having the interior walls built on metal lath or in some other fire-resisting way, and have only the exterior of frame. This is done in cases where the garage is part of the house. With concrete floors, fire-resisting roof, and such other precau-

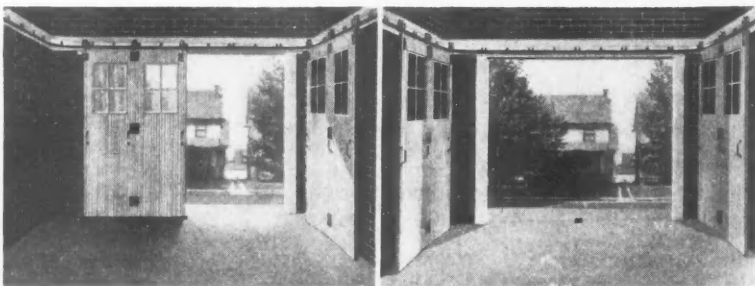
tions as the careful person will take, the danger is considerably lessened. Water connection is necessary in the garage, not only as a further safeguard against fire, but to clean up with after putting with the car.

Provision should be made for heating the garage. Usually it is close enough to the house to make it possible to run steam or hot water pipes from one to the other.

Considerable convenience attaches to the use of efficient hardware for the doors. It is generally believed that a swinging door opening out into the driveway is well adapted to garage purposes and is often chosen. It closes tight against the weather and may be readily held open by a garage door holder. This holder is really a mechanical footman that holds the door open when the car is taken in or out, and that keeps the doors from swinging at the wrong time, damaging fenders or headlights or causing other difficulties. The doors that open into the garage, folding like an accordion, or sliding in their own pockets, have other advantages.

Hinges of sturdy design should be had, that will reduce friction and wear, that resist dampness and that will support the large doors. Latches and bolts for securely fastening the garage against intruders are not expensive, and are really necessary in an age when the query, Am I my brother's keeper, is sometimes answered by acquiring and keeping all his property. It is possible to buy garage hardware in sets and this is how it should be bought. It insures getting the necessary quantities and styles of hinges, bolts, latches, handles and other parts, all of one design and properly selected to work harmoniously together.

If the garage is a little distance from the house, a private telephone connection will be greatly appreciated.



Garage Hardware May Be Purchased in Sets—the Preferable Way. This arrangement of doors sliding in their own pockets saves space and fender crashes.

Oak the Sturdy

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

By W. L. CLAFFEY

EDITOR'S NOTE: *This is the fourth of a series of articles on important finish and structural woods, now appearing in American Builder.*

"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 grew in various parts of the world, the leading American varieties are considered the high-

est type. Botanically speaking, there are perhaps close to one hundred varieties, but commercially, there are two,—white oak and red,—widespread 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 homelike quality, the natural wood but slightly polished, just enough to bring

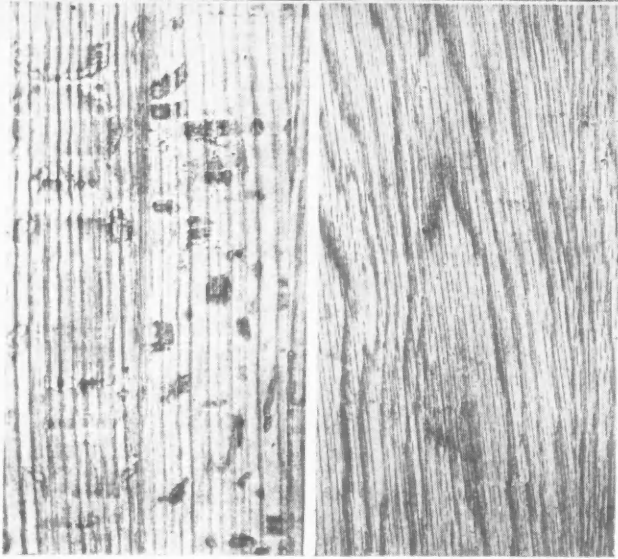
out the beautiful grain, that makes oak so well liked. Oak seems friendly, companionable, and however we may fancy other woods for occasional use, or for some special decorative effect, we always come back to oak as the satisfying wood.

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



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.



Quartered Oak.

Plain Oak.

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.

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. Well laid oak floors in the home should be regarded as an heirloom, and valued.

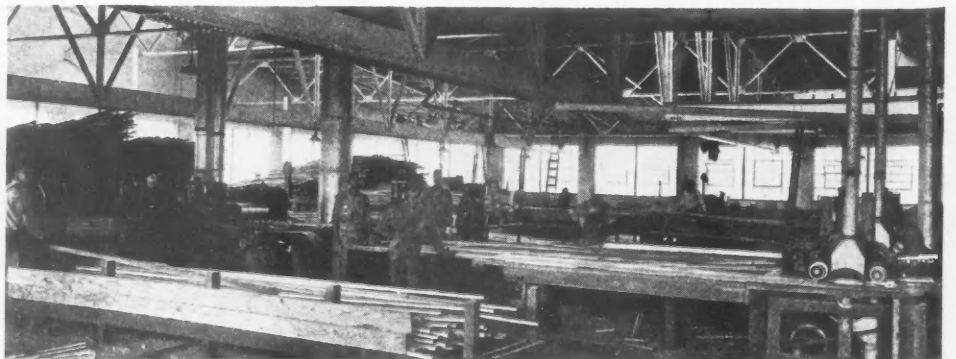
distinguishes oak from all other flooring material. No man-made composition can compare with the natural grain of oak and there is something about the very "feel" of oak that suggests comfort and ease. The choice of white or red oak, quartered or plain, is simply a matter of taste, and different rooms 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

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



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 Flooring in a Pleasing Variant, the "Herringbone" Pattern. No harder to lay than the usual way, and full of dignity and character.

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.

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-par-

lors, 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 made 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.

Architects and others who delve into the archives of the past for sources of inspiration know oak for what it has been. As men entrusted with the responsibilities of construction, both for permanence and to preserve valued traditions of good taste, they know oak for what it is today, and for what it will be. Oak is a wonderful, versatile, durable wood,—what more need or can be said?



HOME PLANNING TALKS

*By Our
Head Draftsman*



“We Are the Men Who Are Changing America’s Main Street”

SOMEONE has written a book about “Main Street,” and the Main Street you and I know has not gained anything by the notoriety. He wrote as a recorder, not as a constructive critic, which I believe an architect or builder should be.

Now Main Street is a very important place for you and me, for it is the place where we justify our existence. We have built it, we architects and builders, and because we have it is up to us to change it day by day. We can’t let it stand still. No American Main Street stands still; that is just the trouble. Wealth and the growth it comes from have been factors which have forced Main Street ahead at a delirious pace, and it was all we could do to breathlessly keep up.

But we are able to look Main Street over now a little more leisurely. Your Main Street and mine isn’t very much different; for a certain number of blocks it is business, and on both ends it straggles off into homes. Some day one house will succumb to the onward march of business, and then another.

Now, here is something to think about. Let us try and operate on Main Street by beginning on these ends. Let us plan the new business structures so they will be a little better than the old; no matter if the old were good, let these be better. And gradually we can begin to work a change in Main Street, for our old neighbors will be put on their mettle to have their older buildings as good as these upstart buildings that are dressing themselves up on either side.

No need to lack variety. Hotel, bank, postoffice, court house, grocery store, ice cream parlor, haberdashery or women’s furnishing store, restaurant, shoe store—there they are, take your pick. Improve one with a new front, and those new types of display win-

dows, and you’ll have to fight to keep the others from following suit.

As a general rule, Main Street presents a level enough roof line. But the buildings probably need to be restored back to structural uniformity for the same reason. Perhaps a group in one block can be done over to add to the better general effect, and in view of this betterment the consent of individual and differing owners may be necessary—but not impossible. Perhaps a good looking business corner is no profit producer because of the presence of a ramshackle building—too good to be torn down, but not good enough to be rented to a live merchant. Lots of room for ambition and imagination and up-to-date overhauling methods right there.

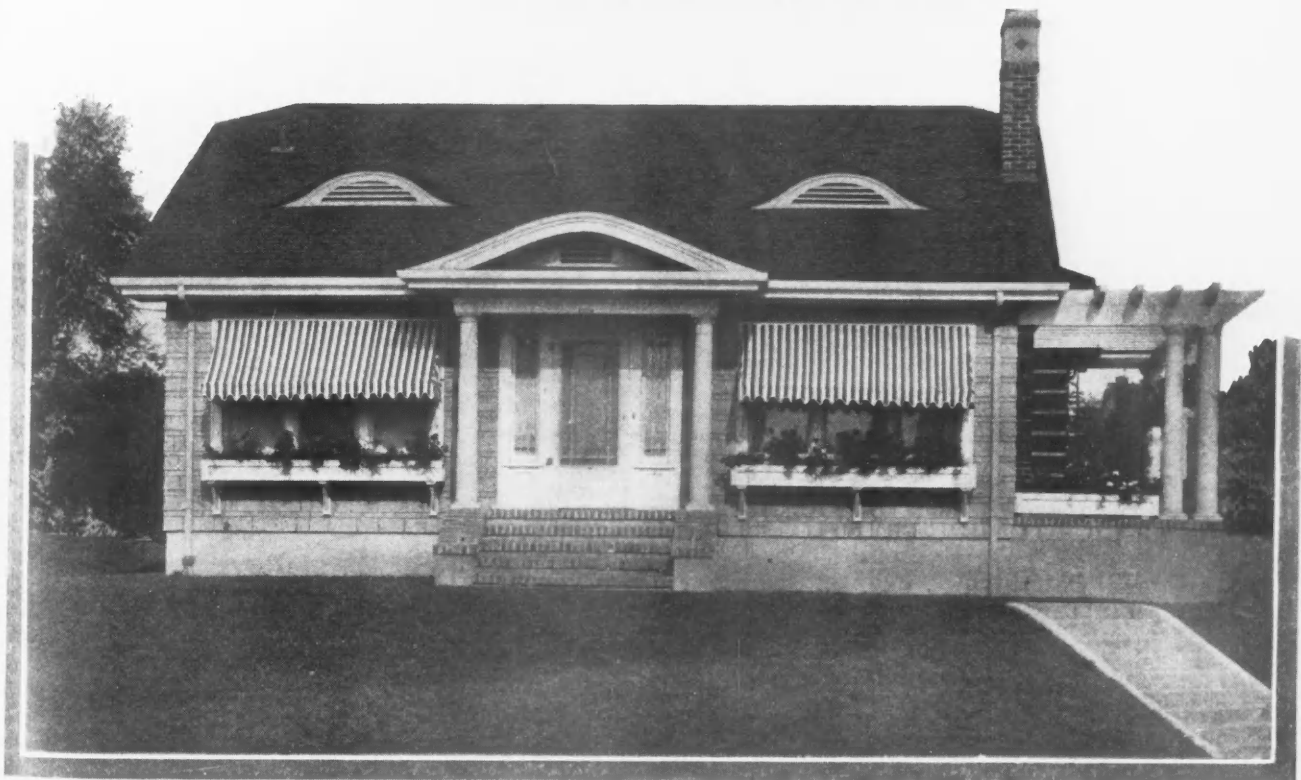
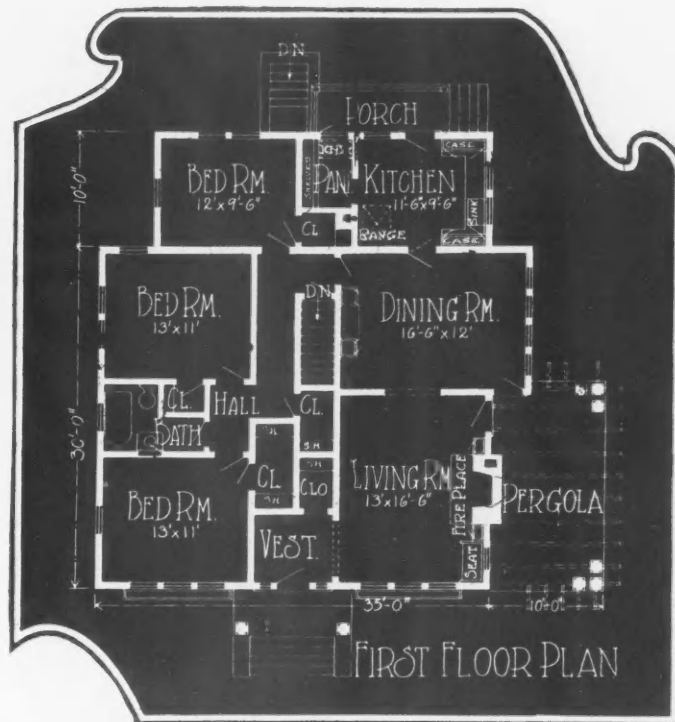
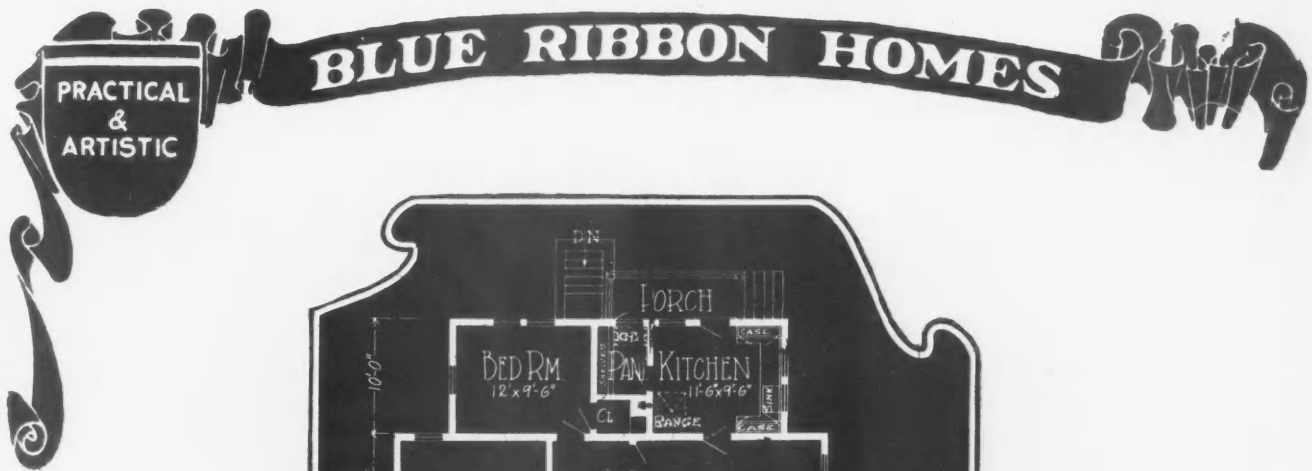
Making over Main Street pleases two kinds of architects and two kinds of builders—the ones who like to take a good old building and give it a new lease on life, and the ones who only want the new building, and its untrammelled possibilities.

Of course, you can’t improve Main Street in a business way without improving the houses in which the people live who trade and work in Main Street. Homes may make a town, but its Main Street makes its reputation. Show the people a live, peppy, modern Main Street, one which looks good from the depot and looks good from the other end of town, and you’ll have people trying hard to have their homes measure up to it.

And they’ll stay in that town, too.

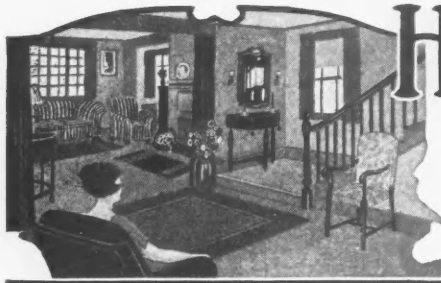
We are the men who have to do this changing of America’s Main Street. No use sitting back and let the other fellow do our thinking. It is up to us to do the suggesting, and nine times out of ten we will have willing listeners.

All buildings illustrated in the American Builder are real buildings that have actually been constructed and found to be practical and popular. Anyone interested in obtaining working plans and other detailed information should consult the nearest architect, builder or dealer, or write the American Builder, 1827 Prairie Ave., Chicago.



BUNGALOW FOR WARMER CLIMATES. This very attractive small residence commends itself by reason of a well-balanced design, and suitability for localities where climatic conditions permit much outdoor activity. The pergola at the right of the illustration is the most attractive feature, and at the end of the day serves as an extension of the living room; or, meals may be served here instead

of the living room adjoining. The inviting portico at the main entrance leads into vestibule and thence into the living room. This has a fireplace and inglenook, and leads into the dining room and thence to the kitchen and the rear porch. There is a windowed pantry for outside icing. The bedrooms are three in number, and are so placed as to assure fullest privacy. The dormer louvers are important, in that they give free ventilation to the attic, keeping the bungalow cool.



HOME DECORATING *and* FURNISHING

Decorative Wall Treatments

By JULIA W. WOLFE

THE average life of a wall decoration—be it in the form of a wall-paper, paint or distemper—extends over a period of three or even more years, so it should be given much thought and consideration.

Walls, floors and ceiling form the natural background for every other individual item which is to appear in a room, and how important is the background generally can be gauged by the amount of care expended in picture galleries to obtain just the correct setting which will show off to advantage the individual characteristics of its pictures, or again, by the time and money lavished by theatrical producers on backgrounds for successful results.

Before any decorative scheme can be decided on, two points must be taken into consideration, namely, aspect and the ultimate use of the room.

The aspect has very considerable bearing on the color-schemes; while to illustrate the second point, it will be universally acknowledged that generally speaking, a dining-room will admit of much heavier treatment than a living-room.

Colors we know, play an all-important part in everyday life, be it consciously or unconsciously, and the correct use of them is a thing to consider carefully. Walls may lend themselves to the application of color very successfully, but on the other hand, unless the color is well-thought out and applied judiciously, the results may be anything but successful; the four walls of a room make a surface of considerable size and cannot be camouflaged, hidden or removed in the same



The Plain Colored Wall in Paint or Distemper Makes Up in Color for Its Lack of Pattern. After all, the furnishings of a room furnish patterns, do they not? And a plain, attractive wall is an effective background.



Wallpapers Have Never Been More Truly Artistic Than They Are Today. The rival claims of paper, paint and distemper can only be solved by the dictates of the taste of a room's occupants. This bedroom is undeniably the gainer, with its neat, small-figured wallpaper.

way as a cushion which clashes with an existing carpet.

Let us first consider individual aspects. The room with a north aspect undoubtedly presents the greatest difficulty. It is sunless and therefore the whole object in the interior decoration should be to obtain sunny effects. This can be done by a careful interplay of all the colors representative of the sun itself—orange, lemon, primrose, with touches of warm browns and reds with all their intermediate shadings.

The south room is much easier to decorate. Flooded, as it generally is with sunlight, the chief point to be aimed at here is to achieve a more or less soothing effect, and the walls here call for sedative color treatment, effected by such soothing shades as soft blues, refined mauves, neutral grays and stone colors.

The room which faces east has a fair amount of sunshine during the early part of the day, but if it be used much after mid-day, certain warm shades should not be omitted. Such a room requires a medium treatment—one which is neither too stimulating nor too soothing. A happy interplay of blue or rose, rose and amethyst, or amethyst, pastel blue and primrose are examples of coloring which show to advantage in a room facing east.

A west aspect bestows upon a room all the glories of the later-day sun, and although a treatment is called for which is rather similar to that for an east room, the general effect should be more soothing, with sometimes an enhancing touch of gold and hold the very last rays of sun.

The remarks made are but general principles and by no means exhaustive, for the successful decorative

treatment of walls demands an effect of spaciousness.

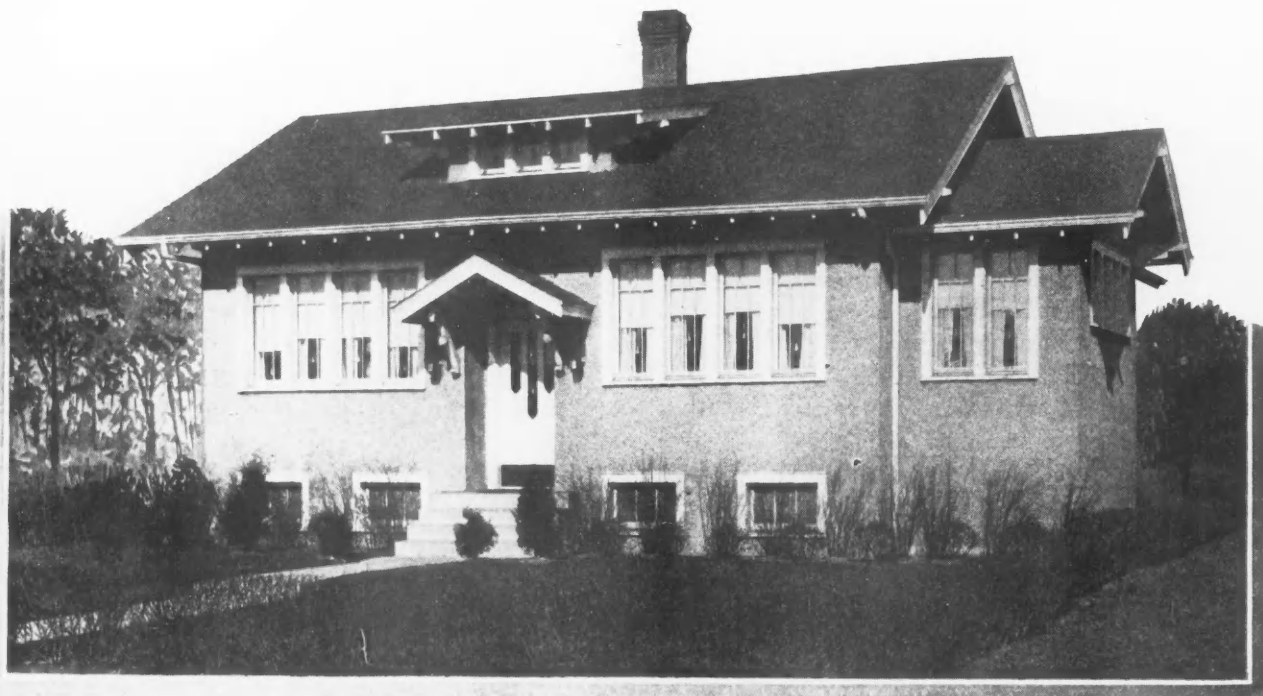
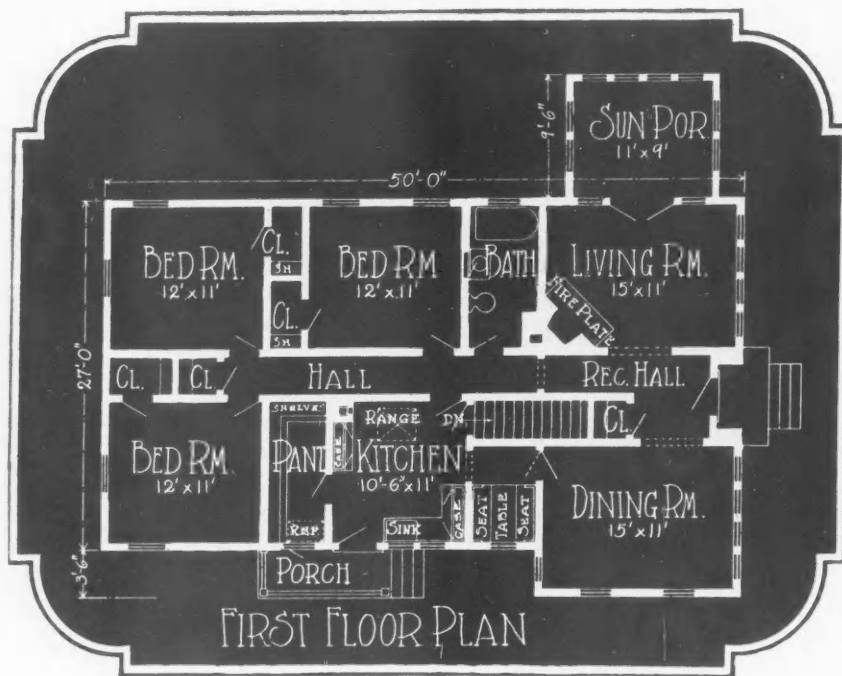
Small houses and apartments especially demand restfulness and coherence of result. The cutting up into a number of fragments by different treatments in the various rooms destroys the impression of spaciousness which the house or apartment, as a whole, even when of limited extent, may give if wisely handled. Dark walls on the one hand or strong patterns and advancing coloring in papering on the other further minimize the effect of space.

The rival claims of paper, paint and distemper can only be settled by the dictates of taste of the ones who are to occupy the rooms. Each has much in its favor. It is sometimes urged that wallpaper gives to a room a more dressed and finished atmosphere, while perhaps distemper and the like suggest frigidity. This, however, is not infrequently due to a poor selection of color. Distemper handled sympathetically with due regard to color requirements can be most successful in its results and is at all times most hygienic. Walls must be dry before they are distempered, and if there is any doubt on this question the application of an insulating coat renders even the surface of the walls and solidifies the surface of the plaster.

Wallpapers have never been more truly artistic than they are today. Unpatterned papers are the cry of the moment, decorated sometimes by friezes, panels formed by narrow borders, by ornamental corners and by stenciling effects in harmonizing or contrasting colors. These can be obtained in printed colors, damp-resisting and fast to light, making as they do, an attractive finish over plain fittings.

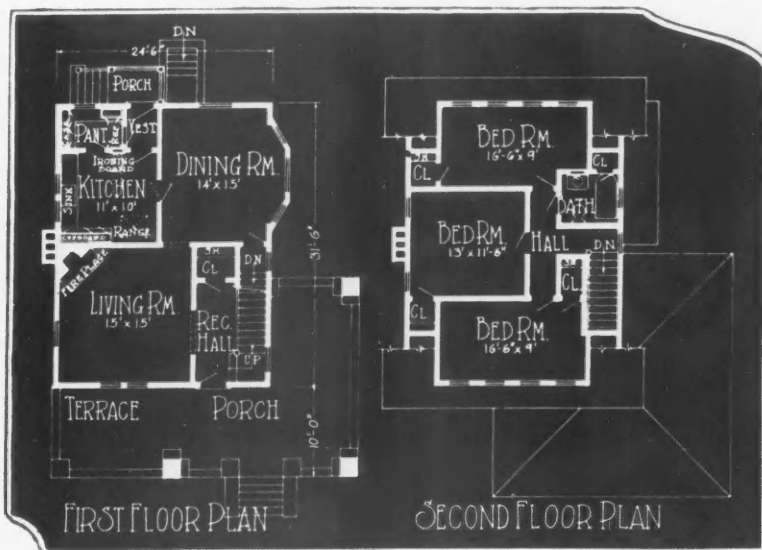
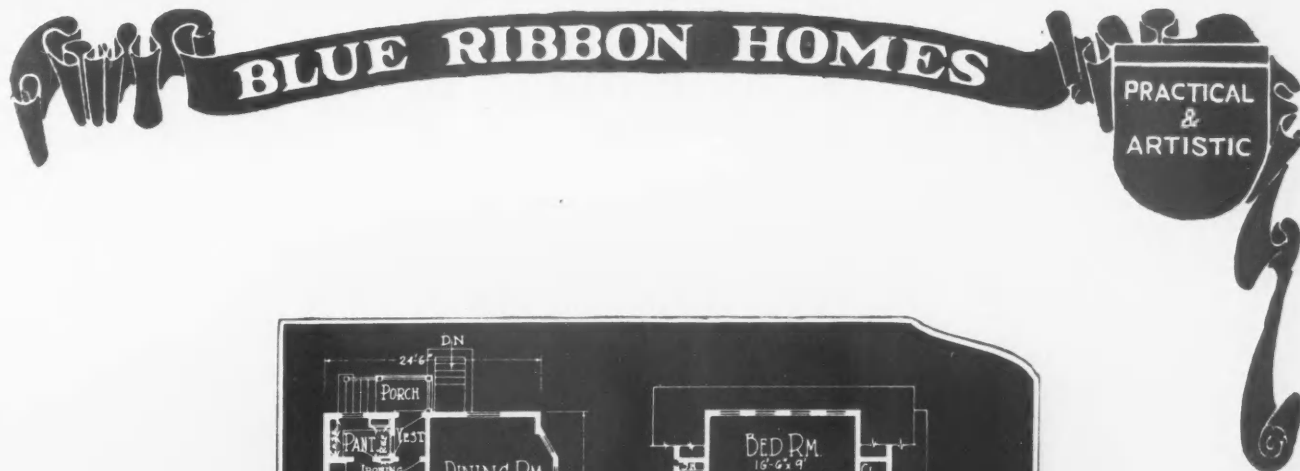
PRACTICAL
&
ARTISTIC

BLUE RIBBON HOMES



A HANDSOME BUNGALOW. This is a bungalow which ought not to cost much to erect anywhere. But that it is modern and up-to-date cannot be gainsaid, and that is why it attains perennial appeal in the mind of Mr. Everyman, intent on building a house, and reasonably. It is attractive exteriorly, with its stucco walls and white trimmed windows and roof ends. The small dormer which ventilates the attic adds a nice touch, and helps keep the

bungalow cool in warm weather—surely an excellent feature. The house is only 27 feet deep, but 50 feet wide. With the sun porch it has seven rooms. The Pullman dining nook between the dining room and kitchen is very convenient, as is also the small porch, making kitchen tasks more bearable on hot days. The floor plan will repay study; it is compact, convenient and step-saving.



A ROOMY, STUCCO RESIDENCE. A more spacious effect is often created for a narrow house by the method of handling the structural detail. Here the low spreading porch line, the line of the dormers, and the over-hanging roof line—all these combine to give the house a wider appearance. Yet the house, exclusive of the porch, is but 24 feet 6 inches wide. At the front we have a combination terrace and porch, and the latter runs around to the side.

Downstairs there are three rooms: the living room—entered through the reception hall—the dining room, and the kitchen. The latter is very complete, with vestibule entrance and refrigerator icing door. Upstairs are three bedrooms and bath. The bedrooms are unusually well-lighted. Note that there are five clothes closets—two downstairs and three upstairs. This is a very substantial-appearing house and should commend itself generally to prospective home owners.

An Old Room "Comes Back"

By GRACE FOERTH HUNGER

"THE Barkers have such a lovely new dining room set, Father. I do wish we might have one, too. I'm so thoroughly tired of this old furniture."

I was visiting Mother and Dad in Michigan on the farm. She looked at him wistfully. He merely grunted behind his paper—a very kind, but none the less negative grunt. My sympathies were all with Mother.

"Why can't you work on what you have, Mother," I ventured, "and remodel the dining room entirely? I'll tell you—will you give me carte blanche to go ahead and do it for you and promise not to interfere?" Mother was a good sport. She had her qualms but



It Was Easy to Get Dad's Interest—on the Score of Economy.

acquiesced with the proviso. "Just so you don't make it too gay." (She knows my weakness for the cheerful and gay in decoration.)

The room is 14 by 16 by 9 with one huge window 66 by 72 inches after the style of the Middle West, southern exposure. The wall was covered with a plain tan paper, quite faded and soiled from the furnace heat.

The floor was entirely covered with a good Brussels carpet of a doubtful pattern. There was a dining room "set" in polished golden oak to "match" the woodwork, a large square table, six chairs, a china closet and a sideboard, all carvings and mirrors and small shelves, with two glass-doored cabinets on either side of the drawer space below. Cut glass of many cuts and forms and hand-painted china filled the top of the sideboard and the cabinets below to overflowing. The china closet shone with a similar assortment. Mother had "collected" cut glass and painted china. The walls groaned under their weight of pictures of birds and beasts and flowers in frames that well nigh smothered them. And, of course, there was the inevitable mantel shelf on brackets, with the inevitable black onyx clock thereon, entirely surrounded by bric a brac.

It was the accumulation of years—a terrific hodge-podge.

It was easy to enlist Dad's interest and help in my procedure since it meant economy, and it was no time before all the furniture was hauled to the nice dry basement which was to be our workshop, the carpet taken up and the room bared entirely.

The mantel shelf met its doom at the very outset—ripped out entirely.

Instead of repapering the walls, which would have been rather expensive, I painted right over the wall paper and ceiling with a rich cream-colored water paint, which comes in powder form and is mixed with water. The effect attained had all the richness of a subdued flat paint.

Up in the attic I found a perfectly good, albeit very much faded 9 by 12 grass rug. This I scrubbed as I would a floor and allowed to dry thoroughly in the air, after which I painted it a lovely Delft blue with a good quality and quantity of floor paint. I let the first coat soak in thoroughly overnight before I applied the second one.

The oak woodwork and window frame I scrubbed vigorously with hot soda water and strong soap. After rinsing it I allowed it to dry thoroughly before scraping off the remaining varnish with No. 3 sandpaper and wood alcohol. I cleansed the floor border in like fashion.

The sideboard, poor thing, was dismembered in the basement. After the operation it found itself minus its back, leaving just the drawers down the center with the glass compartment on either side. Even its brass drawer handles were severed, and unpainted knobs, which I secured at the hardware store, substituted. Dad sawed off all but about three inches of the wood around the mirror which had formed the sideboard back, converting it into a plain oblong mirror frame. This mirror frame, the now "chest of drawers," the six dining room chairs, a small table 16 by 26, terribly forlorn looking but of good lines, which had held the flower pots in the kitchen window, now went through the same cleansing process as the floor border and woodwork. This really is the most disheartening phase of the work, but one's enthusiasm returns with a vengeance after the first coat of paint. O, I didn't tell you, did I, that my color scheme was cream walls, blue rug, black furniture?

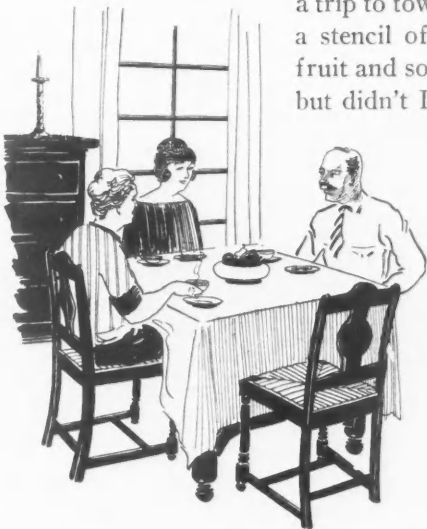
So on went the first coat of flat black, and when that had dried well overnight on went another. When this was thoroughly dry, I took my No. 00 sandpaper and went over all the wood surfaces to smooth out any roughnesses before applying the enamel. Was there ever anything so altogether satisfying as applying the first coat of black enamel! I made sure to get the best quality enamel procurable and found the "egg shell



On Went the First Coat of Black, and After that Another.

gloss" type the most satisfactory, since it eliminated that objectionable shininess which one gets in most enamels. Once again I rebelled against having to use sandpaper on my labors, but that was the last step necessary before applying the final coat of black enamel. When this was completed I stood back in my workshop and surveyed my handiwork with a sigh of satisfaction, only to hear Mother confide to Dad upstairs, "You should see the mess that child has made of things. Did you ever hear of anything like black furniture, Father? Of course, we're old, but black—" and just then I laughed. "I'll cheer them up a bit before I've finished. Just wait." So I rested a few days and took

a trip to town. There I bought a stencil of a small basket of fruit and some oil paints. My, but didn't I cheer up the four small drawers of the black chest with a basket in the center of each of them, done in dull red, blue, green and yellow! And didn't the flat back of each one of the chairs rejoice in its acquisition of a basket apiece! And the mirror frame looked so much more comfortable



"Well, Daughter Made a Splendid Job of Our Dining Room Set," says Dad, "and It Cost No Thousand, Either!"

with a tiny motif at each corner in the same colors. Even Mother began to revive a bit and believe that all was not lost—yet. And when the blue grass rug was down, bordered by the black floor and I put into place the "chest," with the mirror hung above it, the square dining room table in the center of the room with four chairs around it, the small table, emulating a console, with a chair on either side and a lovely oblong old gold mirror, resurrected from obscurity in the attic and not retouched, on the wall opposite the "chest," to "balance the room," as it were, we all perked up.

Mother felt she had a share in the rejuvenation of her dining room when I put her to work making a yard square centerpiece of blue burlap at forty cents a yard, matching the rug in color as nearly as I could get it, edged with an inch wide mercerized loop fringe of black and cream. This was for the large table. Similarly covers were made for the chest top and the console table. I cut them to allow for a two inch margin of the wood on all four sides. Inside the glass doors of the square cabinets on either side of the chest, I thumb-tacked pieces of this same burlap. These cabinets, by the way, constituted excellent mausoleums, as I annoyed Mother by calling them, where I gave decent burial to all the miscellaneous cut glass and painted china which formerly adorned the top of the

sideboard. The round cut glass reflector made an admirable shaving mirror in the bathroom. Elsie De Wolfe it was, I think, who said the three besetting sins of American homes were rockers, brass beds and lace curtains. I should add cut glass as a legitimate fourth.

The quondam china cabinet was bequeathed to Big Brother for his room, where it made an excellent book case.

To add a note of color I placed a pair of polychrome candlesticks mounted by fat dull red candles atop the chest, and in the center of the large table I placed an attractive twisted smoked bamboo basket (doing service as a sewing basket when I rescued it) filled with bright red apples, bananas and oranges.

In Mother's linen closet I found, to my joy, a bolt of unbleached cheese cloth. She told me she got it for sixteen cents a yard. It was well woven and a yard wide, and you've no idea what an attractive curtain it made when hand-hemstitched for the large window. In order to give a feeling of length to that very broad window I omitted any valance, hanging both curtains and overdraperies straight from a double rod. You'll be incredulous when I tell you that I fashioned these overdraperies out of an old heavy cotton voile dress of Mother's which I routed out of one of those fascinating trunks in the attic. It was lovely material of a gold and peacock blue narrow stripe, and by its very transparency transmitted color and light into the room. I edged it with the black and cream fringe used on the burlap table cover.

Even Jonquil, the yellow canary, wasn't immune from my depredations. His old brass cage was black enameled, with liberal daubs here and there of red and blue and yellow from oil paints. His brilliant yellow person dominated the whole room and he confided to the window box of seasonal flowers (just then tulips in a riot of colors) his joy in the transformation of the old golden oak, cluttered up room into a thing of beauty and repose.

My cup was full when Dad, on eating his first meal in the new room, remarked over his soup, "Well, the girl made a splendid job of it—and it didn't cost us a thousand dollars as it did the Barkers, either."



"THAT log cabin effect" desired by many for their summer cottages has puzzled many a contractor and builder to the verge of distraction. In the majority of cases the prospective owners specifying such a type of construction have never seen a log cabin, much less lived in one, and if a genuine log cabin were desired the cost would often be prohibitive even were the raw logs available.

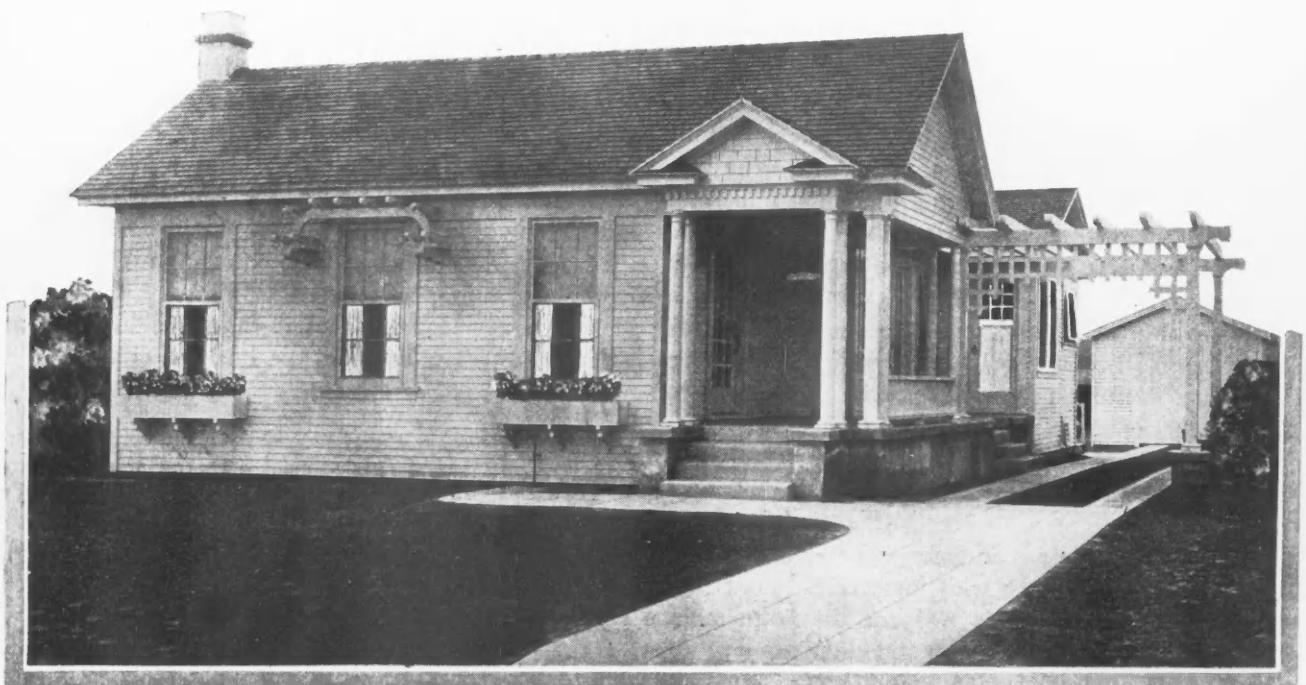
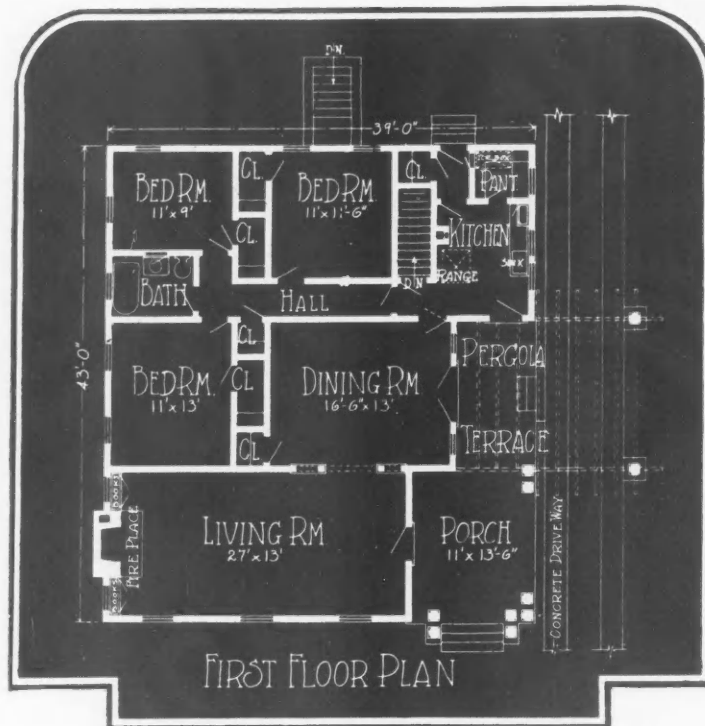
One builder solved the difficulty by using ordinary 2x6 planking, already surfaced on its four sides, which was put back through the machine and run to shiplap, and rounded on one side to imitate logs. For the ceiling some 1x4s were run to a smaller pattern.

If better material is wanted for the siding the 2x6s could be run to the special pattern commonly known to lumber yards and planing mills as No. 1.

In either case the cost is slightly over that of regular siding on account of the 2-inch stock, 1-inch being the dimension ordinarily used.

PRACTICAL & ARTISTIC

BLUE RIBBON HOMES

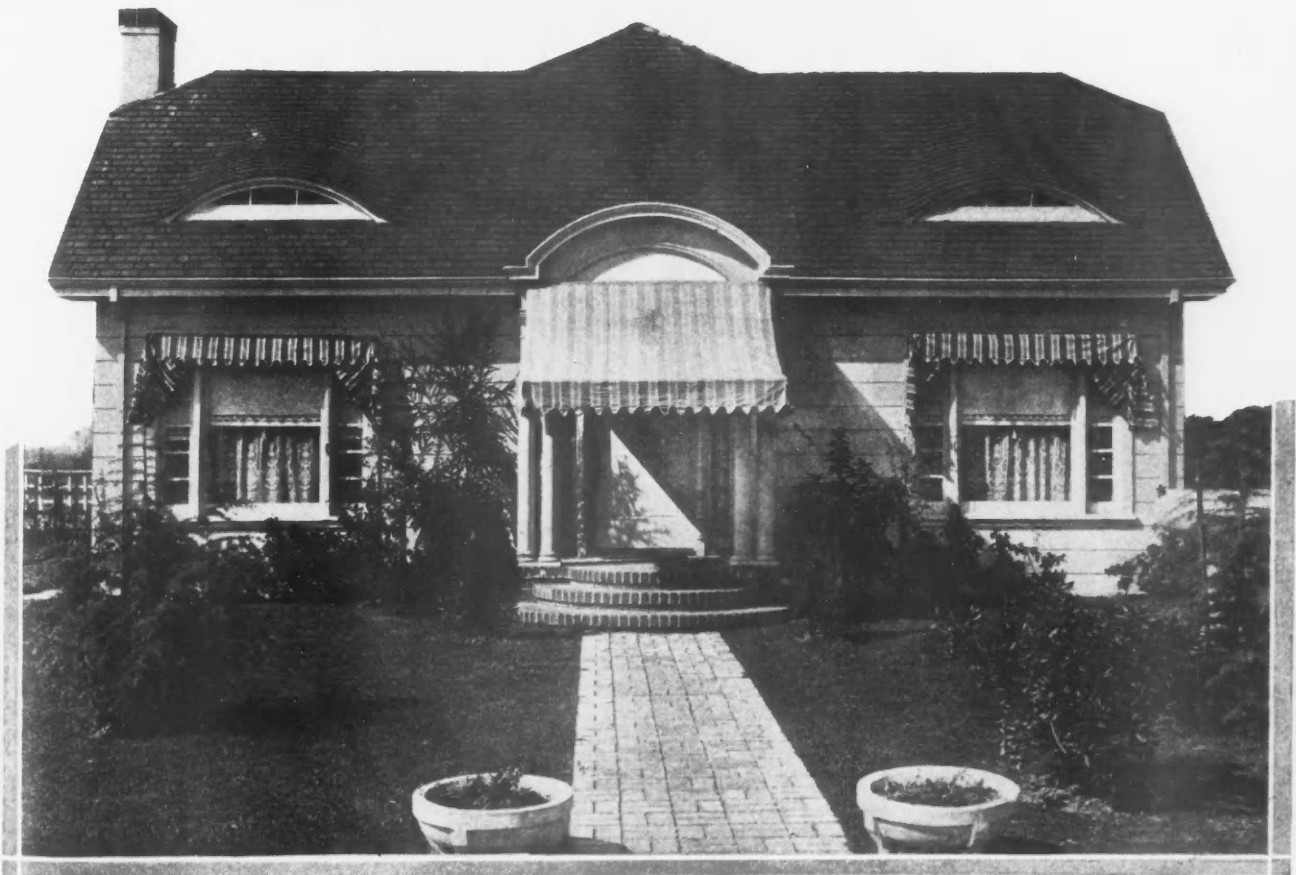
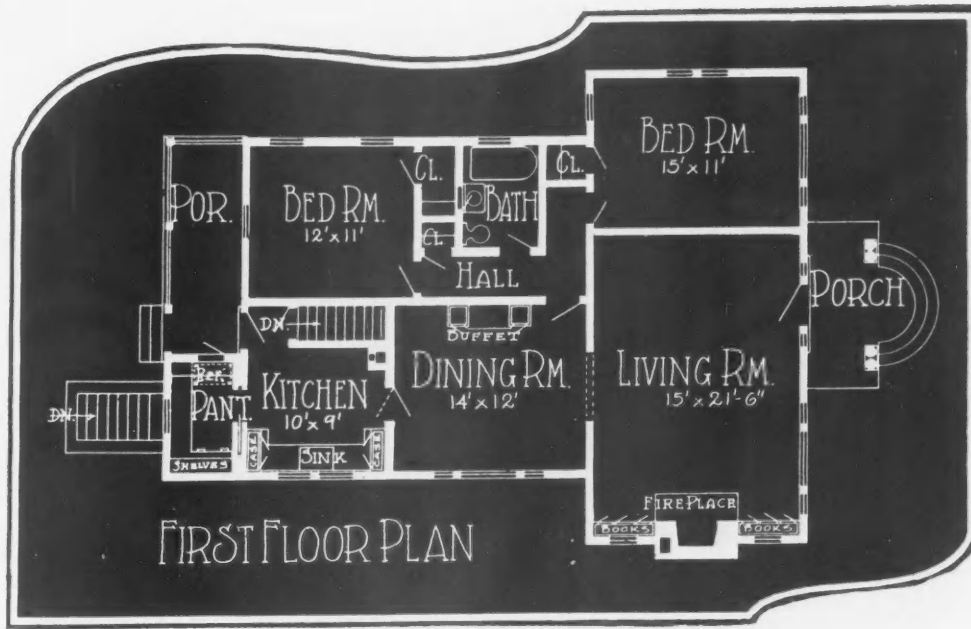


CHASTELY SIMPLE BUNGALOW. How neat and attractive this place is! A home like this will always find a ready sale at a top price, but it is almost a foregone conclusion that its occupants will not care to part with it. Yet it is an absurdly simple design. It is the knowing little touches which make it attractive. The pergola detail over the middle front window; the flower boxes by the other two; the fine entrance detail of the porch and the spacious porch itself which extends to the pergola terrace—all these

are small, but important. The room arrangement is noteworthy also, for we have six rooms in an overall dimension of 39 feet by 43 feet. The living room, the dining room and kitchen are well placed to secure a maximum of enjoyment and summer comfort. Bedrooms are amply proportioned, have full privacy and are handy to bathroom. The white painted exterior contributes greatly to the attractiveness of this house.

BLUE RIBBON HOMES

PRactical & ARTISTIC



A COLONIAL BUNGALOW. This is a thoroughly well-handled small bungalow, and while it draws on our Colonial period for its general design it possesses an individuality of its own. The gayly colored awnings help, of course; they make an excellent contrast to the white painted wide Colonial siding. Then, too, the gracefully arched near-dormers in the roof help a great deal, and afford ventilation to the attic likewise. The porch has

bricked steps and the front door opens directly into the living room, with its fire place and built-in bookcases. Off it is the dining room, with built-in buffet, and off this are the kitchen and the pantry. The latter has a window, ample shelving and an outside icing door. There are two bedrooms, with bathroom adjoining, and a rear porch. Worth noting is how shrubbery improves this bungalow and lot.



In These Days of the Modern Cliff Dweller a Readjustment Has Taken Place. Roof areas for the most part are wasted. What can be more inviting than this sort of roof treatment, making a modern "hanging garden" atop an apartment building?

Gardens on the Roof

By ESTELLE H. RIES

THINGS come to pass almost every hour in this day and age that were unheard of in the time of our grandmothers. They succeed each other with such rapidity that it is something very extraordinary indeed that gives us a real old-fashioned thrill.

For the city-dweller, however, gardens on the roof are still a novelty so replete with delight that their possibilities should not go unnoticed.

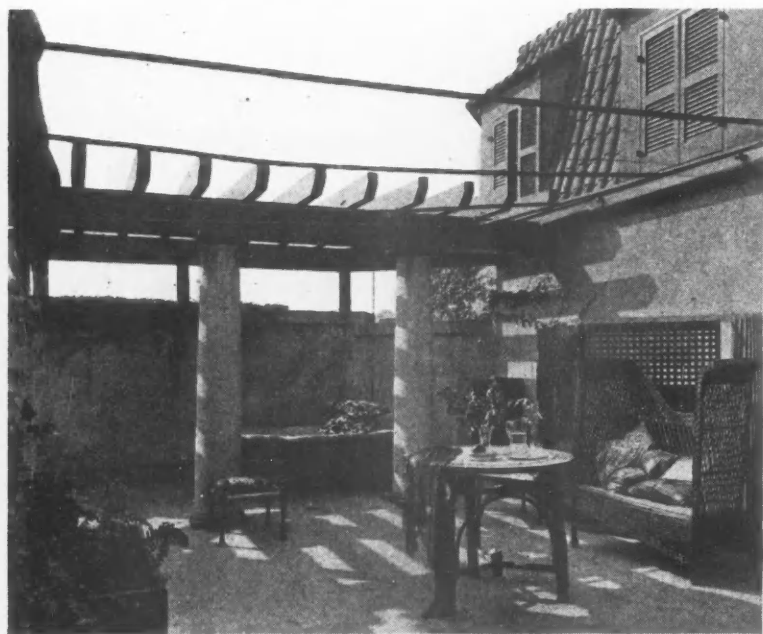
We have, of course, vast areas of roof space that is for the most part wasted and unlovely to look upon.

We should blush at the very thought of an aviator within field-glass range of them.

Why do we not utilize these places and give them some standing in the community? There are a number of very important purposes to which they might readily be set.

With street conditions as they are, and park space limited, the roof would make a fine playground. The simplest kind of a sandbox would be a good nucleus. A couple of inexpensive wooden slatted benches, painted red, for mothers or maids to sit on, and some porch boxes for greens and flowers would be enough to start with. The children could bring toys and games, the mothers their books, the maids their needlework and all would be happy. Of course the roof would need to be securely walled in.

After that, you could be as elaborate as inclination and purse permitted. There might be real concrete garden furniture—waterproof seats, tables and jardinieres. Wicker furniture of the summer porch type



No, This Is Not a Patio, Nor Yet a Spanish Courtyard, with the Blue Mediterranean in the Distance. It is a waste space between the roofs of two residences—but what a transformation!



Here Is Another Interesting Roof Treatment, with Painted Posies on the Walls to Create an Illusion of More Space, and Quaint Verses Painted on the Flower Boxes.

might from time to time be added. Hammocks, swings, hanging baskets, aquaria and even pools would contribute to the charm. There might be awninged recesses, and latticed walls to train vines on. Simple planting would be required—flowering bulbs and other shallow-rooted things would grow well and be fresh and colorful, so that a touch of nature would be brought to the city.

Here, then, the children could come, safe from rushing traffic and near home. Not the big fellows of years of discretion and baseball who have to test the world

place for young people to mingle under favorable conditions.

Indeed imagination stumbles over itself to know where this splendid dream will carry us, if we will permit it.

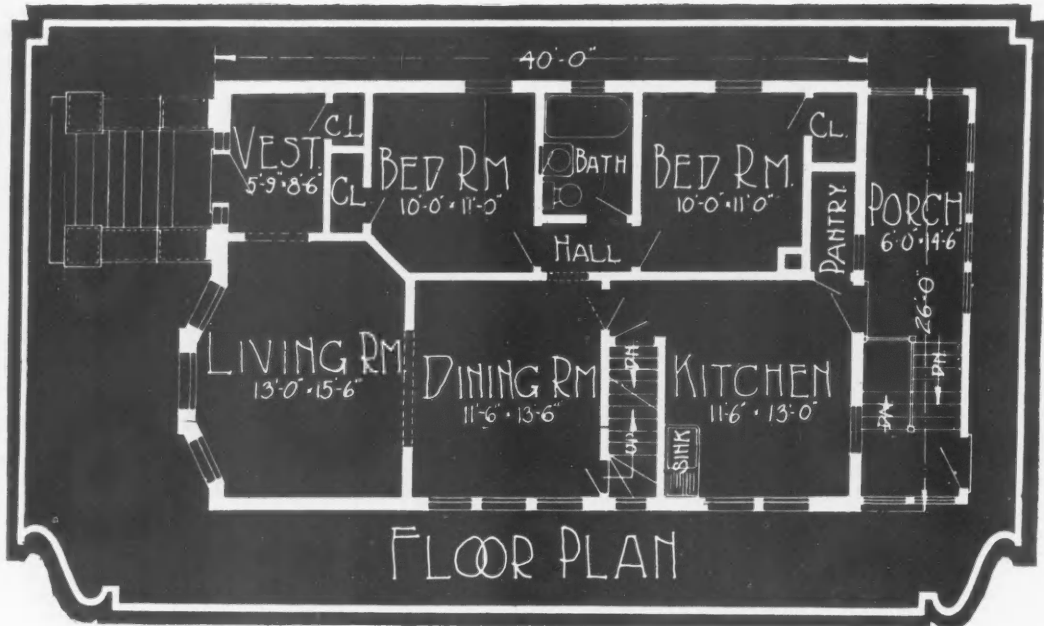
Perhaps this is not so much a dream as past indifference would have us suppose. Perhaps these photographs of real gardens on the roof, already serving their many magic purposes, will stimulate a yearning in other hearts to create places right at home that are a little nearer heaven.



A Roof Garden Which Needs No Apology for Its Lack of Mother Earth. Ornamental furniture and flower boxes, with trellises and a goldfish pool make it a welcome refuge on hot city evenings.

PRACTICAL & ARTISTIC

BLUE RIBBON HOMES



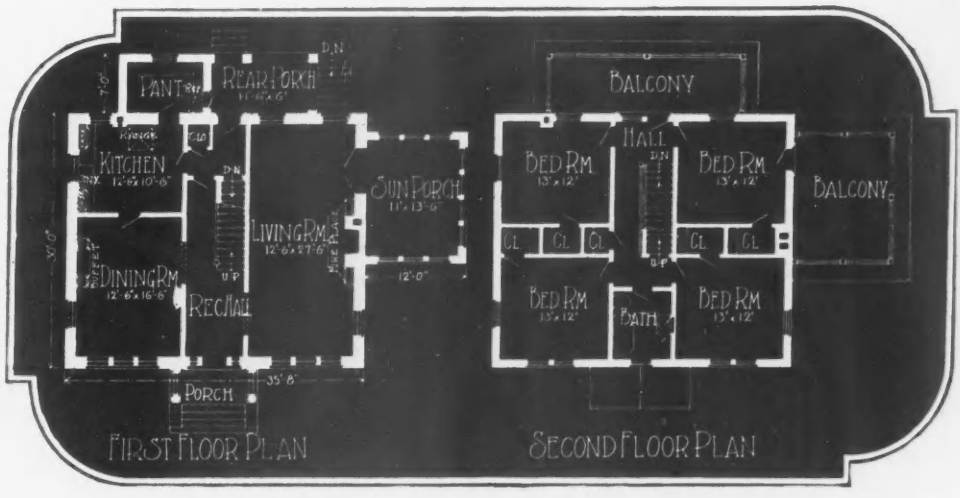
PLEASING BUNGALOW WITH COLONIAL TOUCH. An inviting feature of this bungalow is the entrance doorway with its quaint side lights that give a Colonial touch. It leads to a vestibule, fitted with clothes closet. Opening off the vestibule is the well-proportioned living room, 13 feet by 15 feet 6 inches, the bow arrangement of whose windows makes it seem larger than it really is. Immediately adjoining is the dining room, 11 feet 6 inches by 13 feet 6 inches, well lighted with three windows. An

interesting interior touch would be the construction of china closet shelves on this side, backed against book shelves on the living room side and fitted with divided glass doors that repeated the design of the entrance doorway. The kitchen, 11 feet 6 inches by 13 feet, has a windowed, ice-saving pantry. The two bedrooms have excellent closet space. Exterior is brick, with stone trim, and the dimensions over all are 26 feet by 40 feet.

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WINNING BLUE RIBBON HOMES

PRACTICAL & ARTISTIC



HANDSOME BRICK MANSION. Typical of an ever-increasing number of substantial brick residences is this Colonial design. The original is in red brick laid in a certain kind of white mortar of a grade peculiar to Minnesota, and with the white trimmings of the windows and the porticoed entrance, together with the cornice, presents a very attractive appearance indeed. There are eight rooms inclusive of the sun porch. We enter a reception hall with decorative staircase. At the right is the spacious living

room, and off this the sun porch. Crossing the hall again we are in the dining room, with built-in buffet, and directly adjacent to the kitchen. There is a fine large windowed pantry, with outside icing door for the refrigerator, served from the rear porch. Upstairs are four bedrooms and bathroom. Ample closet space is provided for, and there are two balconies which could make auxiliary sleeping porches.

Well-Planned Small Church

This Structure in Modified Gothic Holds Possibilities for the Small Congregation. It Could Easily be Arranged to Serve the Requirements of Different Denominations.

By CHARLES ALMA BYERS

THE modern church edifice, to provide facilities for adequately handling the greatly increased departmental work, social activities and so forth of the present-day church organization, naturally requires quite unusual attention in the matter of interior planning. When unlimited funds are available, the designing of a building to meet these requirements is, of course, made fairly easy, but with the small and inexpensive edifice it becomes a considerable problem.

The church building illustrated herewith, particularly in respect to its floor plans, therefore is doubtless well deserving of study. It is, as will be discerned, of quite modest proportions; yet, by virtue of a commendable handling of its interior, it is made a most modernly appointed structure, providing accommodations for every branch of present-day church work. The building, while of but about the least expensive construction, also presents a somewhat im-

posing and very pleasing outside appearance.

This edifice has only recently been erected at Downey, California, a town of but a few thousand population, it being the new home of the First M. E. Church of that place. It was designed by H. M. Patterson, architect, Los Angeles, and represents a construction cost of only about \$35,000—exclusive, of course, of equipment, furnishings, and so forth.

The building has a total width on the front of 57 feet and a maximum depth of 80 feet, 6 inches. Including the very excellently designed and finished basement, which is virtually half above the ground level, with windows on all sides, it is comprised of three floors. The top story, however, provides, as will be seen from the plan, only a single large department room, together with the upper part of the main auditorium.

Reference to the reproduced floor plans discloses that the basement contains a large social hall and Sun-



This Is the First M. E. Church, Recently Erected at Downey, Cal. Though of modest proportions, by a commendable handling of mass it presents an excellent appearance. A church of this type can serve as a basic design for the varying requirements of different religious denominations. H. M. Patterson, Los Angeles, is the architect.



Main Floor Plan. This provides the main auditorium, choir loft, pulpit, class rooms, church parlor and office.



Basement Plan. A large social hall, or Sunday school room, in center; class rooms; kitchen, cloak room, toilets.

day-school room in the center, a number of class rooms on either side and three other various sized class rooms toward the front of the building, a small cloak room off the entrance vestibule, a large and well-equipped kitchen in the rear, an excellent pantry, and the men's and women's toilets. The kitchen possesses sinks and built-in cupboards, and the pantry is especially well supplied with the latter. On this floor will further be observed two very desirable closets. The main or second floor naturally provides the main auditorium, with the customary choir loft and pulpit. Here will also be found the office, church parlor, choir room and ten individual class rooms, besides a small closet off the main entrance. One of the class rooms, to the right of the auditorium, is equipped with a commodious built-in cupboard or case for books and Sunday-School literature. The third or top floor, which is only approximately half the width of the other two, due to the designing of the roof, has already been described as to its divisions. It remains to be added, however, that the large department room on this floor faces the pulpit, and hence becomes on occasion a very practical balcony to the auditorium.

The inside partitions of the class rooms adjoining the main auditorium are especially deserving of mention. They are of the so-called coiling type, which means they may be readily raised after the fashion of the top of a roll-top desk, disappearing into a special boxing overhead and leaving the rooms open both to each other and to the auditorium. Hence, as will be realized, the seating capacity during regular church services is very materially increased. A

partition of the same kind is also used between the department room on the top floor and the upper part of the auditorium, and between the church parlor and auditorium. The auditorium is provided with 132 stationary seats or pews, but even more than double this number of persons may be seated within view and hearing of the pulpit.

The interior finish consists throughout of slash-grain Oregon pine, finished in varnish, and all walls, including those of the basement floor, are plastered and tinted, the tinting being done in a rich cream shade. The entire basement is floored with cement, and the entrance of the main floor is likewise floored with cement, while the flooring elsewhere consists of pine, which is oiled. Pews and pulpit fixtures are oak.

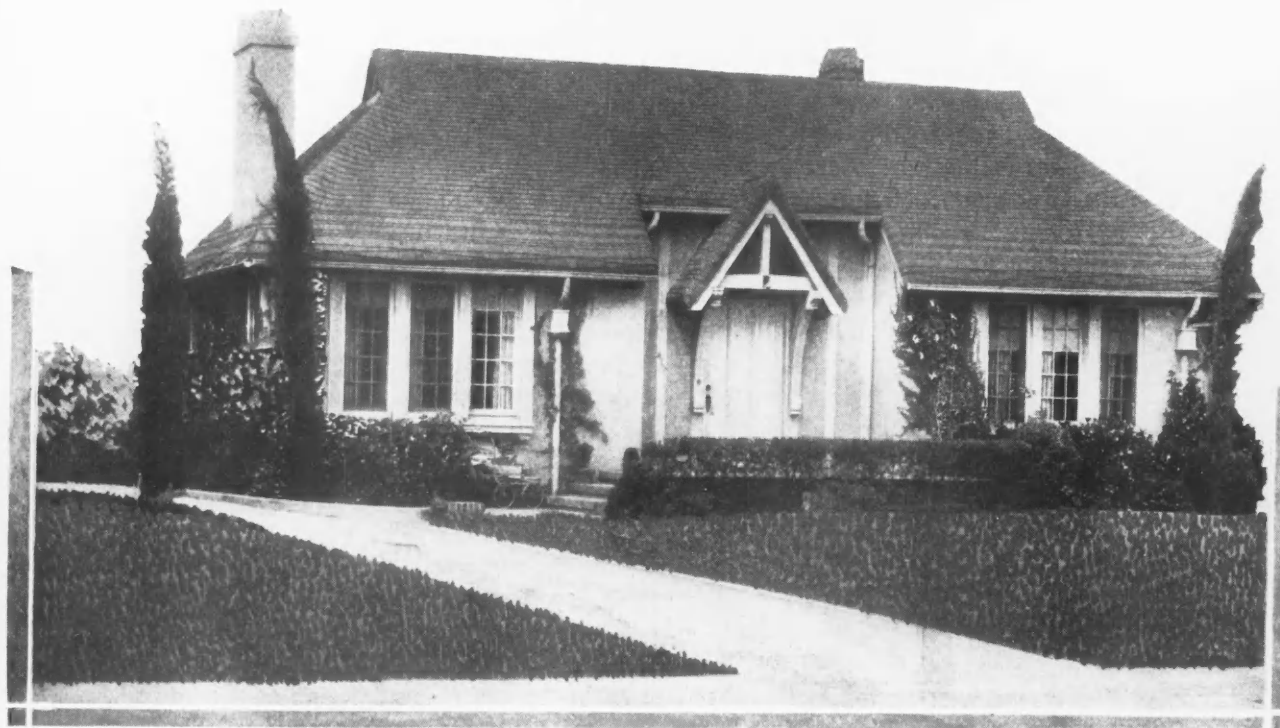
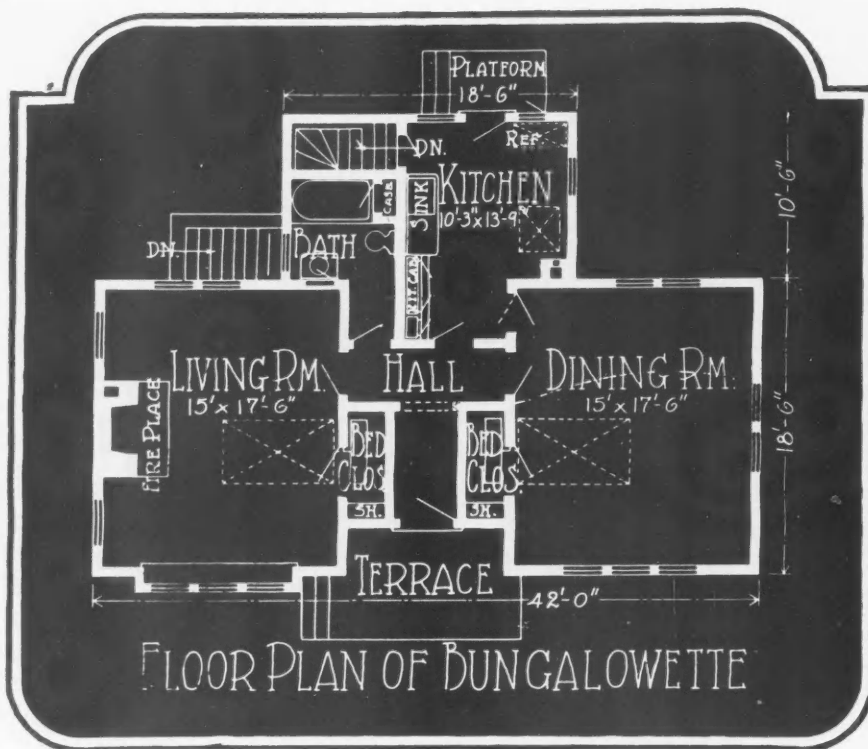
The exterior of the building, as to walls, is finished with light coffee-colored cement-stucco, which up to the main floor level is applied to solid concrete construction and above this point to metal lath over ordinary frame-work. The outside trimming is done in bluish gray, and all windows of the main and top floors are comprised of art glass, with amber tones predominating. The roof over the main part of the building consists of red roofing tile, and over the side portions, including the hidden roof of the tower, it is of composition, laid on a comparatively flat surface.



WHAT finer memorial to those who served in the Great War than county forests, offered, planted, guarded and maintained in honor of those who fell by those who survived?—Canada Lumberman.

PRACTICAL & ARTISTIC

BLUE RIBBON HOMES



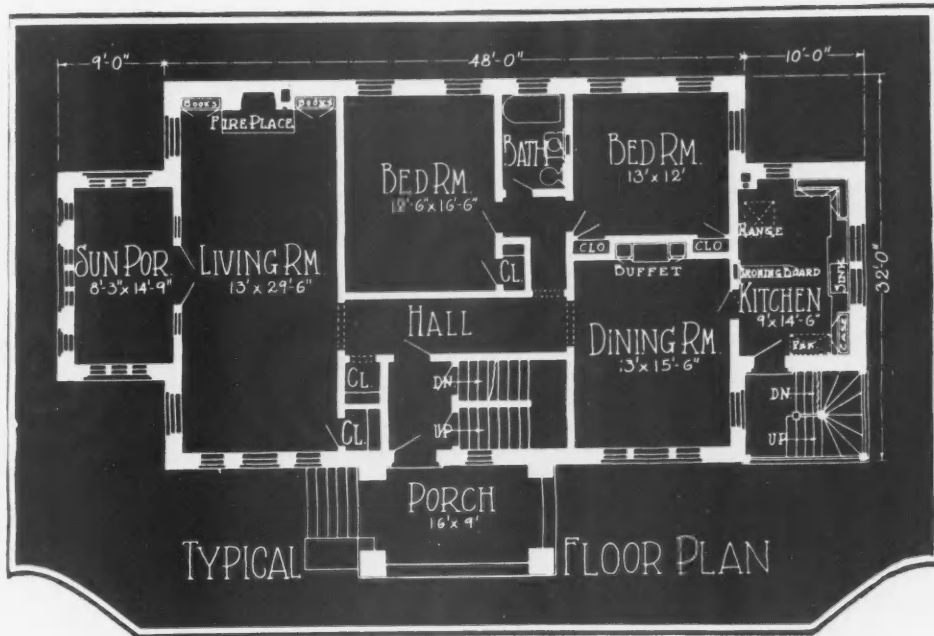
ENGLISH COTTAGE STYLE BUNGALOWETTE. There is a quaintness about this old-fashioned looking but distinctly modern bungalowette which is refreshing. Some might think the name "bungalowette" a misnomer, considering the fact that this has a 42-foot frontage. The thatched effect of the roof is gained by laying cedar shingles in uneven rows. It is undeniably picturesque. The oblong-paned windows add to the feeling of quaintness, and

entering through the door from the terrace we find ourselves in the rooms these windows light—the living room and the dining room. Both of these have the patent bedsteads which move into a closet during the day. They are directly accessible from the kitchen, which has many built-in conveniences, with small rear porch for light kitchen tasks. Overall dimensions are 42 by 29 feet.

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BLUE RIBBON HOMES

PRACTICAL & ARTISTIC



ATTRACTIVE BRICK TWO-FLAT BUILDING. This is a thoroughly modern apartment building, in which pressed brick and stone trimmings, with tile roof and pleasing window arrangement all combine to produce a very handsome whole. It is typical of the kind of buildings which are meeting with increased favor in smaller towns as well as in the larger cities, and represents a development in property-owning the prospective builder will do well to

investigate. The floor plan is the same for each floor. An attractive sun porch is in the front; then the living room, the entire width of the building, with fire place and built-in bookshelves. The dining room is in the rear of the apartment, and adjacent to the kitchen. The latter opens on a rear porch. There are two bedrooms, a bathroom and ample closet space throughout.

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Revising Building Codes (Part 4)

U. S. Government Recommends Minimum Requirements for Small Dwelling Construction with View Towards Simplifying Building Codes

EDITOR'S NOTE: This is the fourth of a series of abstracts AMERICAN BUILDER is making from the report of the Building Code Committee of the Department of Commerce, and is done to give wider publicity to the Committee's Recommended Minimum Requirements for Small Dwelling Construction. The others will follow in succeeding issues.

Wood Framing

ARTICLE VI

Section 22. General Requirements.

All members shall be so framed, anchored, tied and braced together as to develop the maximum strength and rigidity consistent with the purposes for which they are used.

Section 23. Strength of Members.

1. All wooden structural members shall be of sufficient size and strength to carry the load safely without exceeding the allowable working stress of the material as specified in Table I at right.

The strength of such members shall be determined from actual dimensions of the pieces, and not from nominal dimensions.

NOTE. The term "nominal size" as applied to timber and lumber means the ordinary commercial size by which the timber is known and sold in the market. The actual dimensions of seasoned and surfaced lumber are from 1/8 to 1/2 inch less than the nominal.

2. The allowable stress due to combined wind, and live and dead load shall not exceed 1 1/2 times that given in the table. Stress due to dead and live loads acting singly or in combination, without wind load, shall not exceed the allowable stress given in Table I.

NOTE. The load which a wooden member such as a floor joist or a rafter will sustain is dependent to a considerable extent upon the length of time the load remains on the timber. If the load remains on 10 times as long, then the amount of load required to break the timber will be reduced about 10 per cent. If a given load will break a timber in 40 days, a load about one-third greater will break the same timber in one hour. It will therefore be seen that it is important to remove the load from any overloaded wooden floor or roof as soon as possible, since it is not certain that the roof or floor will not fail merely because it has held the load for a few hours or days. For these reasons temporary stresses caused

by wind or snow loads may be greater without danger of failure than those due to dead load or long continued live loads.

3. The stress in compression across the grain may be increased 50 per cent in the case of joists on a ribbon board and spiked to the studding.

NOTE. Bearing Values for Joists.

The reasons for allowing a greater stress in compression across the grain when the joists rest upon a ribbon or ledger board than when the ends rest upon or in masonry are that they are more certain of being dry and are consequently stronger; that the stress is not at the extreme end of the joist

TABLE I.—Allowable Stresses Permissible for Structural Timbers in Small Dwellings.¹

Species	Grade ²	Allowable stresses in—				Modulus of elasticity
		Bending		Compression		
		In extreme fiber.	Horizontal shear.	Parallel to grain "short columns"	Perpendicular to grain	
		Lbs in ²	Lbs in ²	Lbs in ²	Lbs in ²	Lbs in ²
Cedar, western red	1	900	80	700	200	1,000
	2	600	53	467	200	
Cedar, northern white	1	750	70	550	175	800
	2	500	47	384	175	
Chestnut	1	950	90	800	300	1,000
	2	633	60	533	300	
Cypress	1	1,300	100	1,100	350	1,400
	2	867	67	733	350	
Douglas fir ³	1	1,500	90	1,100	325	1,600
	2	1,000	60	750	300	
Douglas fir (Rocky Mountain region)	1	1,100	85	800	275	1,200
	2	767	57	533	275	
Fir, balsam	1	900	70	700	150	1,000
	2	600	47	467	150	
Gum, red	1	1,100	100	800	300	1,200
	2	767	67	533	300	
Hemlock, western	1	1,300	75	900	300	1,400
	2	867	50	600	300	
Hemlock, eastern	1	1,000	70	700	300	1,100
	2	667	47	467	300	
Larch, western	1	1,200	100	1,100	325	1,300
	2	800	67	733	325	
Maple, sugar or hard	1	1,500	150	1,200	500	1,600
	2	1,000	100	800	500	
Maple, silver or soft	1	1,000	100	800	350	1,100
	2	667	67	533	350	
Oak, white or red	1	1,400	125	1,000	500	1,500
	2	933	83	667	500	
Pine, southern yellow ²	1	1,500	110	1,100	325	1,600
	*2	1,000	70	750	300	
Pine, eastern white, western white and western yellow	1	900	85	750	250	1,000
	2	600	57	500	250	
Pine, Norway	1	1,100	85	800	300	1,200
	2	733	57	533	300	
Spruce, red, white and Sitka	1	1,100	85	800	250	1,200
	2	733	57	533	250	
Spruce, Englemann	1	750	70	600	175	800
	2	500	47	400	175	
Tamarack, eastern	1	1,200	95	1,000	300	1,300
	2	800	63	667	300	

¹ Data furnished by the Forest Products Laboratory, Forest Service, U. S. Department of Agriculture, Aug. 1, 1922.

² Grade 1 shall have the defects limited as in the rules for select structural grade, adopted by the Southern Pine Association. Grade 2 may have defects of double the size, or defects which have double the effect, of those allowed in Grade 1.

³ Douglas fir and southern yellow pine which conform to the A. S. T. M. standards for "dense" will be allowed an additional fibre stress of 250 pounds per square inch.

and in case of a slight overload they will not yield so much; and that the joists are to be spiked to the studding, thus gaining some support through the nails.

Add together the joist spans in feet meeting at the girder. Multiply this width by the figure given in the table under "girder factor" and opposite the species of which the girder is to be made. This will give for *Grade 1 timbers* the minimum width of the girder in inches to support one floor when the distance between supports of the girder is 12 times its height. To get the thickness of the girder for more than one floor multiply the thickness for one floor by the number of floors.

When the supports under the girder are placed closer together, the thickness of the girder can be proportionately decreased. When the distance between supports is not over 10 times the girder height, Grade 2 timbers may be used, except that the shakes and checks should conform to the requirements of Grade 1. When it is desirable to place the posts farther apart than given by the above rule the girder should be calculated carefully, following any one of the usual formulas with which the architect, builder or engineer will naturally be familiar.

Joints in built-up girders should occur only over supports. In determining from the table the maximum permissible lengths of joists, all figures (except the girder factors) grouped opposite any one bracket apply to all the species in the bracketed lines. Find the species which it is proposed to use, and the grade of material; then run horizontally across to the first length as great or greater than the proposed joist span.

The head of this column will be found marked 16 inches. This means a spacing of 16 inches center to center, and the figures above give the nominal and actual sizes of joists.

Three columns farther to the right, ordinarily, the required length for 24-inch spacing will be found, although occasionally it will be found that the same size joist is required with either 16 or 24-inch spacing. Where the floor joists are to support plastering, the length of joist should never be greater than that given in the lowest horizontal line in each group of species, since this length is considered to be the maximum which can be used without serious cracking of the plastering, and lengths greater than this will give floors which shake considerably.



Gives Poultry Show in Lumber Yard

RECENTLY the Southwestern Michigan Poultry and Pet Stock Association held their annual exhibition at Niles, Michigan. Manager M. S. Rudisill of the Nile Lumber Company, of that city, did a fine piece of community service by offering the use of their yard to the association. The offer was gratefully received, and the many thousands of visitors saw not only an interesting poultry and pet stock exhibit, but a thoroly modern and well arranged lumber yard.



Gypsum Industries Bureau in New Office

THE Gypsum Industries moved its offices on May 1st to the American Fore Building, 844 Rush Street, Chicago. The change provides more office space to take care of expansion.

The Gypsum Industries is a service bureau maintained by gypsum producers and its work consists of research, promotion and advertising of gypsum products for agricultural purposes and for building uses.

TABLE II.—Girder Factor and Maximum Permissible Lengths of Floor Joists.¹

Use of Table II. The size of girder necessary in any small dwelling may be found as follows:

Girder factor based on 30 pounds per square foot live load and 15 pounds per square foot weight of floor. Permissible length of joists based on 40 pounds per square foot live load and 10 pounds per square foot weight of floor. Lowest line in each group is based upon the deflection of one three-hundred-and-sixtieth of span which is considered the maximum allowable with plastering and is based on 40 pounds per square foot live load only. Actual sizes used in all calculations.

Species	Girder factor	Grade ²	Stress	Modulus of elasticity	Maximum permissible lengths for sizes									
					Nominal, 2 by 4 inches; actual, 1½ by 3½ inches; for joist spacings—		Nominal, 2 by 6 inches; actual, 1½ by 5½ inches; for joist spacings—		Nominal, 2 by 8 inches; actual, 1½ by 7½ inches; for joist spacings—		Nominal, 2 by 10 inches; actual, 1½ by 9½ inches; for joist spacings—		Nominal, 2 by 12 inches; actual, 1½ by 11½ inches; for joist spacings—	
					16 inches	24 inches	16 inches	24 inches	16 inches	24 inches	16 inches	24 inches	16 inches	24 inches
Cedar, northern white	0.270	1	750	800	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					5 2	4 3	8 0	6 7	10 8	8 9	13 6	11 1	16 5	13 4
Spruce, Englemann	.270	2	500	800	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					4 3	3 6	6 7	5 4	8 9	7 1	11 1	9 0	13 4	10 11
Chestnut	.225	1	900	1,000	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					5 3	4 7	8 1	7 1	10 10	9 5	13 9	11 11	16 7	14 5
Cedar, western red	.241	1	900	1,000	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					5 8	4 7	8 9	7 2	11 8	9 7	14 10	12 1	17 11	14 8
Fir, balsam	.241	2	600	1,000	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					4 7	3 8	7 2	5 10	9 7	7 9	12 1	9 10	14 8	11 11
Pine, eastern white	.225	2	600	1,000	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					5 8	4 11	8 9	7 8	11 8	10 3	14 9	12 11	17 11	15 8
Pine, western white	.225	1	1,000	1,000	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					5 11	4 10	9 3	7 7	12 4	10 1	15 8	12 9	18 11	15 5
Pine, western yellow	.225	2	667	1,000	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					4 10	3 11	7 7	6 2	10 1	8 3	12 9	10 5	15 5	12 7
Maple, silver	.202	1	1,000	1,000	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					5 10	5 1	9 0	7 10	12 1	10 6	15 3	13 4	18 6	16 2
Hemlock, eastern	.241	2	667	1,000	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					6 3	5 1	9 8	7 11	12 11	10 7	16 5	13 5	19 10	16 2
Spruce	.199	1	1,100	1,200	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					5 1	4 2	7 11	6 5	10 7	8 7	13 5	10 11	16 2	13 3
Gum, red	.184	2	733	1,200	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					6 0	5 3	9 3	8 1	12 5	10 10	15 9	13 9	19 0	16 7
Douglas fir (Rocky Mountain type)	.199	1	1,200	1,300	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					5 6	5 4	10 1	8 3	13 6	11 0	17 1	13 11	20 9	16 1
Pine, Norway	.199	2	800	1,300	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					6 2	5 5	9 6	8 4	12 9	11 1	16 2	14 1	19 10	17 11
Tamarack	.178	1	1,200	1,300	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					6 4	4 4	8 3	6 9	11 0	9 0	13 11	11 5	16 11	13 10
Larch, western	.169	2	800	1,300	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					6 10	5 7	10 7	8 8	14 1	11 6	17 10	14 7	21 7	17 7
Cypress	.169	1	1,300	1,400	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					5 7	4 7	8 8	7 1	11 6	9 5	14 7	11 11	17 7	14 4
Hemlock, western	.225	2	867	1,400	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					6 4	5 6	9 9	8 7	13 1	11 5	16 7	14 6	20 0	17 6
Oak	.144	1	1,400	1,500	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					7 1	5 9	10 11	8 11	14 7	11 11	18 6	15 1	22 5	18 3
Fir, Douglas	.144	2	933	1,500	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					5 9	4 8	8 11	7 4	11 9	9 9	15 1	12 4	18 3	14 11
Maple, sugar	.135	1	1,500	1,600	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					6 5	5 7	10 0	8 9	13 4	11 8	16 11	14 10	20 6	17 11
Douglas fir, coast	.169	2	1,000	1,600	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					7 4	5 11	11 4	9 3	15 1	12 4	19 2	15 8	23 2	18 11
Pine, southern yellow	.135	2	1,000	1,600	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					5 11	4 10	9 3	7 7	12 4	10 1	15 8	12 9	18 11	15 5
Pine, southern yellow	.135	2	1,000	1,600	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.	Fl. in.
					6 7	5 8	10 3	8 11	13 8	11 11	17 3	15 0	20 11	18 4

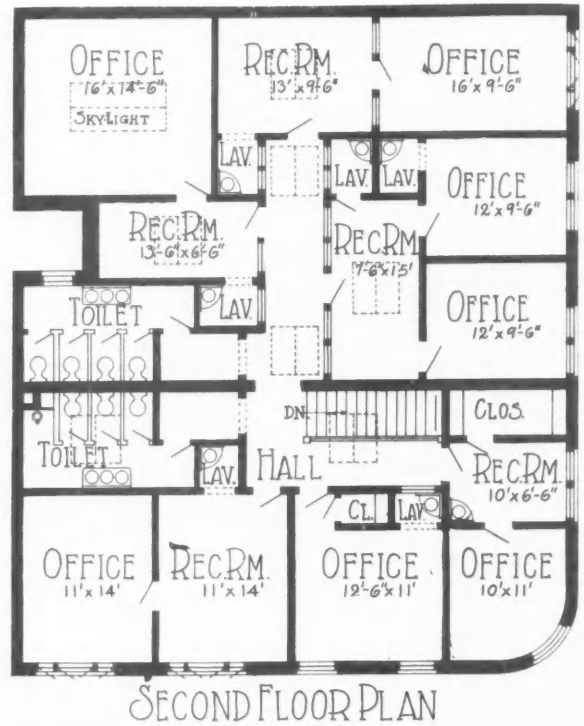
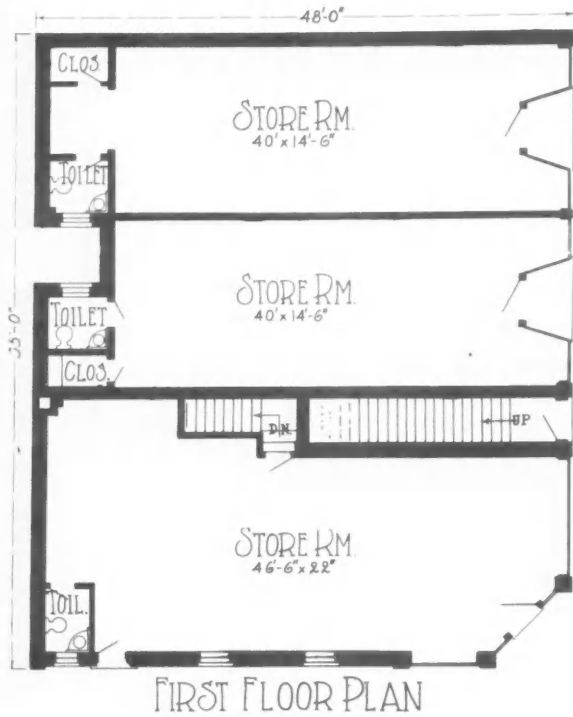
¹ Data furnished by the Forest Products Laboratory, Forest Service, U. S. Department of Agriculture, Jan. 11, 1922.
² Grade 1 shall have the defects limited as in the rules for select structural grade, adopted by the Southern Pine Association. Grade 2 may have defects of the size, or defects which have double the effect of those allowed in Grade 1.
³ D. dense material under definition of A. S. T. M. ⁴ S. sound not graded for density.

Small Investment, Big Producer

Corner Group of Stores and Offices Holds Many Possibilities; Speculative or Not, Is Always Worth Consideration

IN the wake of residential locality development, or ahead of it, the corner store comes to be the center of the trade and professional life of the locality. Illustrated below is a typical corner store building, with room for three stores on the first floor, and with

the second floor divided for doctors' offices, dental offices, beauty parlors, etc. The structure is of face brick with cut stone or concrete stone trimmings; or, these might be in terra cotta. A building of this nature is nearly always a good investment.



On a Lot with a 55-Foot Corner Frontage, 48 Feet Deep, Was Erected This Very Profitable Combination Shop and Office Building. A structure like this aids property development, and nine cases out of ten can be depended on to remain a good, steady, income-producer.

Parables of Bildad the Builder

III. He Acquireth a Better Half and Buildeth a Better Home

IT being the Time of the June moon I gave Serious thought to the Propriety of Taking unto Myself a Wife, and had cause to remember the Injunction of my Revered sire, who Once spake Thusly: "My son, Waste not thy Smiles upon the Sloe-eyed Damosel sure of her Beauty, for Surely she Attracteth Sheiks a-plenty. Smile, rather, upon the Cock-eyed Damosel whose Face shameth a Pickled Persimmon, for Behold! it Maketh her to Think she is Beautiful—and as One Thinketh in Their Heart so Are They, saith the Sage. Furthermore, the Head of the Beauteous One may Hold only Tint and Plaster well, but the Other's may hold Brains."

Now it so Happened that some time Afterward I went to a Pic-nic, and Smiling Promiscuously was soon Surrounded by a Bevy of the Most Brainy of the Maidens, so that I was Easily enabled to Take My Pick, and I Wended her Way homewards with a large Damosel fearfully and wonderfully Arrayed in a Cloak of Bear-skin,

and a Bobbed Head that Shamed the back of a Wolf. And so Uptodate was her System of Followup that in a Short While we were Married.

"We shall live in our Home," she said, "and take a Honeymoon Trip later." And I Swore not, for Then I knew I had Married a Woman of Acute Intelligence. "I have a few Advanced Ideas on The Better Home I wish to have Followed," she continued, and Man-like I said Nothing, knowing she Wished the Last Word. So we Set Out to Acquire a Lot and Draw Plans. "Build in All that may be Built In, and Leave out All that may be Left Out," advised That Wonderful Woman. So I Planned, firstly, a Mirror for each Room, and all rooms Cornerless. "You are a Wise Man," said She; "I knew by the Cut of Your Jib you were Some builder."

Day by Day our Better Home took Shape, and the Wonder among the Neighbors grew. For it Rested upon a Turntable, and the Pressure of a Button set it Following the Sun, and Turned its Back against the Wind when there was A Draft. And in the Kitchen

and Dining Room were provided Outlets for Electrical appliances without Number which made Each Meal more a Marvel than the Other. For at Meal Times the Pressure of a Button sent in the Table, all Heavy-laden, and afterwards my Better Half listened via Radio to Vladivostok and Durban and Timbuctoo while the Dishes Cavorted and were Dried in the Mechanical dish washer. And when I Arose in the Morning, lo, the Pressure of a Button opened a Trap Door beneath my Feet and I dropped from my Bed-

room and Fell To with a Will in my Chair at the Breakfast table. And after I had Bestowed my Matutinal Kiss upon my Better Half another Button sprung the Trap Door below and I Fell into my Roadster, and I would Drive Forth, the While all the Bluebirds in our Roof-tree sang so Loudly one thought their Hearts must Splinter.

And Saturdays I would hurry Home betimes to Garden under the Violet Ray where grew Cab-

bages and Radishes eight feet in Diameter, and Inside to help my Better Half clean up for the Week End. Truly this was no Great Job, for there were Apertures in the Picture Mouldings which Shot the Water out like a fire sprinkling Apparatus.

Now when I walked or Rode forth with my Wife I saw that Men no Longer viewed her with Contemptuous Indifference, and it Dawned on me that She had become Beautiful. So I remarked upon It.

"I owe you an Explanation," smiled She. "Before I met You, what with Tipping the Dressmaker and Feeding the Bread Basket I had Precious little Time to Bestow on my Face or Figure. Our Better Home saved me much Time and Labor, with Results you See—"

"—I am Glad I gave You a Better Home," said I, gallantly, interrupting, and while We slowed up a Caitiff sped By, making us Eat his Dust.

"I Knew I missed Something in our Perfect Home; now I Know what It Was!" she Sneezed.

"What do you Miss?" I asked Sentimentally. "The Dust," she answered.



I Could Turn the Hose on My Walls and Wash Them Down Without Feeling Used Up. And I would say to my wife: "Be not afraid, for I put Integral Waterproofing in those walls, and waterproofing ain't worth a darn unless you put it to work."

ARCHITECTURAL DRAWING



Dimensioning the Elevation

The Seventh of a Series of Articles of Great Practical Value to Builders

By M. K. TEACH

Instructor in Architectural Drawing, Bradley Polytechnic Institute

AN elevation is a vertical projection showing the exterior treatment of one face of the structure. This view may be of the front, rear or side of the building and should contain vertical dimensions but should not include any horizontal dimensions. In other words, only those dimensions should be placed on elevations as are not possible to show on plans, sections or details. It must be remembered that a building appears quite different in elevation than it does in perspective or in actual view after being built. For instance, the roof always appears too tall in elevation due to the slant or pitch of porch and the student should not become influenced by it and lessen the pitch. He must bear in mind that a person looking at the building must look upwards at quite an angle to see the roof, whereas in elevation the line of sight is horizontal. If the roof is to be covered with shingles or slate it should never have a pitch of less than 30° due to its tendency to leak. An elevation should indicate everything on the face of the building from the finished grade line to the edge of the roof and top of chimney. The foundation walls and footings below the grade should be shown, by dotted lines as may be seen from the elevation drawing accompanying this article.

In developing an elevation from a floor plan it will be well to use transparent tracing paper and fasten it down with thumbtacks over the plan. This facilitates the work for it enables the draftsman to take off dimensions readily and accurately. The student should begin the elevation from the grade and build up, never from the roof and work down to the grade. In drawing the grade line, space must be allowed at the bottom of the sheet for foundation walls and for any lettering that might be included on the sheet. Next, the story

height or distance from floor to floor should be determined upon and the joist lines drawn in. The distance from first floor line to finish grade line must be determined at this time. This distance may vary on different residences from about six inches to forty-two inches depending upon the type of the residence and upon the desire of the draftsman and client. The first floor line is usually placed from two to three feet above the grade line, thereby permitting good light to the basement. Some draftsmen prefer at this point to draw a vertical wall section to aid in drawing the elevation but this is nearly always erased after it has served its purpose. It was not many years ago that draftsmen as a rule left this section on the finished drawing but it was later seen that it was not necessary as a vertical dimension line would serve the same purpose and at the same time appear neater on the drawing. Next, draw the main corner lines of the building and block out the cornice and roof lines. Probably the best method of procedure in making a drawing of either elevation or plan is to first block out the work and put in the detail later. The center lines of the windows and doors may now be drawn very lightly and the windows and doors worked out as desired. Never forget the center lines for they aid greatly in drawing the details of the openings and in determining dimensions. The sills of the windows should be from two feet to two feet, six inches above the finished floor line. The heads of the windows as a rule should be at the same height as the heads of the doors but this varies sometimes due to the particular design. The cornice profile, gutters, downspouts, dormers, chimneys, flashing, belt courses and other details should be worked up at this time leaving only notes, indication of material and dimensions to be put on

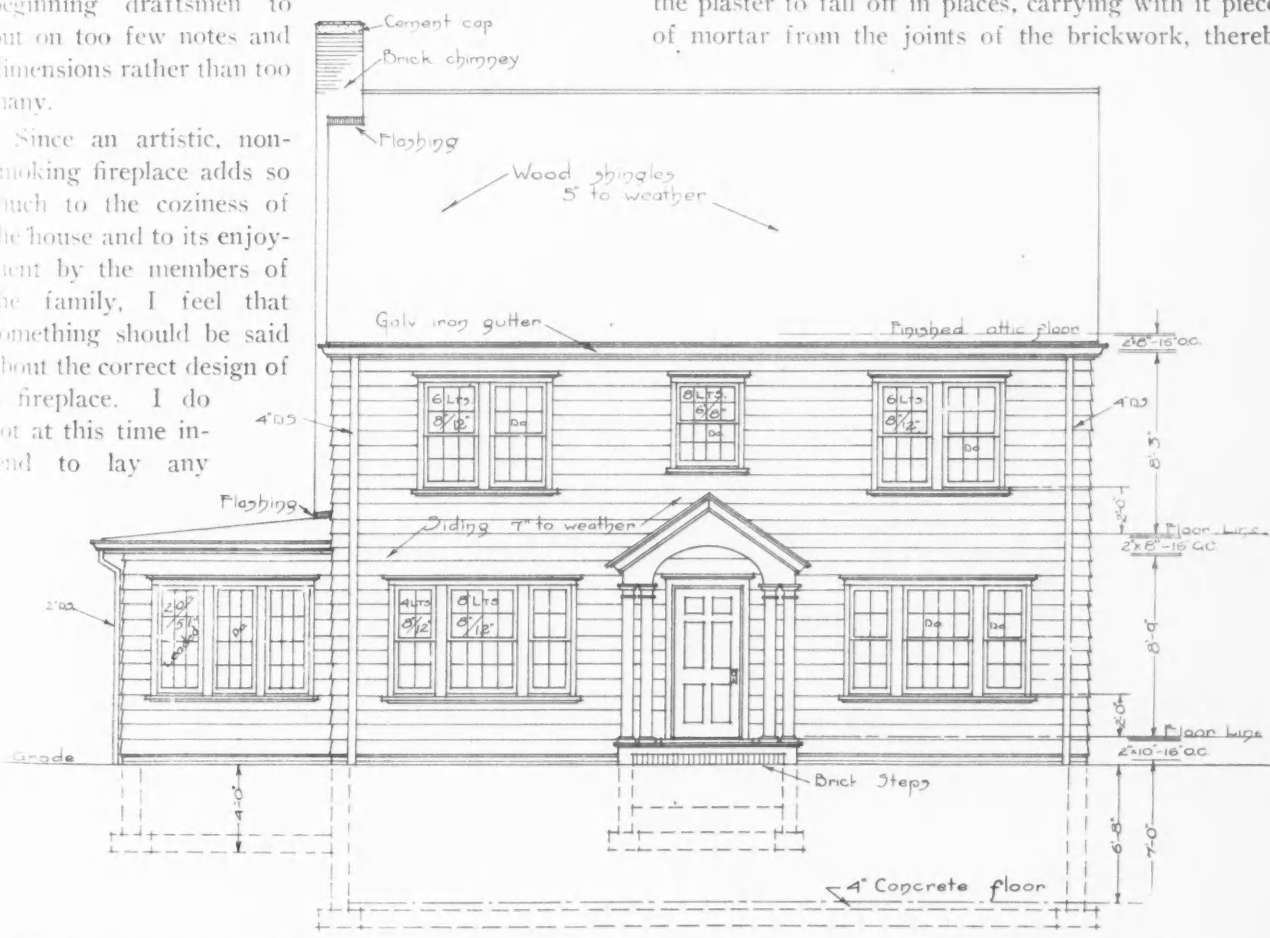
last. The front elevation of a typical colonial frame residence accompanies this discussion and was worked up in a manner similar to the method first described. This procedure holds good for every elevation and should be followed to secure best results. Where ornament or fine detail occurs on the elevation it is often omitted and its location shown by a mere outline or by a note. A large scale or full size detail drawing of this ornament will have to be made when this condition occurs.

In dimensioning an elevation it will be well to remember to keep all dimension lines off the building wherever possible. These dimensions should be read from the bottom and from the right of the sheet as is the case on a plan, section or detail drawing. Since the tip of the arrow point determines where the dimension is to be taken, special care must be taken that these arrow points occur at exactly the right place. Never use a center line or a line of the building as a dimension line.

By all means, be sure to put enough notes on an elevation to determine the kind of material of which various details are to be built and to make clear various features that cannot be shown otherwise. I do not mean, however, to put on so many notes and indications that the drawing is ambiguous but just enough to explain the work. There is a tendency for most beginning draftsmen to put on too few notes and dimensions rather than too many.

Since an artistic, non-smoking fireplace adds so much to the coziness of the house and to its enjoyment by the members of the family, I feel that something should be said about the correct design of a fireplace. I do not at this time intend to lay any

stress upon the appearance of the mantel or fireplace but rather upon a few practical points that might avoid disappointment when the building is completed. The drawing accompanying this work is only intended as an outline drawing to show approximate shape and correct dimensions, the following of which will produce a fireplace that cannot smoke. Probably the first thing to consider is the fireplace opening and its relation to the chimney flue. The width of the fireplace opening from thirty to forty-two inches and the height from twenty-four to thirty-six inches. The height should be from two-thirds to three-fourths the width but should be kept as low as possible as it provides a better draft. For every square foot of fireplace opening there should be thirteen square inches of flue opening. That is, the clear sectional area of the flue should be from one-twelfth to one-tenth that of the fireplace opening. However, the flue opening should never be less than sixty-four square inches. Specifications sometimes call for flues plastered smoothly on the inside with portland cement, both to prevent sparks from passing through the walls and to increase the draft and when this is done the walls and the withes or partitions of a chimney should be built with great care and the joints carefully filled with mortar. Many building laws, however, forbid the plastering of the flue surfaces on account of the tendency of the plaster to fall off in places, carrying with it pieces of mortar from the joints of the brickwork, thereby



In Dimensioning an Elevation It Is Well to Keep All Dimension Lines Off the Building Wherever Possible. An elevation should indicate everything on the face of a building, from the finished grade line to the edge of the roof and the top of the chimney.

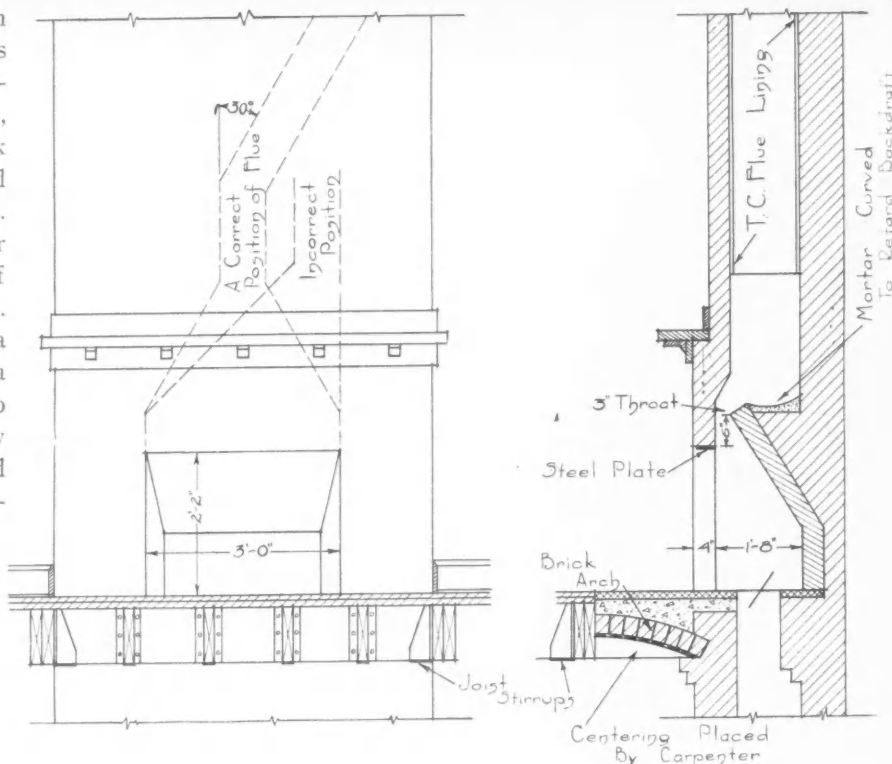
tending to clog or at least roughen the flues. Terra cotta flue linings for chimneys provide a smooth interior, eliminate danger of fire, strengthen chimney and save brick and labor and consequently should be used in every fireplace design. Flues smoke or draw poorly oftener on account of insufficient height of chimney than from any other cause. A chimney should always extend a little above the highest point of a building or of buildings adjacent to it, as otherwise eddies formed by the wind may cause downward drafts in the flues, making the fireplace smoke.

The throat should always extend across the full length of the opening and as near to the front of the fireplace as is possible. Its width should never be less than three inches nor more than four and one-half inches unless a patented damper is used. The sectional area of the throat should be approximately the same as that of the flue. It is always best to have the throat begin at a point six to eight inches above the bottom face of the arch at the head of the fireplace opening.

Since a properly constructed fireplace should give off into the room a maximum amount of heat for the fuel consumed, it is advisable to build it with the jambs splayed instead of at right angles to the face of the fireplace. These sides are usually run back straight for about four inches and then splayed two to five inches per foot in depth so that the opening into the room is wider in front than behind. The back of the fireplace should be brought forward with a slant or curve commencing at a point a little above the hearth. This also has a tendency to provide a more efficient fireplace. The jambs and back should be of firebrick or heat-resisting tile.

If the depth of the fireplace is not great enough the smoke will enter the room instead of going up the flue. On the other hand, it is poor design to make it deeper than absolutely necessary for the heat would not then radiate into the room. Where coal is to be burned, a minimum depth of sixteen inches may be permitted but a depth of eighteen or twenty or even twenty-two inches is better for wood burning.

The finished front hearth of the fireplace may be of brick, tile, stone or mosaic but the back hearth should be of firebrick or soapstone and should be provided with an ash dump. This ash dump door should be connected by a flue to the ash pit in the basement. If the fireplace is to be used frequently, the ash pit is almost a necessity, especially in residences and it



A Properly Constructed Fireplace Should Give Off Into the Room a Maximum Amount of Heat for Fuel Consumed. Splayed jambs are better than right-angled jambs.

should always be provided when practicable.

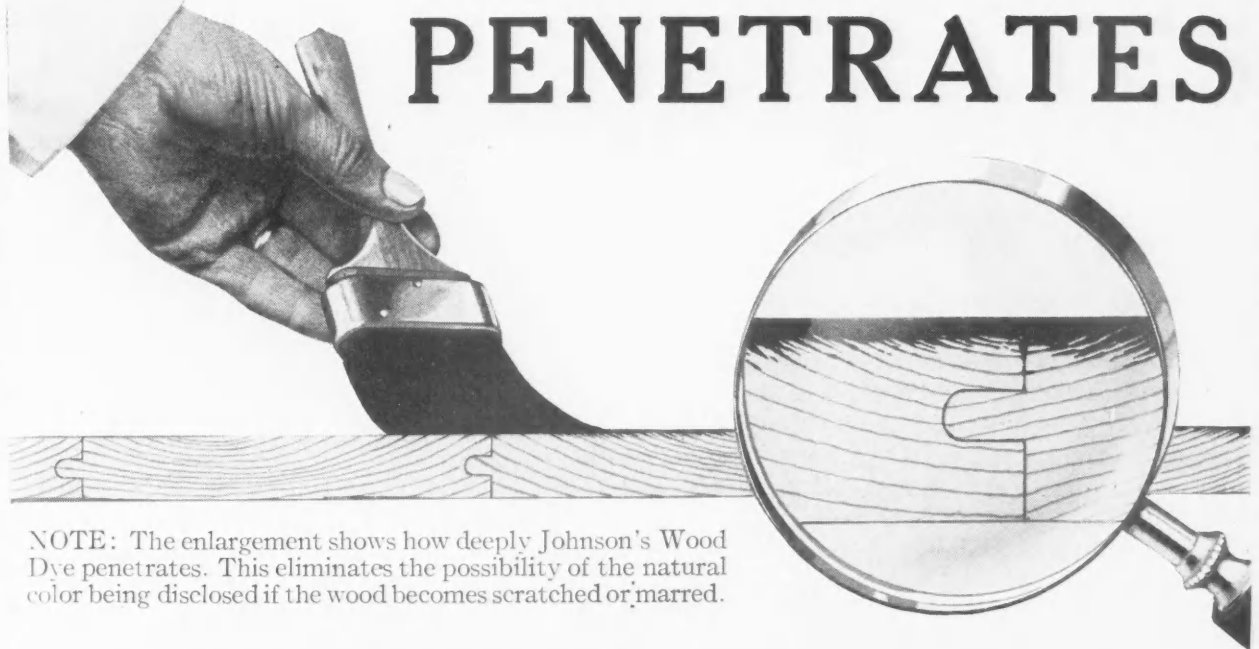
The smoke chamber, beginning at the throat should be gradually contracted to the size of the flue, directly over the middle of the fireplace as is seen in the accompanying drawing. These sides should never slant less than sixty degrees and the brick forming the sides should be chipped off smooth so as not to retard the draft. If the flue is drawn over to one side or the other of the smoke chamber it will cause unequal draft on the two sides with possible smoking on one side.

In building with wooden floor construction, each fireplace hearth is usually supported by a trimmer arch commonly two feet wide by the width of the chimney in length, turned on a wooden center from the chimney to the joist header as shown in the sectional view. The centering is put up by the carpenter and although it is not needed for support after the arch is set, it is generally left in place to afford a nailing for lath.

❖ Real Values

EARLY in life there is heard talk of "tone," "class," "social standing" and "respectability." Often it is not realized that these are general terms and may mean much or nothing in an individual case. "Tone" is largely a matter of personal taste which can be cultivated no matter what the job. A false front has been known to pass for "class." The term "social standing" has been variously defined, but whatever it is taken to mean there is no social barrier worth passing which will not drop to admit the truly intelligent and the honestly interesting from any walk in life.

A Wood Dye That PENETRATES



NOTE: The enlargement shows how deeply Johnson's Wood Dye penetrates. This eliminates the possibility of the natural color being disclosed if the wood becomes scratched or marred.

JOHNSON'S WOOD DYE

Johnson's Wood Dye is entirely different from the many wood stains and tints on the market. With it inexpensive soft wood such as pine, cypress, fir, etc., may be finished so they are as beautiful as hardwood. Its brings out the beauty of the grain without raising it in the slightest.

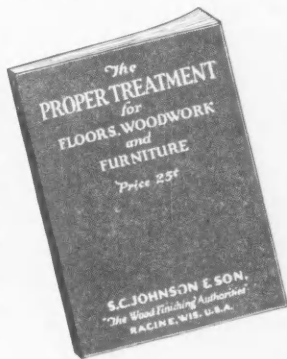
Johnson's Wood Dye is a *dye* in every sense of the word. It contains no finish whatsoever and, like most first class products, it answers one purpose only—it dyes the wood—the finish

must be applied over it. We recommended Johnson's Varnishes or Polishing Wax.

Johnson's Wood Dye goes on easily and quickly without lap or streak. It dries in four hours and will not rub off or smudge. You will find Johnson's Wood Dye a big help in working out color schemes in stained woods. Johnson's Wood Dye is made in 15 beautiful shades, all of which may be lightened, darkened or intermixed. Full directions on the label.

FREE—This Book on Wood Finishing

It's the best book ever published on Artistic Wood Finishing—the work of the famous experts—illustrated in color. This book is written for the practical man—it gives covering capacity, includes color charts, etc. We will gladly send it free and postpaid. Use coupon at right.



S. C. Johnson & Son
 "The Wood Finishing Authorities"
 Dept. A. B. 7, RACINE, WIS.

Please send me free and postpaid your Book on Wood Finishing.

I usually buy varnishes from

My name

My Address

City & State



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A Range That Aids Home Builders in Renting and Selling

THE kitchen is the housewife's "office" the greater part of her working day. It is often the deciding factor in her rental or purchase of a home.

A range which has attained wide popularity due to its manufacturer being able to supply a model to fit into any kitchen scheme is shown in the illustration. We grow hungry writing about it, looking at that roast chicken.

The graceful rounded corners lend it a dignified simplicity. Its neatness, clean finish and general symmetry give it an air of genuine fineness. There are no sharp edges to catch a wiping cloth or injure the hands; no hard-to-get-at cracks or crevices. One of its many conveniences is the extra boiling lid in the cast iron oven bottom. By removing this lid the housewife is able to set strong-flavored food over the oven burner, close the door, and all the cooking odor goes up the flue. The same bottom has earned the range a reputation as an even, perfect baker.

All enamelled and japanned steel parts are made of the nationally known Arpmco steel. The cast iron burners are cast in one piece and will not leak, neither will the cast iron oven bottom rust out. It appeals to a neat housewife as one of those kind of ranges that really are neater than anything in the proverbial Dutch kitchen.



Portable Band Saw Cuts Wood and Metal

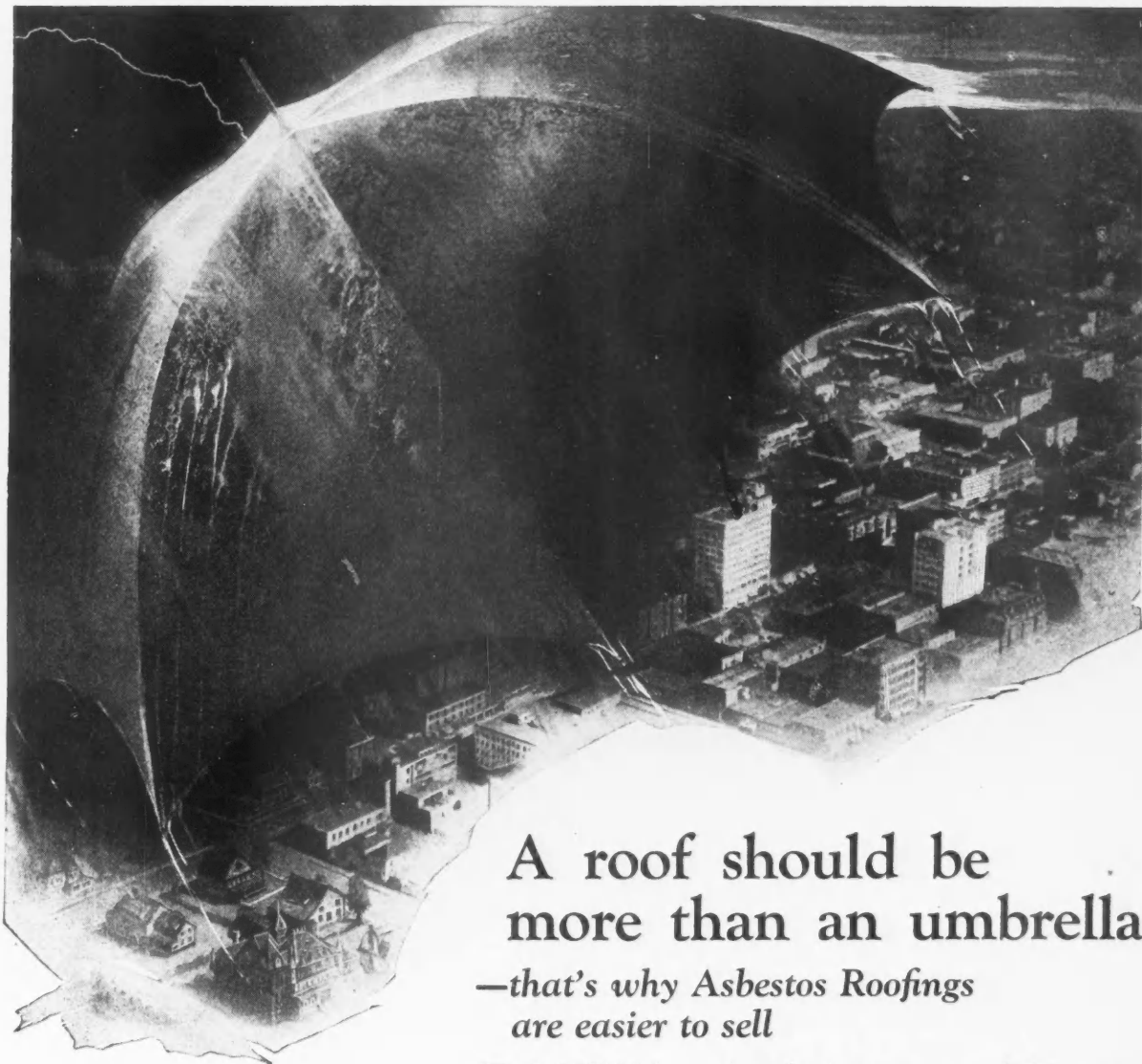
SIMPLICITY and versatility are the predominating features of the new duplex type portable band saw which is designed for cutting both wood and metals. This machine has other unique features, and is said to be the only combination wood and metal portable band saw ever perfected. It is adapted to shaping jobs in steel, iron, aluminum or brass; cutting of all kinds; fibre and hard rubber cutting in curves or squares; and is also exceedingly useful for a great variety of pattern work.

By means of a two-speed attachment, and a special saw guide, the machine enables the operator to quickly interchange wood or metal bands, or to use combination spring temper blades for cutting soft metal or wood at high speed. The two-speed attachment is provided for the purpose of obtaining the proper speed essential for cutting steel and other metals, and an instantaneous change of speed can be made simply by shifting one lever.

The wheels of the band saw are made of cast aluminum, and are covered with heavy rubber bands cemented to the rim. The wheel guards are also of aluminum, and they afford complete protection to the operator. The housings which carry the wheel bearings are packed with non-corrosive grease. The table is 15 by 15 inches, and may be tilted to any desired angle up to 45 degrees, operating on a strong, quick-acting saddle. The saw-guide is of new design, being adapted to both wood and metal bands, and can be adjusted to accommodate bands of various widths and gauges. The saw-guide is mounted on a substantial square steel post, and is quickly



Miss Marjorie Northrop, Director of Food Economics of Armour and Company, Demonstrating the Ease with Which the Housewife Can Use the Oven of This Range. Because of the glass doors, Miss Northrop did not have to open the oven for inspection of the fowl at any time except for basting.



**A roof should be
more than an umbrella**
—that's why *Asbestos Roofings*
are easier to sell

ROOFING is not bought for temporary shelter—permanence and fire-safety are vital considerations with the buyer.

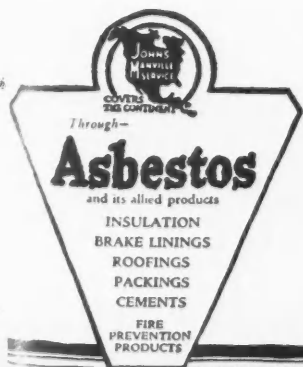
On this basis, Johns-Manville Asbestos Roofings naturally have a preference. The permanence and fire-safety of their indestructible asbestos rock fibre base means economy and protection as well as shelter.

Roofing buyers want this permanence and fire-safety—and they want it so much that they are more than willing to pay slightly more for it than an ordinary cheap roofing would cost.

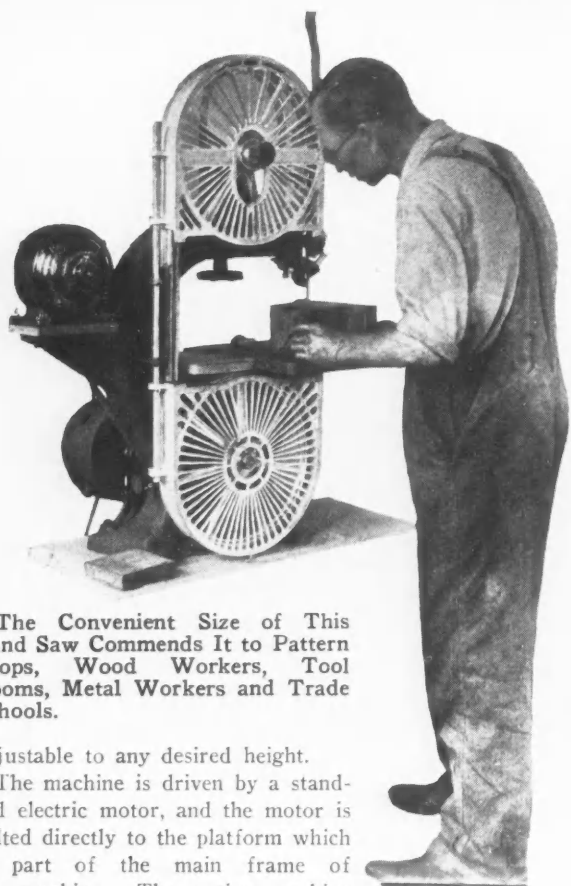
Asbestos roofings are easier to sell.

JOHNS-MANVILLE Inc., Madison Ave. at 41st St., New York City
Branches in 56 Large Cities

For Canada: CANADIAN JOHNS-MANVILLE CO., Ltd, Toronto



JOHNS-MANVILLE Asbestos Roofings



The Convenient Size of This Band Saw Commends It to Pattern Shops, Wood Workers, Tool Rooms, Metal Workers and Trade Schools.

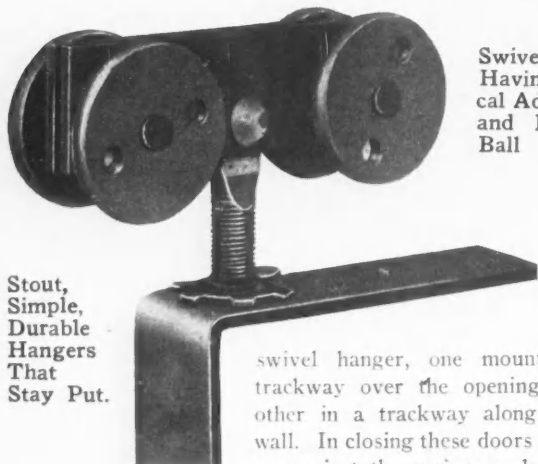
adjustable to any desired height.

The machine is driven by a standard electric motor, and the motor is bolted directly to the platform which is part of the main frame of the machine. The entire machine is only 39 inches high over all, and it weighs about 200 pounds. The small size of the device makes it particularly useful for pattern shops, wood workers, tool rooms, metal workers and trade schools.



Garage Doors Require Special Hangers to be Satisfactory

MANY of the modern garage requirements cannot be readily satisfied by the common methods of hanging doors. Garage doors demand special consideration, and illustrated is an equipment specially designed and which is used quite extensively on public and private garage entrances. The two edges of the door are hung independently by a



Swivel Hanger Having Vertical Adjustment and Hardened Ball Bearing.

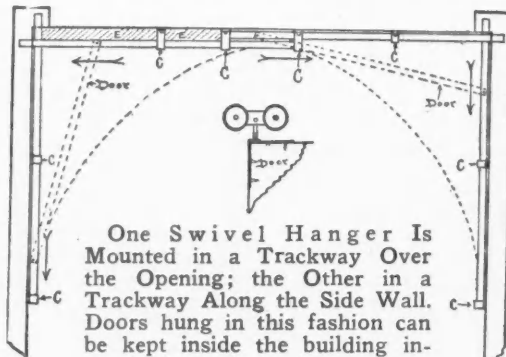
Stout, Simple, Durable Hangers That Stay Put.

swivel hanger, one mounted in a trackway over the opening and the other in a trackway along the side wall. In closing these doors go snugly up against the casings and are practically as tight as a swing door.

When open they stand back against the side wall. The tracks cross at the center (side track under) and each enters the wall about four inches to provide space for the hanger trucks inside. For double doors the front track is in sections, one back of the other,

so that the doors overlap each other at the center in closing. This gives room in the independent trackways for the hanger wheels which project well beyond the door edges.

A tight job is obtained, however, by filling in behind the track as indicated and properly arranging the jamb and sill for this door. The hangers have vertical adjustment, and have hardened ball bearings, and are made in two sizes.



One Swivel Hanger Is Mounted in a Trackway Over the Opening; the Other in a Trackway Along the Side Wall. Doors hung in this fashion can be kept inside the building instead of opening out.

for a door weighing up to 350 pounds, and a door weighing up to 1000 pounds, respectively. Doors may be hung in pairs also by this system, as illustrated in the diagram. It is particularly useful where the opening is wide, and the door or doors must be kept inside the building instead of being opened out.



Cleaning Old Bricks Really is Making New Bricks

WE remember many hot afternoons when we sat under a sizzling sun chipping off the mortar from a pile of old bricks with a trowel. We were born just a few decades



He Cleans the Mortar Off Bricks After a Fire, Salvaging an Average of 5,000 Bricks a Day.

too soon, for now comes along an inventor, with more imagination than we had, and with a device which would have saved us a world of trouble—and cussing.

This man is cleaning the mortar off used bricks after a fire. He cleans on an average of 5,000 bricks a day. The outfit is operated by an air-cooled engine. The rotating disc of the apparatus proper is filled with staggered teeth that trim off the mortar. Pressure of the hand or foot pushes the brick against the cutters, and Zip! off comes the mortar. The average cost for renewing the cutters is less than 8 cents per thousand bricks cleaned.

And we all know that a well-cleaned old brick is old only in looks. It is as good as new.



60 Selected Brick House Designs

-All for 10c



Photographs and floor plans of 60 beautiful brick homes—of wide range in type and price. Also valuable information as to modern money saving uses of common brick.

Modest bungalows to five and six rooms and pretentious dwellings—wide range of carefully selected designs. Every plan a masterpiece—drawn by a competent architect.

These houses are attractive in appearance and in the details that make sales. They are thoroughly practical from both builder's and owner's standpoint, for

Every house has been actually built and lived in

They sell for more because they are worth more. The value of good design is apparent in these dwellings. Yet with all their advantages over ordinary houses these fine brick homes are simple and economical to build. They offer a wonderful opportunity to builders.

Just 10c brings you this book—"Your Next Home"—an offer never equalled before. And specifications, working drawings and complete information for every one of these 60 homes are available at nominal price.

The Common Brick Industry of America
2131 CLEVELAND DISCOUNT BLDG.
Cleveland, Ohio

The Ideal Brick Hollow Wall is made of standard brick obtainable everywhere





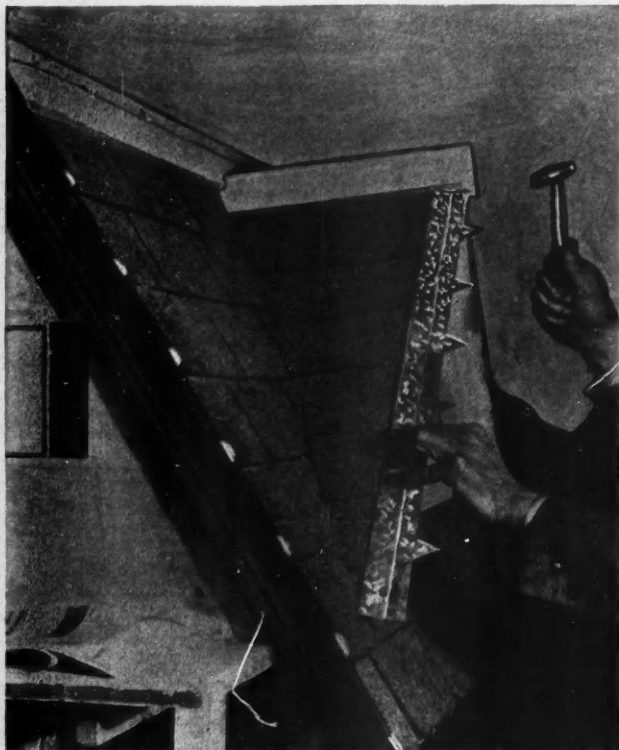
Ideal Brick Hollow Wall

"Brick Homes at the Cost of Frame"



An Edging for Asphalt and Roll Roofs is Neat, Firm, Labor-Saving and Holds

A NEW metal device is being placed on the market which enables the user of asphalt shingles and roll roofing materials to insure best results and satisfaction all around.



This New Method of Securing the Roof Edges of Asphalt Shingles and Roll Roofing is Fireproof, Easily Applied, Inexpensive, and Improves the Appearance of the Structure Greatly.

It is not necessary to carry the roofing material over the edge to nail, as the bendable fingers on the new metal device fasten it on the top without the use of nails. It secures the edges firmly, and will not let go, doing away with bad edges and leaving them neat, firm and straight. It is made of metal and is durable and strong, and gives a real finished edge to the high or low cost job. As one of the best inventions patented recently it was exhibited during the month of February at the Grand Central Palace Exhibition, New York, N. Y., and was awarded the Bronze Medal and Diploma.

Aside from its roof-holding qualities, it gives a firm support at the eaves, making it possible to place a ladder against the edge without injury. It also makes it possible to secure the half shingle along the gable ends without nailing, as the gap between the roof boards and cornice fascia is covered.

To cap all its other advantages, it is fireproof, easily applied and inexpensive. ❖

New Type of Stucco and Plaster Base

RECENT developments in the building industry have brought forth a type of stucco and plaster base that has caused considerable comment in the field and promises great strides toward permanent stucco and plaster walls and ceilings.

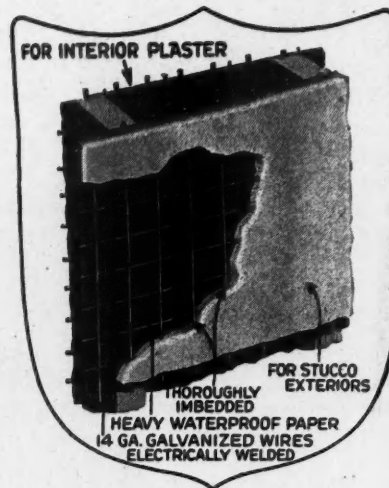
Unlike any other kind of lath previously used it is composed of a galvanized wire fabric with the wires spaced two inches apart and electrically welded at the joints. Back of this heavy wire fabric is placed a heavy waterproof paper. A crimp in the horizontal wires holds the fabric

to the paper and about one quarter of an inch away from it.

The plaster and stucco are applied in the usual manner but, instead of being squeezed through openings in the lath to hold it on, the materials surround the wires completely and eliminate any possibility of the plaster or stucco falling off.

The galvanized wire fabric serves a two-fold purpose. First to hold the material securely to the wall without any chance for it to crack or fall off, and, secondly, to reinforce the wall and secure it against cracking from jars or slight movements in the building. The wires are 14 gauge (galvanized) and being welded at each crossing, this mat of steel fabric develops a great reinforcing strength. The heavy paper backing serves as back to hold the plaster until set and afterwards serves as a damp and sound resistant in the finished wall.

The manufacturers claim a superior and more lasting construction over the ordinary key type and a considerable saving in time and materials in placing stucco and plaster on the exterior and interior walls. The above picture illustrates how the wire reinforcement functions in holding and reinforcing the plastic materials.



Galvanized Wire Fabric, Electrically Welded at Joints, Is Completely Enveloped by Plaster or Stucco, and Makes Durable, Non-Cracking Wall.



New Type of Ventilating Shade for Center Swing Sash

THE center swing steel sash so popular in the fenestration of various types of buildings no longer presents any obstacles to proper shading against too strong or hot sunlight.

A manufacturer is producing a shade which is applied direct to the steel sash, eliminating the expensive and troublesome boring of the concrete or brick walls, and whose construction of stained wood strips, twine-woven, tend toward easy operation and lasting qualities over a long period of use.

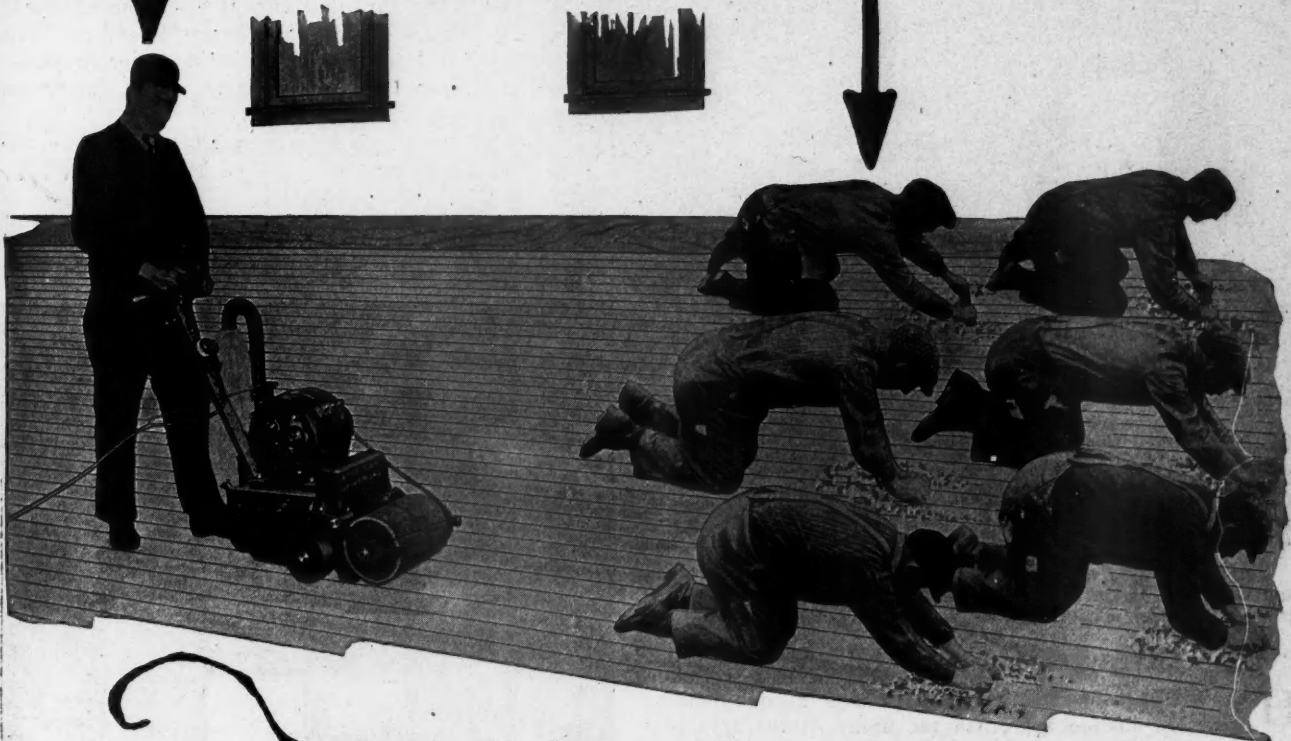


These Improved Shades for Tilting Steel Sash Windows Are Popular in Schools, Factories and Other Structures Using This Mode of Fenestration.

The shade illustrated is suspended from a bracket attached to the steel ribs, and is automatically brought in flush against the wall at the base of the sash.

Naturally, a shade to be properly considered as such must be of a type which does not interfere with the ventilator, even while it shields against the light. Its lower portion must be out of the way of the workers passing by, and out of the way of possible flapping against machinery. The shade illustrated is sus-

SIX MEN OR ONE ?



Which Pay Roll would You rather Pay ?

The "American Universal" floor surfacing machine does the work of *Six Men* scraping floors by hand. Where it cost you \$48.00 for hand scraping, the "American Universal," always on the job, will do the same amount of work at a cost of only \$8.00 an actual saving of \$40.00 to you—\$40.00 added to your profits!

Are You paying the \$48.00 or the \$8.00? Let an "American Universal" surface your floors at one sixth the cost. Increases your profits 500% on every job.

Full ball bearing construction—built to last a lifetime. Practical because of its simple construction. An inexperienced handy man can turn out first class work at a high rate of speed with this machine.

Try It For Five Days—Free!

Let us tell you of our free five-day trial offer. Mail the coupon today—Now.

AMERICAN FLOOR SURFACING MACHINE CO.

515 South St. Clair Street TOLEDO, OHIO

AMERICAN FLOOR SURFACING MACHINE CO.
515 South St. Clair Street Toledo, Ohio

Send at once, without obligation to me, full particulars and free catalogue on your "American Universal" floor surfacing machine. Don't fail to explain free five-day trial offer.

- I am a building contractor.
- I want to become a floor surfacing contractor.

My present occupation is _____

Name _____

Street Address _____

City _____ State _____



The New Safety Arm or Bracket Holds the Ladder Safely and Securely, Gives Good Working Space and Radius, and Insures a Good, Careful Job.

Giving Arms to a Ladder

HAVING just finished with the painters at our house we were able to appreciate the utility of the type of safety bracket or arm illustrated. It comes in pairs. The arm or brackets are of the best quality ductile steel, and being alike in construction, fit either side of the ladder, being held securely in place with top and side thumb screws. There is a clip on the arm of the arm or bracket which keeps paint pail or firepot from sliding, and the arrangement gives a quality of freedom to the person on the ladder which is absent when the ladder is used without the safety arm or bracket attachment. It comes in useful when painting, roofing, washing windows, fitting or hanging screens, awnings, storm sash, replacing glass—in fact, for any work requiring the use of a ladder. The farmer finds it particularly useful, as in connection with silos, and the tinsmith secures better footing and room for his work.

It was a painter's idea, this safety arm or bracket, and when he had perfected it he found he could accomplish more work in five hours on a ladder equipped with the new device than he could accomplish in eight hours without it. These new safety brackets or arms ought to prove a good investment for anyone using a ladder in their work, and as they are simply and durably made, their usefulness is unlimited.



An Artificial Marble of Simple Make Surpasses Nature's

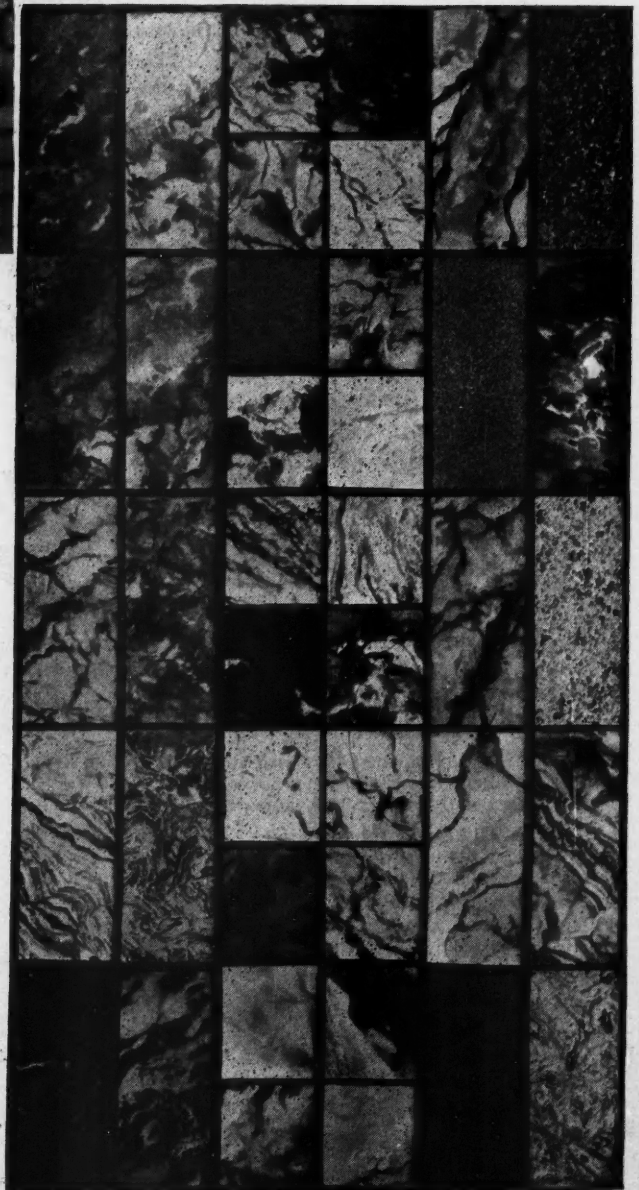
ART marble in its varied combinations, uses, and wide application as a building and decorative material is steadily

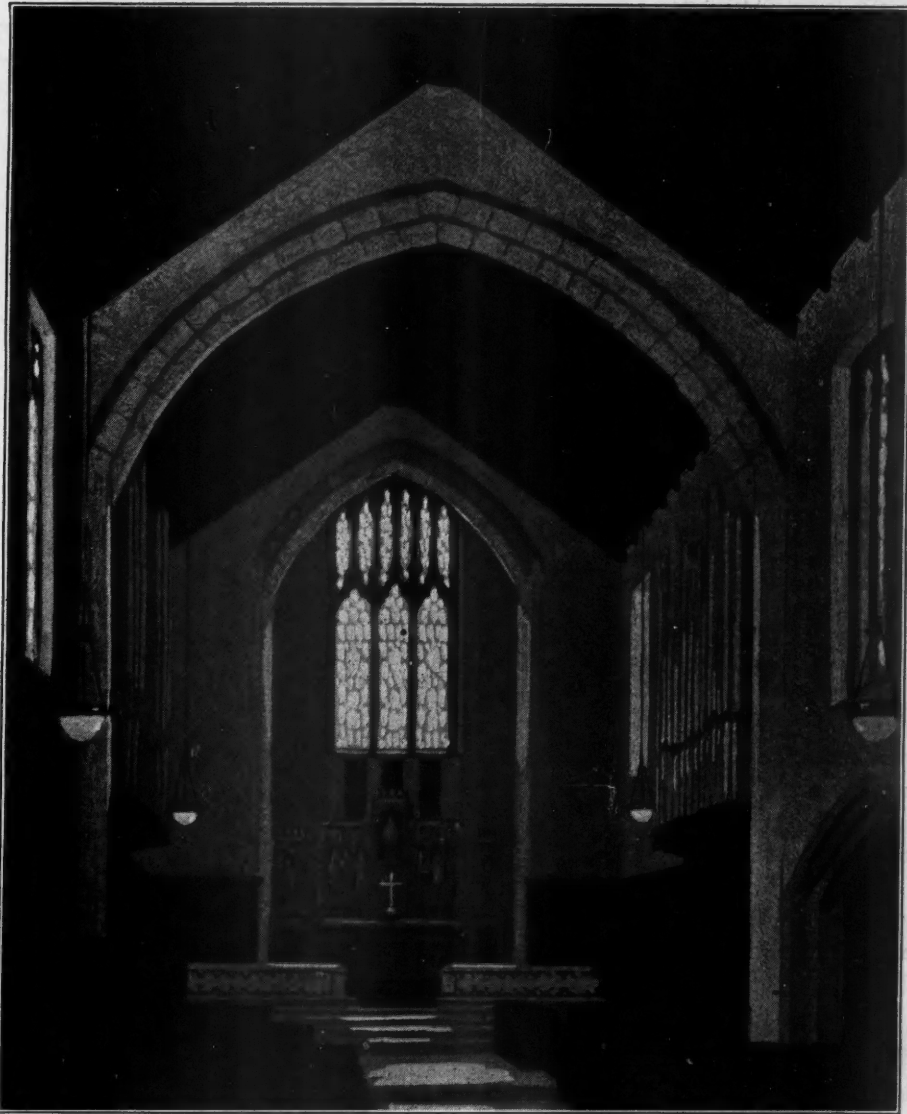
growing in volume, recognition, and favor with architects and builders. Its permanence and beauty, when intelligently fashioned, appeals to the eye, and the results are of a nature which meet the most exacting canons of good taste.

This, indeed, is one of the most noteworthy examples of the artistic possibilities of portland cement. It requires no extraordinary outlay in the way of expenditure for the formulas or for equipment. Its inventor sells the right to manufacture artificial marble by his process, giving what is termed a "shop license," at a reasonable figure. Any bright apprentice or employe can in a short time be turning out Veined Italian, Vermont, Barre, Porphyry, Alabaster, Verde Antique, Onyx, Conemara, and other patterns, securing effects which open a wide and profitable field in interior and exterior trim, for fireplaces, bathroom linings, floor tiling, counters, show cases, table tops, panelling, etc.

The required materials are obtainable from the open market.

Why not Capitalize on the Present Vogue of Marble for Exterior and Exterior Finish and Trim? Artificial marble of Portland Cement offers profitable field.





Kellastone Interior Super Plaster is a distinctive type of caustic magnesia cement. Its remarkable strength, toughness and fibrous mat texture makes it the ideal plaster for churches, hotels, schools, theatres, etc. In the home it creates an atmosphere of refinement, and is a revolutionary betterment in interior wall construction which insures walls that endure.

Ask your local dealer or write us direct for prices and full information.

KELLASTONE
IMPERISHABLE STUCCO

STUCCO ~ SUPER-PLASTER ~ FLOORING

National Kellastone Company ~ Chicago ~ New York

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

The Truck and the Job

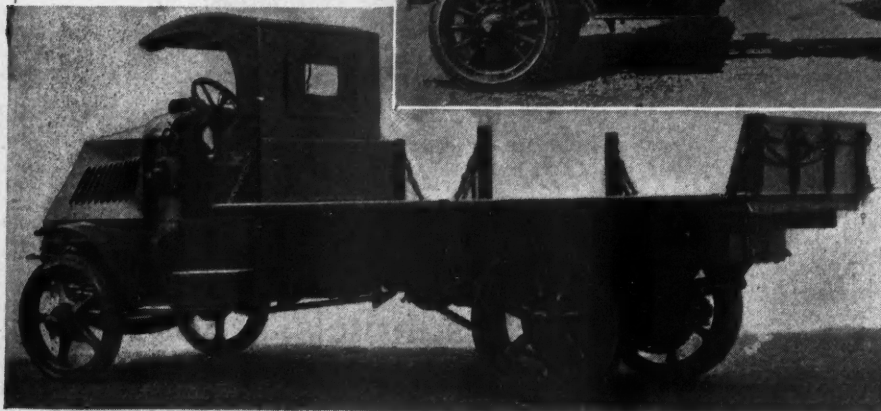
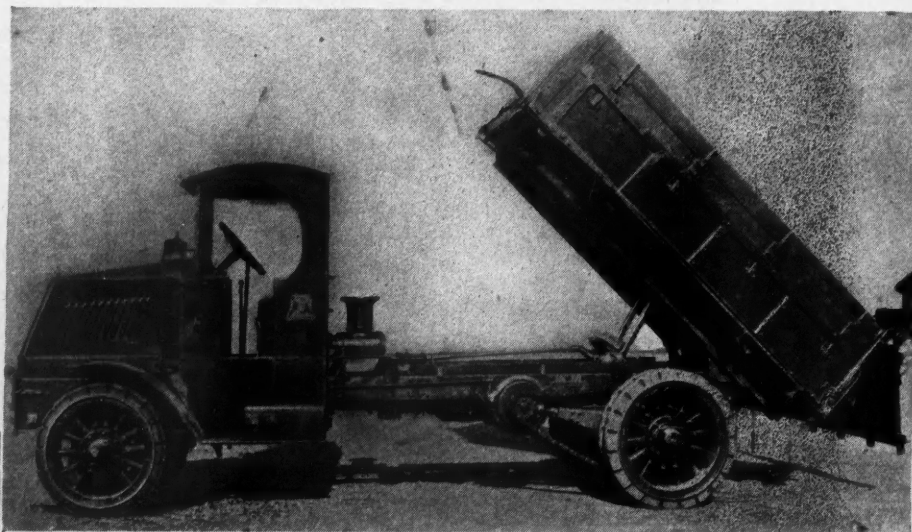
Combination Dump Body with Capstan Winch Useful; Drop-Side Steel Body Type Also Has Advantages

By P. L. SNIFFIN

AN unusually practical type of motor truck body design for special uses in the contracting and building supply business, is shown in the accompanying illustration. It is a four-yard combination dump body with capstan winch mounted on the frame in front of the body. When not being used as a dump truck for hauling loose material, the front and sides of the body may be removed, providing a platform body on which heavy or bulky material may be loaded by means of the capstan. While this is a special type of dump hoist, and slightly more expensive than the ordinary dumping device, it is very efficient in use and in this case does not interfere with the operation of the capstan winch. The combination as a whole has rather exceptional advantages to offer the contractor who frequently has occasion to haul machinery or especially heavy articles and whose business ordinarily calls for dump body equipment.

mitting easy unloading. Obviously, the truck body can also be adapted very easily for hauling other than bulk materials, such as lumber, cement, etc. With the sides down, this particular equipment forms an efficient platform type of body, 9 feet wide by 12 feet long. The sides, when raised, are 18 inches high. While this body type is not considered as standard stock equipment by most truck manufacturers, it can be obtained with any make of chassis at a low cost.

Four-Yard Dump Body Truck, with Capstan Winch Mounted on Frame. Front and sides of body are removable and truck used for other bulky material.



Drop-Side Steel Body Type Having Particular Advantages for the Contractor, Builder or Building Supply Dealer. Side drops in two sections.

This arrangement can be secured in connection with any make of truck chassis and in a great many cases its additional cost will be more than justified by time and labor saving and by enabling the contractor to haul loads that would otherwise be impossible.

This "drop-side" steel body type has particular advantages for the contractor, builder, or building supply dealer, where quick unloading of bulk materials is required, yet where the volume of this business does not warrant the installation of a special dump hoist body. It represents a much lower cost and for many purposes, serves almost equally as well. As shown in the illustration, the sides drop in two sections, per-

ESTIMATES and other things being equal, what is there about your way of doing business which should cause prospective builders to give you the preference? Is it some little trait of your personality; a wish to give your patron a little more personal interest and value than is down in black-on-white in the specifications? And is the lack of it one of the reasons why you may not have landed that last contract or job, or not be doing as much business as your competitor?

KEEP your business office in such shape that it is a worthy reminder to others of your business. If it is practical, have it uniquely treated, but artistically and interestingly so, on the exterior; and business-like and comfortable in its interior. Keep your storage yard straightened up, and your trucks, wagons, and other vehicles and equipment in repair.

ARE you too modest, and set too definite a limit on the size of the jobs you feel competent to take? It is well known that an athlete will mark off 18 feet for a jump which may only carry him 15 feet. But if he marked off only 15 feet the chances are that he might not have jumped that far. Do not set limits for yourself. Consider yourself competent to undertake any sized job that occurs in your locality.

SOLID!

Held by the Fenestra Fin

See how firmly this Fenestra Basement Window is held in the wall by the Fenestra fin. Once the mortar is in place the window is *solid*—wind-proof and rattle-proof—an integral part of the wall.

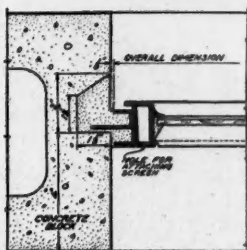
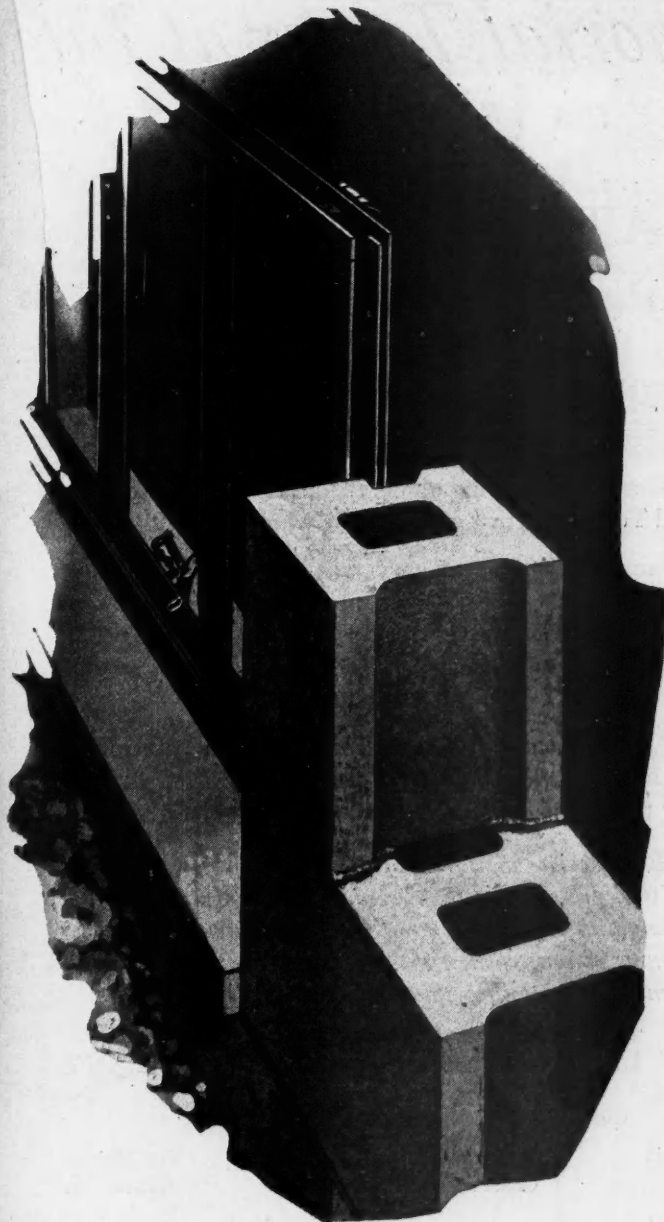
Fenestra Windows are suitable for use with every type of concrete block, but a block with a rebate, like that shown, saves time. Concrete block makers now have or can easily get moulds that will produce such a rebate.

Fenestra Basement Windows come onto the job all ready to set in the wall—lock and hinge and a priming coat are already applied. That makes it possible to install them with *one-third the labor* required for a wood window.

No matter what type of wall is used—concrete block, brick, tile, poured concrete or field stone—Fenestra Basement Windows are easier and more convenient to use and make a more solid, more permanent installation.

Owners like Fenestra Basement Windows because they admit 80% more light, never warp or stick, are fire-resistant and burglar-proof, last as long as the building, and cost little if any more than wood windows.

DETROIT STEEL PRODUCTS CO.
2602 East Grand Boulevard
Detroit, Mich.



Cross section of jamb showing concrete block installation.

Fenestra

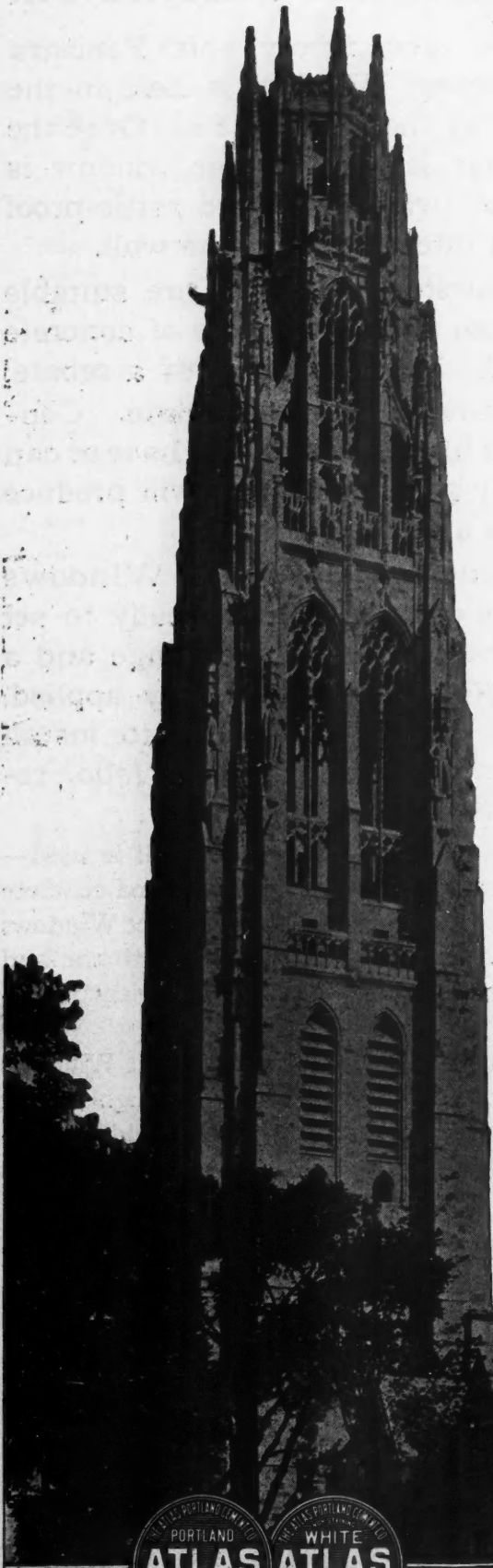
BASEMENT WINDOWS



The Harkness Memorial Tower at Yale

and

ATLAS WHITE PORTLAND CEMENT



SOMEONE has called great architecture "frozen music"—a name well justified when applied to such monumental work as the Memorial Quadrangle at Yale, created by James Gamble Rogers. Towering above the group is the Harkness Memorial Tower, a fitting crown to the whole.

The permanence of its masonry was wisely given added insurance by laying the stone in mortar made with ATLAS White Portland Cement which adds its own attractiveness to the stonework, and protects the unusual beauty of the stone because ATLAS White is non-staining.

That Mr. Rogers was as pleased with every detail of supplying this material as he was with the material itself is indicated by the following portion of a letter from him:

"I appreciate the fact that the cement was furnished promptly at the agreed price and without complaint, in spite of the fact that during the course of construction the price of cement in the general market almost doubled in price."

THE ATLAS PORTLAND CEMENT COMPANY

25 Broadway

CHICAGO

NEW YORK

BIRMINGHAM

Philadelphia
Dayton

Boston
Omaha

St. Louis
Buffalo

Des Moines
Kansas City

*The Memorial Quadrangle was designed by James Gamble Rogers, Architect.
The General Contractors were Marc Eidlitz & Son, Inc.*

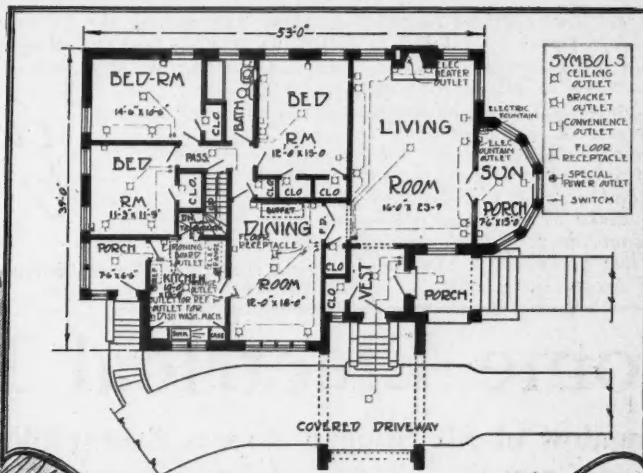


WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

WHITE MAGIC

The Electrical Section of the
AMERICAN BUILDER MAGAZINE, CHICAGO

JULY, 1923



FLOOR PLAN



A COOL LITTLE HOME WHERE EFFICIENCY REIGNS. Tile roof, brick walls with stone trimming—this very attractive small residence is just the type one would expect to find equipped with an ample number of

outlets to serve its occupants with every electrical convenience. Dimensions over all are 39 feet by 53 feet, and the floor plan shows the description and location of the electric outlets.

ELECTRIFY ALL BUILDINGS

A Department of Up-to-date Information
for all who Plan and Build

WE, of the electrical industry, are very gratified to have the privilege through this department of talking to the men who plan and build the homes of America. We have a message of great importance to all. Follow it carefully, and you will make your homes and other buildings more modern, more attractive, more salable and more livable. Electrify all buildings. Plan from the beginning on adequate wiring, adequate outlets and a proper investment in lighting equipment. Look ahead and see the ever-growing use future occupants will want to make of electrical appliances and labor-saving electrical conveniences of all kinds. You will find this a policy and a line of approach that will instantly appeal to your clients and prospective clients.

Make full use of the Electrical Section of the AMERICAN BUILDER, feeling free to call upon us of the electrical industry for information or suggestions. We are organized to help.

E. W. Lloyd

General Chairman, Joint Committee for Business Development of the Electrical Industry.

Our Home Electrical No. 4

Modern Brick Bungalow of Six Superb Rooms Exemplifies All Delights of Complete Electrical Equipment

EDITOR'S NOTE: The Joint Committee for Business Development comprises representatives of contractors, dealers, jobbers, manufacturers and central station organizations including:

1. Association of Electragists, International, New York City.
2. Canadian Electrical Association, Montreal.
3. Electrical Manufacturers' Council (Associated Manufacturers of Electrical Supplies, Electrical Manufacturers' Club and Electric Power Club), New York City.
4. Electrical Supply Jobbers' Association, Chicago.
5. Lighting Fixture Dealers' Society of America, Cleveland.
6. Illuminating Glassware Guild, New York.
7. National Council Lighting Fixture Manufacturers, Cleveland.
8. National Electric Light Association, New York.
9. The Society for Electrical Development, New York.

The Joint Committee for Business Development is organized with an Executive Committee and a Headquarters Staff, office 29 West Thirty-ninth street, New York, H. A. Lane, Director.

OUR Home Electrical No. 4 is a one-story brick bungalow of an especially attractive design, and when electrically equipped will be an ideal home. The electrical equipment has been laid out with a view of affording adequate use of this wonderful force both for lighting and for use in connection with electrical labor-saving appliances. Special emphasis has been placed on the use of convenience outlets in connection with electrical appliances. This is the best way to use them, and special attention has been given the wiring to their proper location and the number.

Consideration has been given to the use of switches for control of the lighting units in the various rooms of the house. This is a point

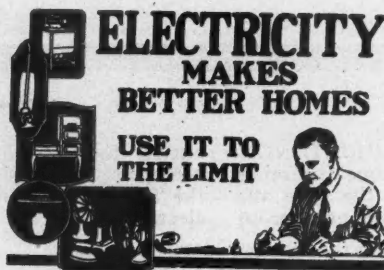
which cannot be given too much attention. The location of the switches at a proper point with relation to convenience is something which will be appreciated by those dwelling in the house.

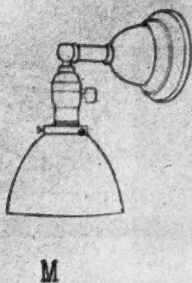
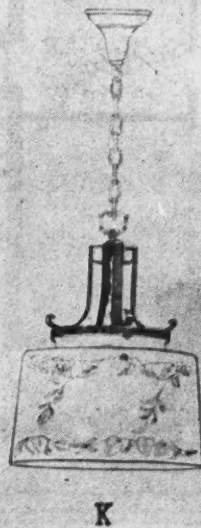
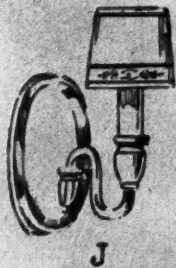
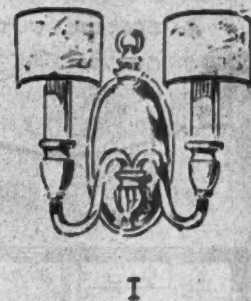
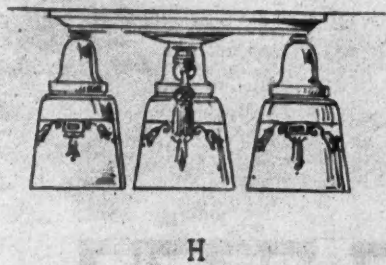
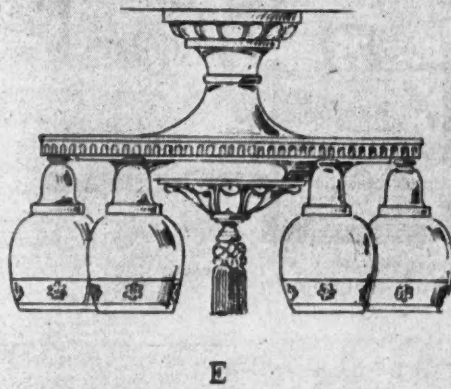
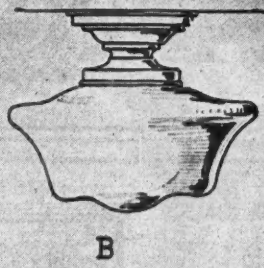
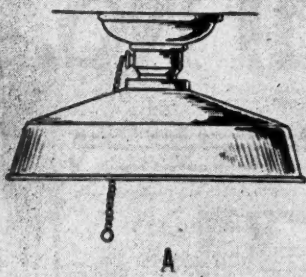
As we enter the home we are greeted by a light on the porch which is controlled by a switch located just inside the front porch. This enables the householder to flood the porch with light if he is called at night and at the same time it affords a welcome to arriving guests. Proper selection of a lighting unit for the porch will do much to enhance its appearance. The market affords some excellent luminaires designed for porch use, and the architect, builder or home owner will do well to investigate these before deciding upon any particular type. Located beside the switch controlling the porch light is one controlling the luminaire in the reception hall.

The living room is 13 by 31 feet and six convenience outlets are specified, one being of the duplex variety, which makes possible the use of an appliance and a

portable lamp at the same time, or two portable lamps if that is desirable. The luminaire control is provided by two switches, one operating the wall brackets and the other the ceiling unit.

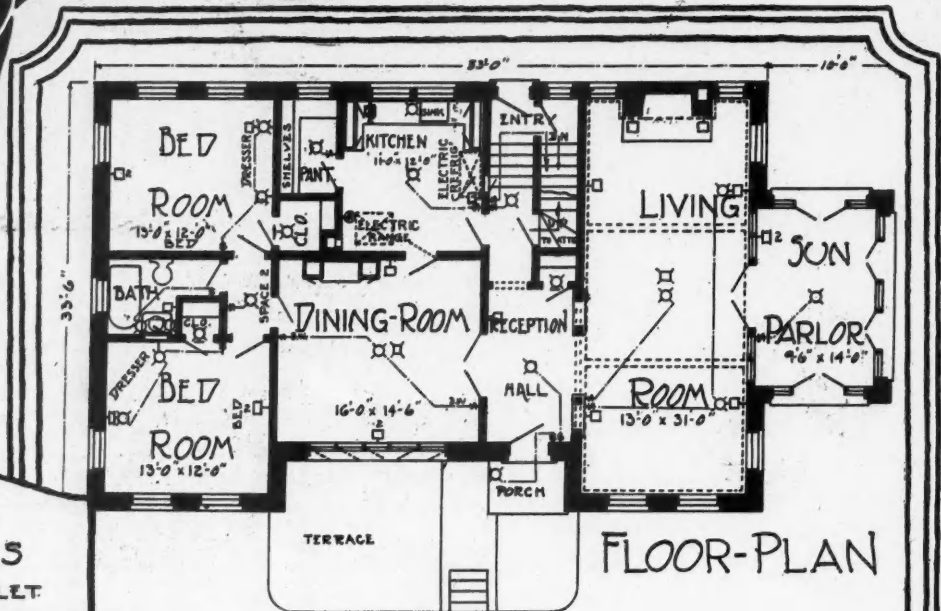
In the sun parlor there has been placed a duplex convenience outlet, making possible the use of a port-





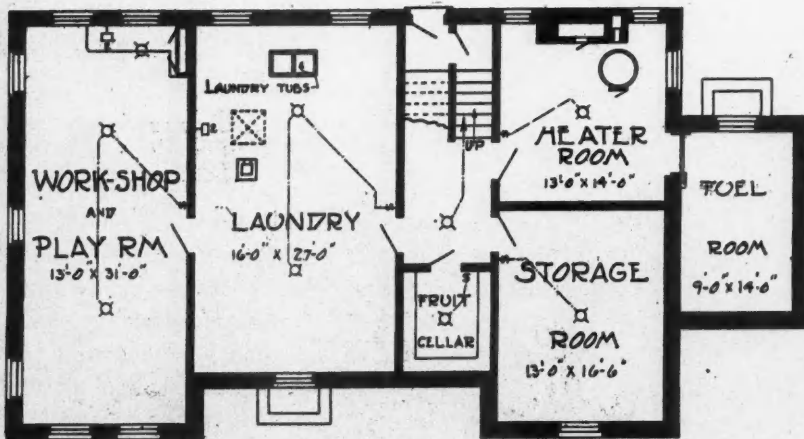
Acceptable Types of Lighting Equipment. A shade that diffuses and does not obstruct the light; a shape that directs the light properly; construction that keeps out dirt and dust and permits easy cleaning—these are essentials of the ideal lighting unit.

Our Home Electrical No. 4



- SYMBOLS**
- ⊠ CEILING OUTLET
 - ⊞ BRACKET OUTLET
 - ⊡ CONVENIENCE OUTLET
 - ⊞ FLOOR RECEPTACLE
 - SPECIAL OUTLET
 - S- SWITCH

FLOOR-PLAN



BASEMENT PLAN



FLOOR PLAN OF OUR HOME ELECTRICAL NO. 4. The layout of the floor plan is, as will be seen from the above, most convenient. We have a side entrance that saves the entire width of the house, 33 feet 6 inches, for

the living room, with adjoining sun parlor. The outlets for these, as well as for the reception hall, dining room, kitchen, bedrooms and bathroom, are ample and conveniently placed.

OUR
see
the pier
outside

able lamp and any appliances. This will be found especially convenient on cool evenings when the glow heater will be most welcome as a means of taking off the chill.

In the reception hall there is also a convenience outlet to which can be attached a vacuum cleaner or other appliance as the occasion demands. The light in the hall closet is operated by a pull chain and it is situated above the door, making it very easy to operate. Switches have been provided for the light in the rear hall at the head of the stairs going into the cellar, and means are also provided for turning on the light in the cellar before descending.

The central ceiling unit in the kitchen is controlled by a wall switch at the entrance of the hall, which makes it possible to flood the room with light before entering. The unit in the pantry is likewise controlled from a switch located near the entrance. A heavy-duty power outlet has been provided in the kitchen for the use of an electric range. This is placed in a circuit by itself and is a means of providing the home with the most modern method of cooking. A duplex convenience outlet has been placed by the drain board near the built-in kitchen cabinet. This outlet should be at the same height as the cabinet and affords excellent means of attaching the many appliances which are intended for use in the kitchen, such as the egg-beater, coffee-grinder, buffing machine, etc. A convenience outlet has also been placed in the baseboard for attaching an electric refrigerator, which has been found most satisfactory from the standpoint of preservation of food and convenience.

A duplex convenience outlet and a single one have been placed in the dining room. One



Plan Your New Home Carefully

Then there will be no future regrets

BE sure you provide plenty of places for electric lighting fixtures in your new home.

Make ample provision for the convenient use of electrical labor-saving appliances. "Convenience Outlets" (places to attach lamps, table appliances, cleaner, iron, etc.) cost very little in comparison with the comfort and satisfaction they afford.

near the sideboard will enable the housewife to prepare coffee, etc., on that article of furniture, and it will also serve as a means of providing illumination at that spot if desired.

Switches in the bedrooms, control the lighting units in position near the door. Convenience outlets have been provided at handy locations for the use of appliances or portable luminaires. The closets in each room are provided with lighting units of the pull-chain variety.



OUR HOME ELECTRICAL NO. 4. We are prepos-
essed in this home's favor at the outset by reason of
the pierced white window shutters, which "dress up" the
outside and make a neat and attractive appearance. Besides

the ample sun porch there is also a terrace at the front of
the house which is inviting, and makes a cool spot to sit
in, among the flowers and shrubs, in the cool of the even-
ing. It has brick walls, with roof of tile.



The Living Room Has Come Into Its Own as the Gathering Place of the Family, and This Is One of a Type Which Could Very Well Fit in with the General Plan of the One Shown in Home Electrical No. 4. Observe the renaissance of the arched ceiling, and how the mantel shelf is eliminated from the fireplace. The outlets have been so placed as to give maximum lighting effectiveness.

In the bathroom a switch has been provided for the operation of the lights on either side of the mirror, and a convenience outlet placed near the basin will be found a great convenience in the operation of a water-heater, hair drier, etc.

The accompanying full page plate shows some of the standard lighting units which will be especially applicable to a house of this nature. In the living room there has been specified a ceiling luminaire similar to E. This has four lamps which should be 50-watt white Mazdas. For wall brackets in this room, which should be placed about 6 feet above the floor, a unit similar to D with glassware to match that of the ceiling unit might be used; 25-watt lamps would furnish ample illumination with these units.

The floor and table lamps in the living room should be equipped with 50-watt white Mazdas. The illustration of the living room accompanying this article shows an excellent arrangement of portable lamps. It can be seen that the glassware on the side wall brackets matches that of the main ceiling unit. A bridge lamp such as is shown is an excellent investment and will be appreciated by those desiring to read or play cards. The convenience outlet in the mantel shelf in the living

room provides means for the use of torcheres or electric candlesticks. These make excellent secondary illumination mediums and are most attractive from a decorative standpoint.

The reception hall should be equipped with a ceiling luminaire somewhat on the style of L, or there may be provided a most attractive decorative lantern suspended from the ceiling. These are very attractive and most efficient as regards illumination.

In the dining room a dome ceiling unit has been provided somewhat similar to K. This should be equipped with a 75-watt white Mazda C lamp, and the unit should be hung so that the bottom of the dome is 54 inches from the floor. The model dining room illustrated shows a dome unit somewhat different in character, and in this particular case side-wall brackets have been provided.

In the kitchen a unit especially adapted for such use should be installed. This may be a totally indirect luminaire or one similar to K, with one 100-watt Mazda C clear lamp. Several manufacturers are now turning out units especially made for use in kitchens and are manufactured with a view to furnishing ideal illumination for that room. There has been provided a wall

outlet over the sink in the kitchen which should be about 6½ feet above the floor. This will be especially appreciated by the housewife or servant who is forced to do much of her work at the sink or drain board and if the means of illumination are solely provided by the ceiling unit, she will experience considerable trouble because of the shadow which she will naturally cast on her work. The use of a side-wall unit in this case will eliminate this shadow and enable her to work in a clear light. Luminaire M will be ideal at such a location when provided with a 40-watt Mazda B all-frosted lamp. The metal parts of kitchen luminaires should be finished in white enamel. The unit in the pantry ceiling should be somewhat similar to style C and should be provided with a 40-watt Mazda B all-frosted lamp.

The bathroom has been provided with an outlet on each side of the mirror, 5 feet above the floor, and luminaire F will be found ideal for such use. This should be furnished with a 40-watt Mazda B all-frosted lamp, and the metal part of the unit should be finished in white enamel.

In the bedrooms wall outlets have been specified in

addition to the ceiling unit. These side-wall brackets should be placed 6 feet above the floor and might be style D, I or J. In the candle bracket (I and J), 25-watt round bulb Mazda B all-frosted lamps should be employed. If style D is used, a 25-watt straight-sided Mazda B all-frosted lamp will be found excellent. The closets are provided with a pull-chain receptacle, the chain being of such a length that it can be conveniently reached when the door is open. It is possible to install a lighting unit in the closet which will operate when the door is opened, but this means that the light will be burning when the door is left open, for airing, cleaning or other purposes. The pull-chain receptacle eliminates this. The model bedroom pictured is likewise provided with side wall brackets, and the ceiling unit has been eliminated altogether. Note how the convenience outlets provided afford excellent opportunity to use various appliances peculiar to the bedroom without the necessity of attaching them to the lights and thereby depriving the occupant of illumination. In this particular bedroom a ceiling fan has been provided. This home is located in southern Texas where it is very warm, but such a convenience might



The Dining Room, with Its Complete Equipment for the Electrical Breakfast, Luncheon or Dinner. The lighting is worthy of note—with the center light over the table and the candelabra on the side walls. Observe these are not too high up; the decorative effect would be lessened. Good taste characterizes the other furnishings of this room, also.

be employed in homes situated in cooler climates for use on especially warm nights.

In the basement of this house space has been provided for fuel, furnace, storage, fruit, laundry and workshop or play-room. Careful attention has been given to the proper illumination of these various rooms. The light at the foot of the stairs is controlled by a switch on the floor above, and this enables the person descending to come down in a lighted space rather than in darkness. Switches controlling the lights in each room are provided. It might be that the housewife is coming down to get something from the storage room. At the entrance to each of the rooms is a switch controlling the lights therein and all she has to do is to turn the switch at the entrance to the storage room to flood it with light. That eliminates the necessity of turning on the lights in the other rooms.

In the laundry a duplex convenience outlet has been provided for the use of appliances peculiar to that type of work, washing machine, electrical ironer, etc. There are two luminaires in this room providing ample illumination.

Two units have also been indicated in the workshop,

and an additional one over the work bench, the latter being a pull-chain unit which need only be turned on when actually needed. A duplex outlet is provided near the bench and is located one foot above the top. This allows the use of a motor or other appliance which might be used in that locality. Over the workbench, luminaire A, an R. L. M. dome reflector, with a 100-watt Mazda C bowl-enameled lamp should be used, to be mounted close to the ceiling. This luminaire is 14 inches in diameter. In each of the two ceiling outlets in the laundry, luminaires similar to A could be used with 150-watt Mazda C daylight lamps. The convenience outlet here should be about 3 feet high to allow for the handy connection and disconnection of appliances.

In the fruit cellar and at the foot of the stairs, luminaires of type C should be used with one 50-watt Mazda lamp in each. The reflector should be 5½ inches deep.

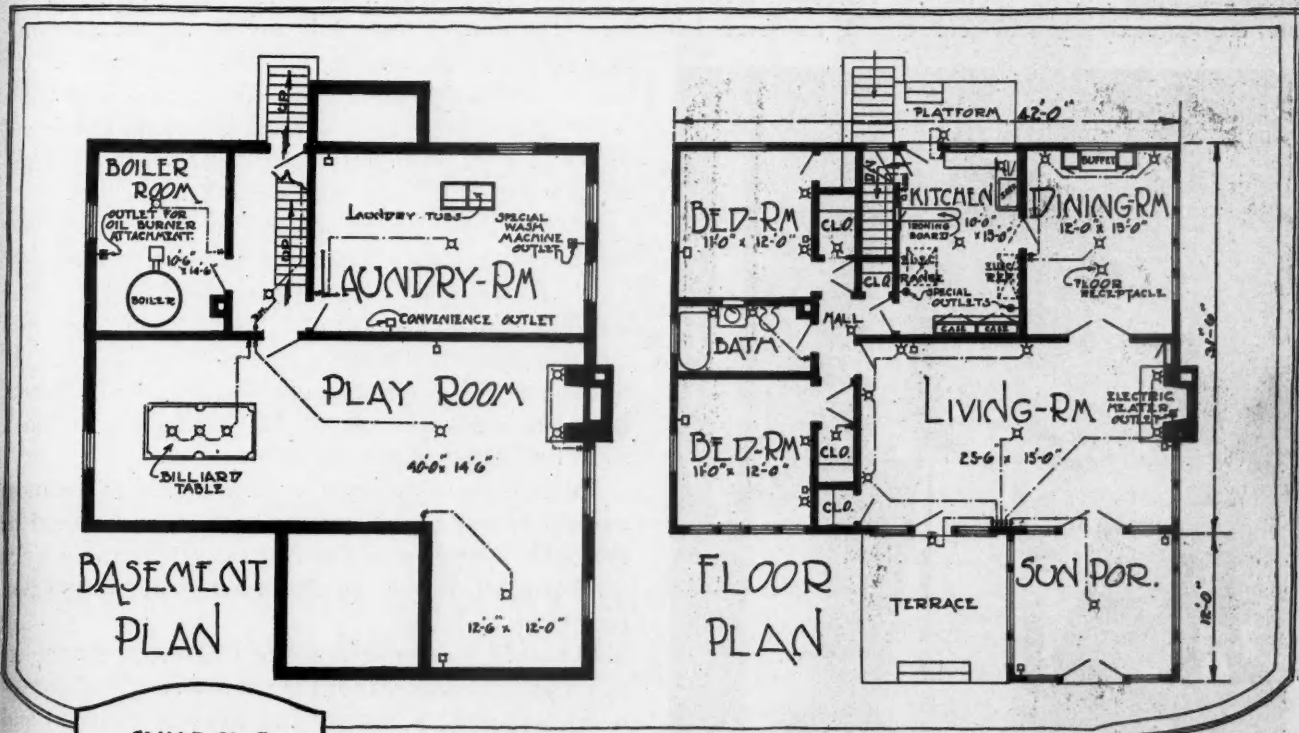
In the heater and storage room, the R. L. M. dome reflector (A) will furnish excellent illumination when provided with one 150-watt bowl-enameled Mazda C lamp.

(Continued to page 144.)

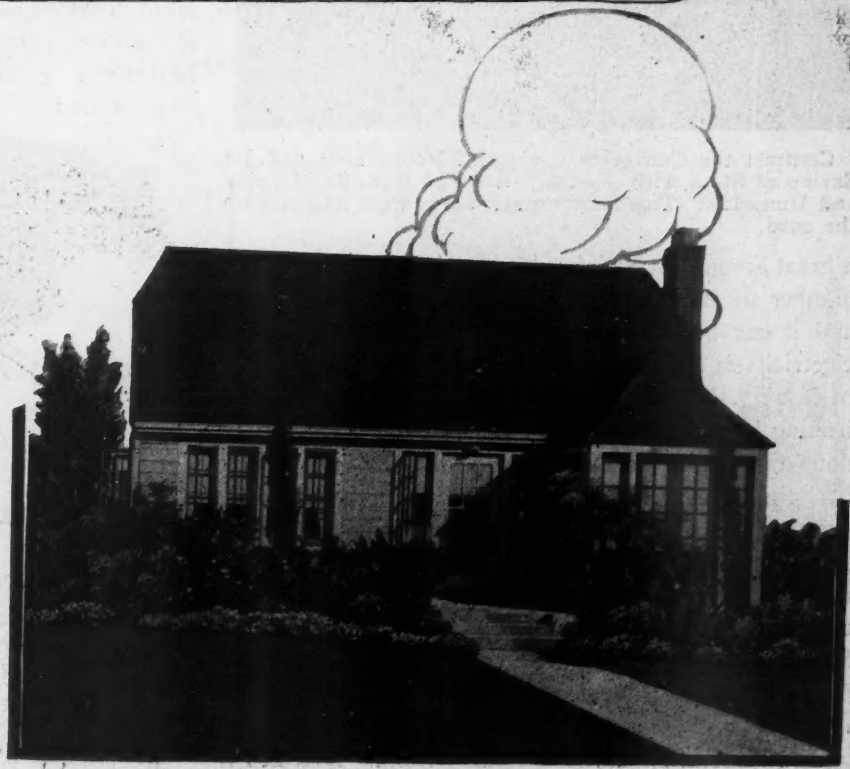


The Master's Bedroom in Our Home Electrical. A merely superficial glance will show how important it is to have a sufficient number of outlets. Illumination at the toilet table and the chiffo-robe; current for the electric heating pad, and for the ubiquitous electric fan; current for the two conveniences of sewing machine and vacuum cleaner; current, also, for the vibrator and the curling iron. And it is a nicely proportioned room, too, don't you think,

BLUE RIBBON HOMES ELECTRICAL



- SYMBOLS**
- ⊠ CEILING OUTLET
 - ⊞ BRACKET OUTLET
 - ⊞ CONVENIENCE OUTLET
 - ⊞ FLOOR RECEPTACLE
 - SPECIAL OUTLET
 - S- SWITCH



A FIVE-ROOM COTTAGE ELECTRICAL. And two more rooms downstairs, if you please: play room and laundry room. One naturally expects ample provision for electrical conveniences in this comfortable looking cottage,

and a study of the floor plan shows an outlet for every conceivable requirement. Effective landscaping makes the exterior very attractive also. It is a home a true home-lover would wish to live in.

Ironing by Electricity

ANY woman who has hung over a hot stove heating an iron will appreciate the tremendous comfort and convenience afforded by the use of an electric iron. This appliance goes a great way toward relieving her of much of the drudgery and discomfort attendant upon ironing by the old fashioned method, and eliminates the hot stove entirely. It also saves her



Contrast the Convenience of the Electric Iron and Its Saving of Steps with the Old Fashioned Iron, So Variable and Unwieldy! This height outlet saves wear and tear on the cord.

a great amount of walking back and forth, reduces the number of irons generally necessary to a single one, and it can be used at any point in the house where electricity is available. In short, it is the ideal method of ironing. One of the especially attractive features of ironing by electricity is the fact that the work can be done almost any place desired. If the day is especially hot, the housewife can perform this necessary duty even on the cool rear porch if there is an outlet for electricity at that spot. She can do it in her own bedroom if she desires, or in any part of the house where there is an electric light socket or a convenience outlet. Such a device placed on the rear porch would enable her to do her work at that spot if she so desired on hot days.

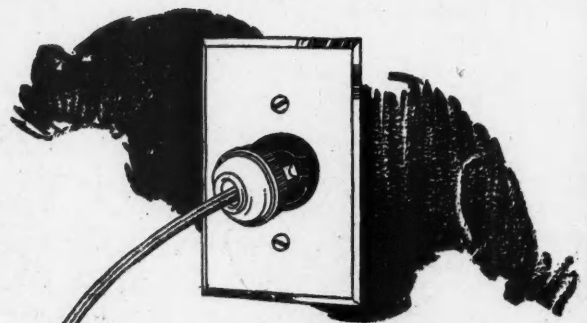
The illustration shows a folding ironing board near which has been placed a convenience outlet which makes possible the handiest use. When the housewife has completed her job she simply folds the board back into place and disconnects her iron. Another feature

which should be especially appealing is the fact that it is possible to purchase electric irons of almost every conceivable size and weight. The housewife can get a domestic iron which she can use around the house for most purposes or a heavy tailor's iron or a small, light-weight traveler's iron which is very handy when traveling. The latter is especially useful, for many manufacturers are now turning out wardrobe trunks which have a folding ironing board. This makes it possible to do light pressing after opening the trunk at the end of the journey and the traveler's iron would be especially appreciated under such conditions.

It is possible to purchase cords for irons which have a switch at the handle which enables the user to turn off the current by simply pressing her thumb on it. This eliminates the necessity of detaching the appliance from the outlet and affords means of controlling its heat. If it becomes too hot for the particular purpose for which it is being used, it is easy to shut off the current for a short time to allow it to cool a bit.

Taken from every angle, electric ironing is the most modern as well as satisfactory method, and should be especially appealing to the American housewife since it relieves her of much of the drudgery attendant upon the old method.

It is safe to assume that she will never change its manifold conveniences for the old fashioned sad iron—so aptly named! Think of the ceaseless steps to and from the stove on washday, the endless testing with the finger or the cheek to make sure it was not at scorching heat, and the endless succession of waitings when it was too hot, or not hot enough. The electric iron is a joy.



How many of these Convenience Outlets in your home?

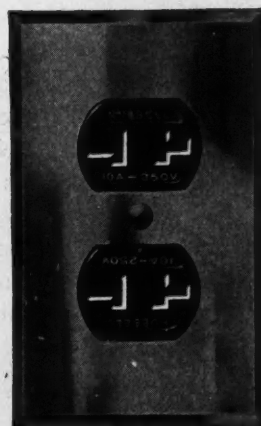
There are three kinds—

1. **Wall Outlets**—on the wall about waist-high. Handy in the kitchen for electric iron and fan; over the serving table in the dining room for percolator, toaster, etc., in the bedroom for curling iron, heating pad, vibrator, etc.
2. **Baseboard Outlets**—down near the floor, inconspicuous. Especially needed in the living room for table and floor lamps, making it easy to change lamps around and vary the lighting effects. Also needed for electric phonograph or player piano, and the electric cleaner.
3. **Floor Outlets**—flat on the polished floor or under the seam in the carpet. Convenient in the dining room, under the table, for grill, toaster, electric push button, etc. In the living room, for electrical appliances on the tea cart, Christmas tree lights, etc.

Electrify All Buildings

137

HUBBELL



Duplex Convenience Outlet
No. 6257, porcelain; No. 5890,
composition, with Plate No.
6258.

Install Electrical Convenience that will be Permanent

Hubbell Convenience Outlets provide the builder with a complete line of standard flush receptacles designed and made for trouble-free service wherever installed.

Firm, even electrical contact is insured by double contact springs concealed back of double T slots. Bodies of porcelain or composition are 1" deep and fit standard 1½" outlet boxes. Terminals are large and easily wired.

Hubbell Duplex Convenience Outlets furnish two sets of independent double T slot connections in the space normally occupied by one.

Let Hubbell Wiring Devices build good will for you. Write for full information about this complete line.

HARVEY HUBBELL, INC.
BRIDGEPORT, CONN.

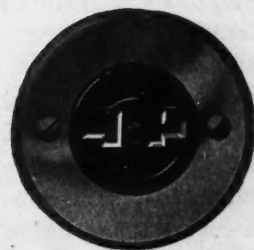
New York: 30 East 42nd St.
Chicago: 318 West Washington St.
Cleveland: 1031 Schofield Bldg.,
Euclid Avenue and 9th St.

San Francisco: 612 Howard St.
Philadelphia: Philadelphia Bourse,
Fifth St.
Pittsburgh: 412 State Theatre Bldg.



Single Convenience Outlet
No. 5547, porcelain; No. 5850,
composition, with Plate No.
5548.

Profile View of
Duplex Convenience
Outlet—
note shallow
body.



Single Convenience Outlet
with Round Plate, assem-
bled; No. 6282, 2¼"; No.
6283, 3¼".

Profile View of
Single Conven-
ience Outlet—
note shallow
body.



ELECTRICAL WIRING DEVICES

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

The Lighting of Retail Stores

By J. J. McLAUGHLIN

THE proper lighting for the retail store is the merchant's easiest and quickest step toward better sales. Builders having to do with operations covering the erection of such buildings should have some idea of correct illumination. Of course, very frequently it happens that the builder does not know who will be the ultimate occupant of the store, and in such a case cannot select the lighting units for any particular type of business. In many cases, however, he does know for what business the store is either sold or leased. It may be that a confectioner has taken it over and even before the building is completed it is either sold or leased for that purpose. If he does know these facts, some knowledge relating to the proper illumination of the store will be a great aid to the ultimate oc-

cupant. On the other hand, if the store remains idle after it has been completed and he does not know to what purpose it will be put, it might be well to forego the selection of lighting units until the character of the store has been determined. The type of luminaire which would do for a clothing store, for instance, would be out of place in a jewelry establishment, and what would be appropriate in the latter instance would hardly work out in a shoe store.

Successful retailing consists in the attracting of passers-by to arouse curiosity and interest; the appealing demonstration of merchandise to arouse desire, and the actual selling to purchasers to gain their enduring satisfaction. Proper illumination will be of great help in accomplishing these results. In the present age keen competition demands that every advantage be taken. The building contractor has a selfish interest in this and it is to his advantage generally to see that the merchant is given every chance to carry the enterprise to success.

Light improves the appearance of the store, and is also a great pulling power in itself. When goods are on display it is intended that they should be seen, whether they are in the rear of the store, on the counter or on the shelves, and the more merchandise it is possible for the customer to see the greater will be the variety offered him, and naturally the larger the sale.

A customer is always anxious to examine merchandise before purchasing, and proper lighting will go a long way toward facilitating this inspection and hasten the sale. The patron is able to make satisfactory inspection within the store and is not compelled to go to the front door or even home to see the goods properly. Good lighting creates confidence and speaks quality. Successful merchants believe in good illumination, and that is the reason they are successful.

The successful illumination of a store means that the light must be provided where it is needed. It must be upon the objects or surfaces to be seen and not in the eyes of the customers. Further, it must be not only sufficient in amount for the store under consideration, but should be of proper diffusion, color and direction. It is evident that the illumination sufficient for one store might be totally insufficient for another, and the quality or amount necessary for one type of establishment might be extravagant in another. The jewelry store, for instance, pictured in Fig. 1, involves a treatment peculiar to itself, and if the builder has leased a store for this purpose he should be careful to select the proper luminaries for it. A direct, undiffused light assists in giving the jewels and cut glass a sparkling appearance, which would be eliminated if an indirect or diffused light were used. Shadowless illumination would make the gems appear flat and would detract much from the display. It would take life out of the jewels and in other ways act against the best interests of the jeweler.



Fig. 1, Direct Lighting. This shows the store of Meier & Berkley, Atlanta, Ga. 200 watt lamps are used and the shades, hung with cut glass prisms, deflect the light downwards to gain the maximum attention value for the jewelry and silverware on display.

illumination. On the other hand, if the store remains idle after it has been completed and he does not know to what purpose it will be put, it might be well to forego the selection of lighting units until the character of the store has been determined. The type of luminaire which would do for a clothing store, for instance, would be out of place in a jewelry establishment, and what would be appropriate in the latter instance would hardly work out in a shoe store.

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illumination. On the other hand, if the store remains idle after it has been completed and he does not know to what purpose it will be put, it might be well to forego the selection of lighting units until the character of the store has been determined. The type of luminaire which would do for a clothing store, for instance, would be out of place in a jewelry establishment, and what would be appropriate in the latter instance would hardly work out in a shoe store.

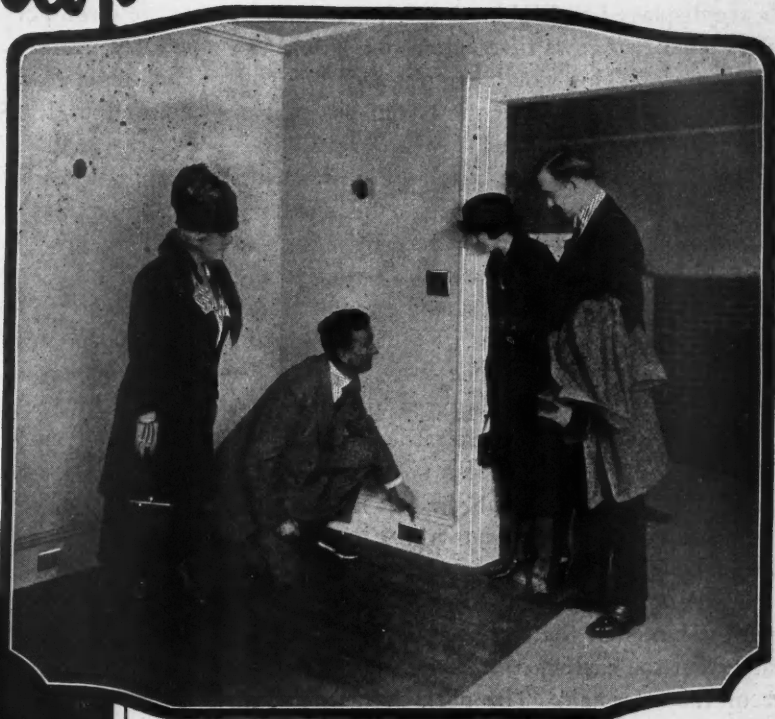
illuminating experts have divided retail stores into three classes according to the quality and direction of the lighting required: First—those whose unchanging floor or counter operations require a particular location of the light sources; second—those for which general illumination with the most convenient symmetrical placing of the outlets is satisfactory; third—those stores in which artistic and decorative appearance has chief consideration. The first class includes jewelry, cigar, shoe, drygoods, hardware, drug and stationery stores. In each of these the lighting system should be

Electrify All Buildings

139

When they stop
and ask

"Are there any outlets for the cleaner?"—you double the housekeeper's interest in your house by showing her how you have made provision in every room—both for the cleaner and for every other convenience that she may wish to use.



Wide awake builders make Electricity their silent salesman

Electricity is working every day to help sell better homes—and wide awake builders are taking full advantage of its help.

Told by many advertisements in every magazine they pick up about electrical conveniences and how they save time, labor, and money—housekeepers are already *completely* sold on the electrical home idea long before they go to buy a house.

The shrewd builder makes his homes measure up to the requirements by installing complete convenience wiring with G-E Reliable Wiring Devices.

He can get bigger and quicker returns per dollar on the money spent to make them complete electrical homes, than on any other money that goes into the construction.

G-E Reliable wiring devices, nationally known as the standard of excellence, are the home buyer's assurance of dependable electrical service.

Merchandise Department
General Electric Company
Bridgeport, Connecticut

G-E Tumbler Switch responds to a sweep of finger, arm or elbow.
G-E Twin Convenience Outlet permits simultaneous use of two devices.

All dependable and experienced contractors using General Electric Reliable Wiring Devices are prepared to cooperate with you in making your houses "complete electrical homes."

National distribution of the booklet "The Home of a Hundred Comforts" has focused the attention of hundreds of thousands of home builders and buyers on complete wiring and quality wiring devices.

Send for your copy of this booklet today.
Address Section AB7.



Wiring Devices

41-226

A GENERAL ELECTRIC PRODUCT

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

designed to illuminate the particular sections where merchandise is inspected, usually the counters on which the goods are displayed and sold. A great many stores of this class have two rows of counters extending the length of the store. This would suggest a double row of lighting units somewhat after the layout pictured in Figure 1. A common error which we see every day is to place a single row down the center aisle of such a store and the inevitable result is that the customer casts a shadow on the exact spot where light is most needed. In other words, the light is too strong where the customer is walking and not strong enough where he is looking.

Figure 2 illustrates a typical shoe store. In a place of this character the light is required primarily on the floor where the shoe is tried on rather than on the side walls where all that is necessary is a sufficient amount to enable the clerk to read the box labels. The indirect system of illumination shown in Figure 2 may be supplemented by having two rows of units in a case such as this where there are two rows of chairs back to back down the center of the store. This will eliminate to a great extent the casting of a shadow by either the customer or the salesman. The peculiar construction

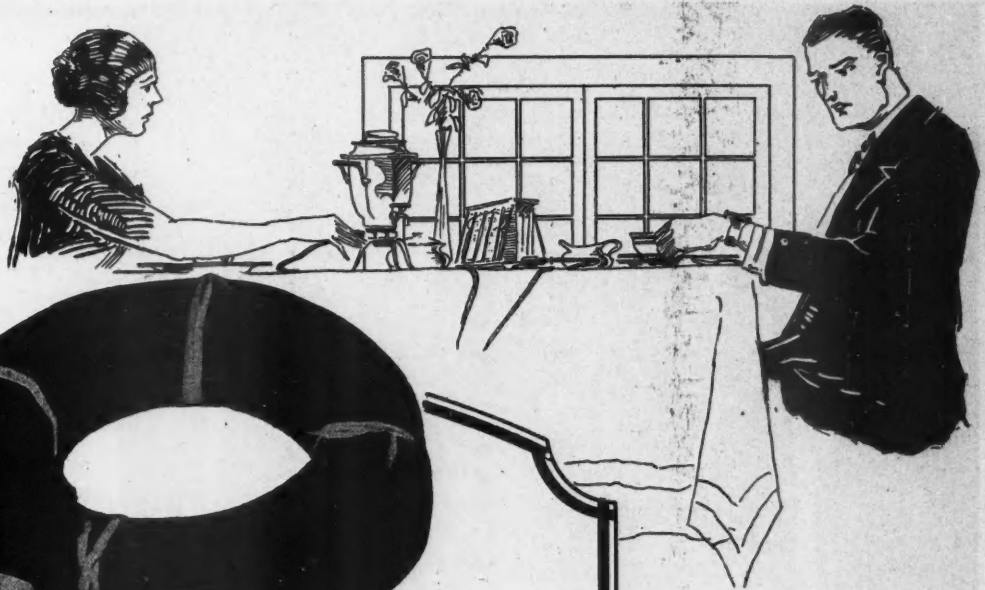
of the ceiling in this illustration, however, makes it an ideal system of illumination for its purpose.

The second class of stores includes clothing, fur, carpet, furniture, butcher, grocery stores and bakeries. The single row of units in the long, narrow room, as pictured in Figure 3, is generally satisfactory. This employs a glass encircling globe and provides ample illumination for the purpose. In some cases, however, local illumination plays rather an important part, and the brackets shown in this illustration on the cases will be ample for this purpose. In the case of carpet stores where vertical rug racks are used, special illumination should be provided to throw sufficient light on the displays.

The third class of stores takes in confectionery, florist and music stores, and shops which lend themselves to what may be termed "special treatment." In this case individual taste plays the leading part, the chief thought being to provide a background or foundation illumination of soft and well-diffused character, taking care not to make it too bright, and using either enclosing or indirect luminaries selected for their ornamental fitness. Concealed lighting is often pleasing in stores of this character and to the soft illumination



Fig. 2. Totally Indirect Lighting. This is the retail shoe store of S. J. Thomas & Co., Norfolk, Va., and the perfect diffusion of illumination is remarkable. No chance for shoes or hosiery to appear to disadvantage when shown to a customer here.



If it's

PARANITE

it's Right

Suppose the toaster or percolator fails at breakfast time. Hubby will be cross about going late to work. Tempers will be lost.

But suppose the trouble lies, not in the toaster or in the cords, but back in the wires behind the walls! Then the trouble is real.

It takes time for even the most experienced electrician to locate trouble with wires hidden behind lath and plaster. And it costs money for this expert service—much more money than the difference in initial cost between PARANITE and the ordinary insulated wire. Besides with trouble behind the walls there is always the menace of fire.

Many home owners never think of the electrical wire going into the home, but architects and contractors who know, never use anything except wire meeting the requirements of the Fire Underwriters.

For thirty-two years PARANITE rubber-covered wire has been known as a better-than-standard product. When PARANITE is specified no chances are taken on the wire part of the job.

Dreadnaught Portable Cord, also rubber covered, is "more than the code requires"

Indiana Rubber & Insulated Wire Co.

JONESBORO

INDIANA

Chicago Office:
210 So. DesPlaines Street

New York Office:
THE THOMAS & BETTS CO.
63 Vesey Street

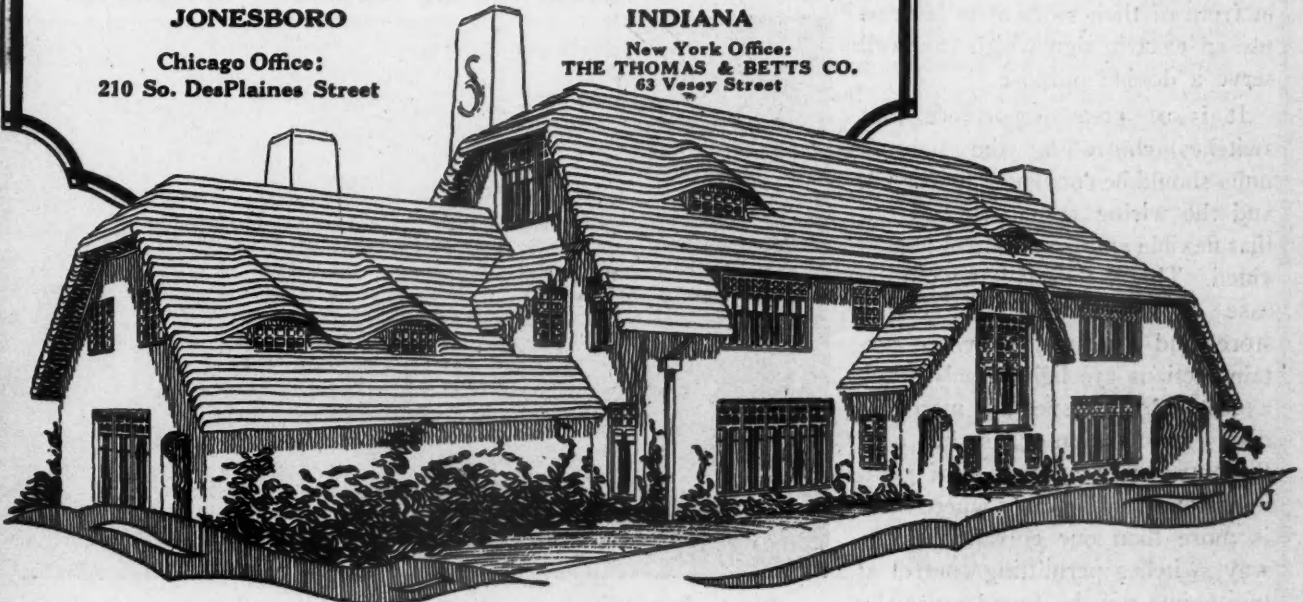




Fig. 3. The Single Row of Units in the Long Narrow Room as Pictured Here Is Generally Satisfactory. This employs a glass encircling globe and provides ample illumination, with the side brackets playing an important part in centering attention on the displays.

may be added highlights or colored spots, such as from wall brackets or table lamps with tinted shades, avoiding all bare, glittering, or garish light sources. An excellent example of an artistically illuminated shop of this third class is shown in Figure 4, which is a high-class confectionery store on which great pains have been extended to bring out the best possible results. Lighting in this particular instance is semi-direct and is especially adaptable for this purpose.

A well-lighted store requires a brightly illuminated entrance, particularly if it is situated on a brightly lighted street. The air of welcome and activity is most necessary that the passer-by seeing the window display should find the entrance clearly defined and attractive. Some merchants find it profitable to light the sidewalk in front of their store or at least to use an electric sign which can well serve a double purpose.

It is of great importance that switches controlling the lighting units should be conveniently located, and the wiring system so laid out that flexible and easy control is provided. This is especially true in the case of furniture stores, carpet stores and similar types where certain sections are lighted only when a customer is inspecting merchandise. The location of a switch near the entrance of a room is of great importance, and in cases where there is more than one entrance, three-way switches permitting control at two points will be found especially convenient. If a customer is being shown some merchandise in a room

in which the lights are not switched on, it is much more satisfactory for the salesman to flood the room with light from a switch located near the entrance than it would be for him to fumble around in the dark to find a pull-chain socket or some other type.

The wiring for the show window is also an important consideration, and two or more circuits controlling alternate units are frequently advisable. The storekeeper may not want to use his whole equipment during the late afternoon, and if arrangements are made enabling him to switch on a portion of his artificial illumination as daylight fails, it will be greatly appreciated. In addition to this it will facilitate the alternation of colors if flashers are connected to one or more circuits.

The convenience outlet is of as great importance in the store as it is in the home. In the former case it should be put in the wall, the baseboard or columns throughout the store. They will go a long way toward eliminating dangling wires and permit easy connections for department signs and electrical display devices. The show windows should also be equipped with auxiliary outlets for fans, electrical displays, etc., and particularly with one or more receptacles at the front edge or corner of the window, top and bottom, for spot lights.

The foresighted merchant and builder must remember that the planning of the lighting and the part that the light is to play in aiding his sales is fundamental, and should be given minute consideration and as much thought as any other element entering into the building.



Fig. 4. Semi-Indirect Lighting. This is an excellent example of the artistically illuminated shop, the tinted shades softening the light in a way that avoids all bare, glittering and garish effects. A cool light for cool shop, for this is Schraft's Candy Shop, 38 Fifth Avenue, New York City.



C-W Form H Commutating Pole Motor

Crocker-Wheeler Form H Motors and Generators are of the direct current multipolar type with commutating poles and bearings supported by end brackets bolted to the frame. They range from 25 H. P. at 350 R. P. M. to 450 H. P. at 750 R. P. M.

These motors and generators are extensively used for operating heavy machinery in such places as steel and cement mills. The liberal electrical design and superior workmanship that characterizes all C-W products insures dependability where conditions are severe.

These motors have been designed to successfully operate under abnormal conditions such as low or high voltage; poorly ventilated location or installation; dusty, vapor-laden or high temperature atmosphere, etc.

In addition to carrying their normal loads continuously, our motors are designed with a sufficient factor of safety to carry overloads of 25% for two hours without endangering the life of the insulation.

This overload factor of safety in C-W Motors is Production Insurance in circumstances where increased production requires heavier work than usual and breakdowns bring correspondingly greater losses.

Careful inspection before shipment insures that all C-W machinery will give remarkable service. Write us for information about applying these motors to your particular conditions.

CROCKER-WHEELER CO.

AMPERE, N. J.

CROCKER-WHEELER MOTORS

Niagara's Rival Dependable Power

Frigidaire

The Electrical Refrigerator for Modern Homes



Built For the Average Home

Frigidaire is an every day utility for the average home. There is a size and style of Frigidaire for almost any home.

Frigidaire brings to the home a better method of refrigeration. It safeguards the health of the family through the better preservation of food. It eliminates forever the muss and nuisance of ice, and operates on home electric current at a low cost.

In building a new home, plan for Frigidaire. Frigidaire can be placed in the regular specifications and as part of the cost of the complete home. Savings can often be made in actual construction, where a place must be provided for an ordinary refrigerator, that will go far towards paying for a Frigidaire. Find out more about Frigidaire today. Write for booklet AB-8.

Frigidaire mechanism can be installed also in an ordinary ice-box

DELCO-LIGHT COMPANY

Subsidiary of General Motors Corporation

DAYTON, OHIO



The Man who Plans the Building is the Man who must be "Sold"

THE AMERICAN BUILDER, reaching monthly more than 60,000 men who plan and build homes, is conducting this special department for the Electrical Industry, in which the educational and sales work on adequate wiring and adequate outlets can be done.

The slogan, **ELECTRIFY ALL BUILDINGS**, which appears at the top of both editorial and advertising pages in this section of the magazine, is the keynote of this campaign.

Prominent men in the Electrical Industry are working in close co-operation with the editors and publishers of **THE AMERICAN BUILDER** to prepare electrical features along a very comprehensive plan.

Each month are presented illustrated articles demonstrating the uses of electricity in the modern homes.

Twelve complete floor plans are being illustrated, showing wiring layout and outlets for lighting fixtures and various electrical conveniences.

Decorative possibilities of lighting are being developed, and the use which the future occupants of the home will want to make of electrical appliances is being carefully and thoroughly explained to the men who plan and build.

The importance of providing, at the time the buildings are planned, for all of these modern electrical appointments is being effectively sold to the building public through this work.

The representative manufacturers in the electrical industry are urged to co-operate.

Write us your ideas and desires.

AMERICAN BUILDER

1827 Prairie Ave., Chicago
261 Broadway, New York

Our Home Electrical No. 4

(Continued from page 134.)

It is suggested that a master switch be located in the owner's bedroom. Such a switch controls all the lights in the house irrespective of the position of their switches, which will flood the house with light in the case of an emergency such as attempted burglary, fire, etc.

Another convenience which will be appreciated by the prospective home owner is the location of the meter in such a position that it can be read without the meter reader entering the house. The meter is placed in the basement, and should be so positioned that it can be read through a cellar window. Special outside-reading meter boxes designed to be set into an outer masonry wall can be obtained. With such a box, the meter dials are visible from the outside, while the connections, switch, meter and fuses are accessible only from within.



THERE is a great difference between a lighting fixture that will merely light and one that supplements the decorative detail of the room as well. Is it not illogical to furnish a home regardless of expense and only give the lighting equipment a second thought? Consider electric lights as part of the furnishings, and the reasonable expenditure they require as a really sound investment, for good lighting equipment is a permanent satisfaction.

A Touch of Completeness

**Builds Reputation
Establishes Good-
Will
Increases Business**



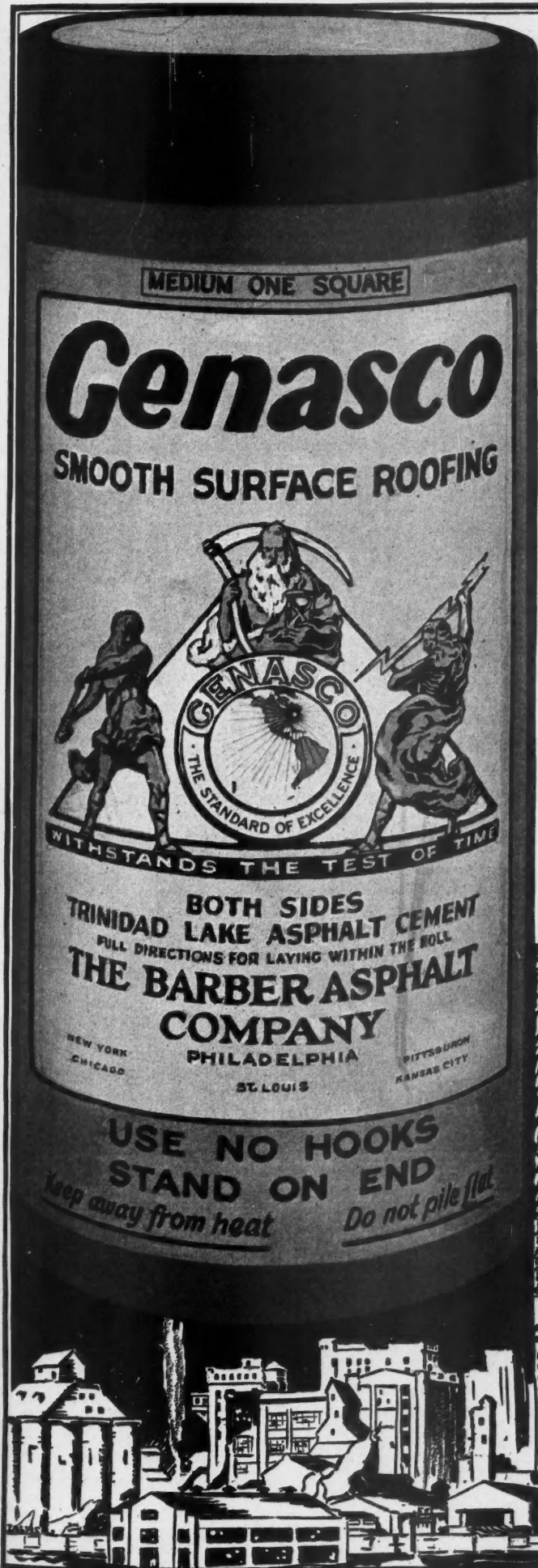
**Saves Your Clients
Dry-Battery Expense
and Replacement**

**Install Air-Way Bell Ringers
Constant Electric Current for Bells, Buzzers, Door-
Openers, Annunciators, Etc.**

Eliminate one of the greatest annoyances home-owners have to put up with bells and buzzers going dead—by installing an **AIR-WAY BELL RINGING TRANSFORMER** in every wired home you build. Suggest its installation in old home jobs—where wired for electricity. Your thoughtfulness for your customer's convenience is a certain source of greater profits. It's a little touch of completeness that adds to the value of homes and increases salability. The **AIR-WAY BELL RINGER** guarantees a life time of service. It is as easily installed as connecting set of dry-batteries—and the first low cost is the only cost.

Get particulars of the AIR-WAY BELL RINGER from your Electrical Dealer. He is in a position to cooperate with you to your advantage.

**AIR-WAY ELECTRIC APPLIANCE COMPANY
TOLEDO, OHIO**



The Giant *among roofings*

GENASCO Roll Roofing is used in every part of the civilized world—under every condition of climate—on every type of building, home, industrial and farm.

Genasco is immune to damage by weather. Tropic heat doesn't faze it. Cold can't make it crack. Moisture doesn't rot it. It's easily laid, low in cost and lasts a lifetime.

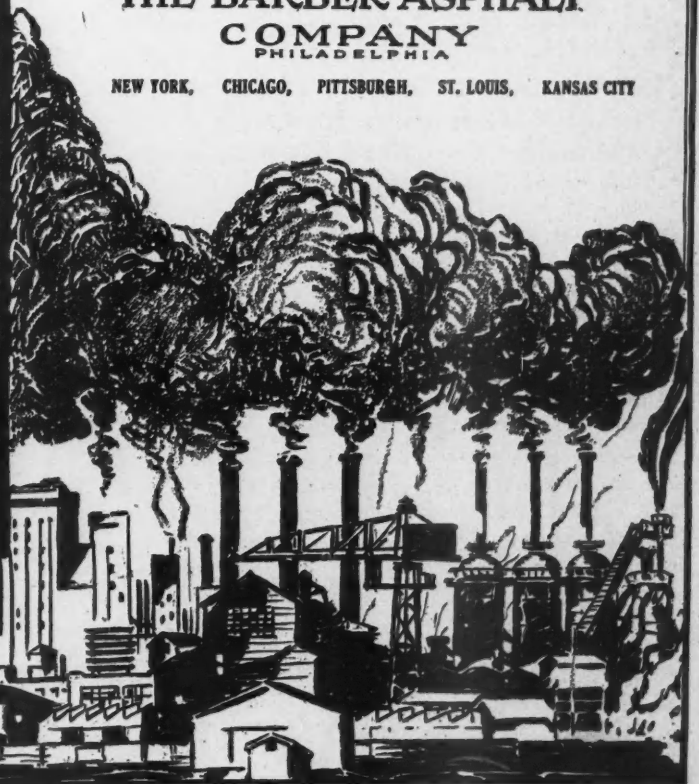
Genasco owes its great waterproofing and weather-resisting qualities to Trinidad Lake Asphalt Cement—a product sun-baked, storm-beaten and weather-seasoned for Ages. Tough, long-fibered felt gives it ruggedness and strength.

Packed in the core of each roll of Genasco is a full supply of the celebrated Kant-Leek Kleets. They prevent nail leaks, warping and bulging—make seams absolutely water and wind-tight—give an artistic finish to the completed roof.

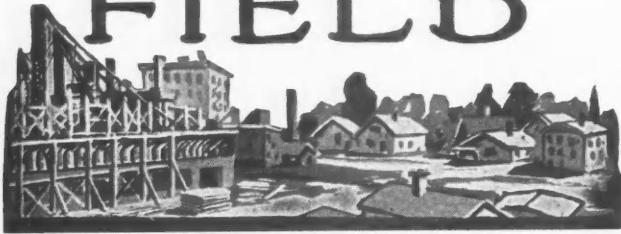
Genasco Roll Roofing is made in two styles—smooth-surfaced and slate-surfaced. Write at once for illustrated folders describing this remarkable roofing.

**THE BARBER ASPHALT
COMPANY**
PHILADELPHIA

NEW YORK, CHICAGO, PITTSBURGH, ST. LOUIS, KANSAS CITY



NEWS of the FIELD



May Construction Largest on Record

MAY construction volume was the largest on record, according to F. W. Dodge Corporation. The previous high record was in May of last year. The increase shown last month over the previous May was nearly 5 per cent. This increase was shown in the 27 northeastern states, which include about three-fourths of the country's total construction volume. In the first five months of the year the increase over the corresponding period of 1922 has been 13 per cent.

Many observers of late have stated that the construction program this year is in excess of the capacity to build. The situation has become acute in New York City and other eastern centers. In fact, New England, New York and the Middle Atlantic states have already shown a turn in construction volume, the big May increases being evident in the Middle West and the South.

Total contracts awarded during May in the 36 eastern states (including about seven-eighths of the total construction in the country) amounted to \$433,906,000. The increase over April was 9 per cent. Residential construction showed a slight decline; industrial and business buildings showed increases. Residential construction amounted to \$168,216,000 or 39 per cent of the month's total. The other important items were: \$83,817,000, 19 per cent, for public works and utilities; \$62,979,000, or 15 per cent, for industrial plants; \$59,510,000, or 14 per cent, for business buildings; and \$30,453,000, or 7 per cent for educational buildings.

Contemplated new work reported during May amounted to \$641,686,000, a slight decrease from the amount reported in April.

Canadian Building

A PRONOUNCED expansion in building operations during April was indicated in the monthly reports on building permits furnished by municipal officials to the Dominion Bureau of Statistics. The aggregate value of the building authorized by the 56 cities making returns stood at \$17,544,061, a total of \$8,999,833 or 105.3 per cent higher than in March, when the prospective building was estimated at \$8,544,288. The value for April, moreover, exceeded that for the corresponding month of last year, \$14,047,198, by \$3,496,863, or 24.9 per cent. It was also higher by 43 and 18 per cent than in April 1921 and 1920, respectively.

Detailed reports received from 50 cities showed that they had issued permits for approximately 1,600 dwellings, valued at \$6,821,000. As mentioned in former reports, the construction of several dwellings is very often authorized by a single permit. Over 3,100 permits for such buildings as garages, stores, factories, etc., aggregated more than \$9,549,000 in value.

As compared with the figures for March, 1923, all provinces except British Columbia recorded increases in the value of building contemplated. The gains in Quebec and Ontario of \$5,473,802, or 257 per cent, and \$2,714,876 or 55 per cent respectively, were especially pronounced.

No Amalgamation of Hardwood Manufacturers Institute with National Hardwood Lumber Association

AN unfounded rumor of a conference looking toward an amalgamation of the Hardwood Manufacturers Institute with the National Hardwood Lumber Association has been causing both organizations some annoyance. AMERICAN BUILDER is authorized to state that the report, emanating from a Washington news service, is wholly inaccurate, and is characterized by executives and prominent members of the Institute as absurd.

Southern Pine Grading Rules Adopted by New Orleans Exchange

ANNOUNCEMENT has been made by the Committee on Orleans Lumber Grades, comprising representatives of the retail lumber dealers, architects and contractors of the city, that the committee has finally adopted the Southern Pine Association standard grading rules in place of the old grading rules of the Contractors' & Dealers' Exchange, and also has approved and adopted the specifications and classifications covering the use of lumber for architectural construction devised by the sub-committee of the general committee.

"Lengthen Painting Season" Says National Save the Surface Committee

MEETING in Chicago, the National Save the Surface Committee laid plans for a Fall campaign to lengthen the painting season. All branches of the industry will be asked to co-operate in the movement.

Shogren & Rasmussen to Operate Hereafter as the Burrowes Weatherstrip Co.

SHOGREN & RASMUSSEN, well known manufacturers of metal weatherstrip, will hereafter be known as the Burrowes Weatherstrip Co. Mr. Shogren has been in the weatherstrip business for past fifteen years, and has been a material factor in the development of that industry; he will still continue the active management of the new company, together with Mr. Louis Rasmussen, also an old timer in the weatherstrip business.

The AMERICAN BUILDER wishes the new organization the best success.

Fenestra Steel WindoWalls to Have Coast Factory

OF particular interest to builders on the Pacific Coast is the announcement by Mr. Victor F. Dewey, President of the Detroit Steel Products Company, of the establishment of a factory at Oakland, California, for the manufacture of Fenestra Steel WindoWalls.

Disston to Build New Western Plant

NEGOTIATIONS have just been completed whereby Henry Disston & Sons, Inc., leases through the Seattle Port Commission from the State of Washington, a site at Fourth Avenue South and Massachusetts Street for the erection of a new building for their Seattle Branch. The site leased is well located and has a convenient harbor location.

The Disston Company established headquarters for its West Coast business at Seattle several years ago.

ASBESTONE EVERLASTING STUCCO

How Many Pounds of Stucco Plaster Do You Get to a Ton?

The average buyer receives 2000 lbs., but when you order 1 ton of ASBESTONE Everlasting Stucco you receive delivery of 2375 lbs. of material, twenty 100 lb. sacks ASBESTONE Everlasting Stucco plaster plus 375 lbs. flake magnesium chloride.

Full weight combined with a quality product

ASBESTONE Everlasting Stucco is unsurpassed in covering power, unequalled in tensile strength, resiliency and elasticity.

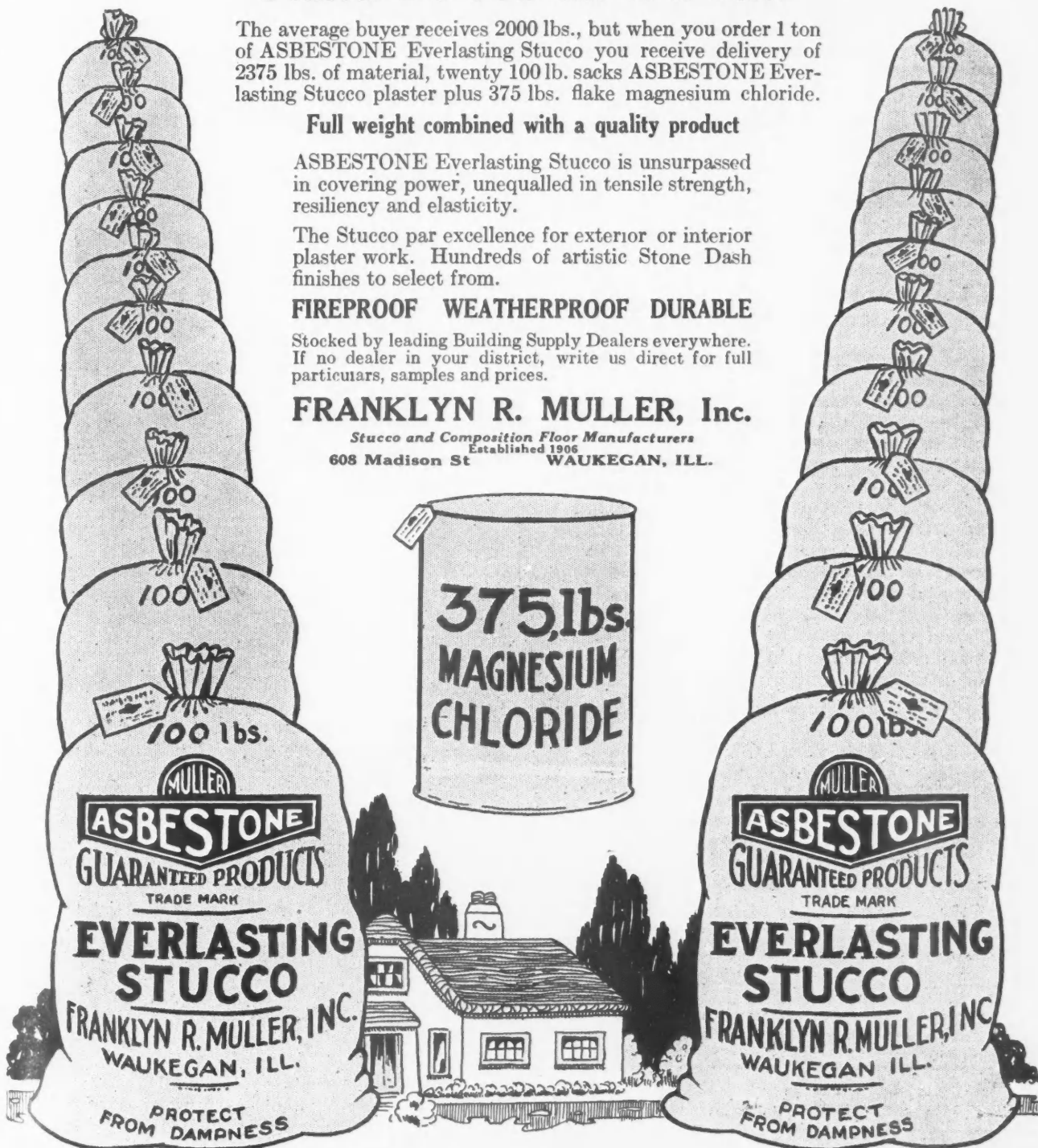
The Stucco par excellence for exterior or interior plaster work. Hundreds of artistic Stone Dash finishes to select from.

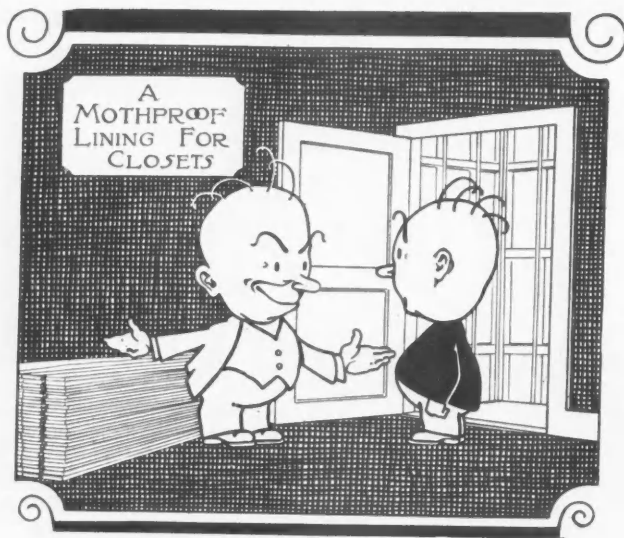
FIREPROOF WEATHERPROOF DURABLE

Stocked by leading Building Supply Dealers everywhere. If no dealer in your district, write us direct for full particulars, samples and prices.

FRANKLYN R. MULLER, Inc.

Stucco and Composition Floor Manufacturers
Established 1906
608 Madison St WAUKEGAN, ILL.





Says we to YOU

[[You being a Lumber Supply Dealer or Millworker]]

SAYS we to you: "How many times have you better builders wanted the genuine aromatic red cedar and couldn't get it? No need any more for this disappointment, to you or your customers, because you can obtain at any time, and in any quantity of 5,000 feet or more, this genuine aromatic red cedar in the form of Kilmoth. Its real aromatic quality is an absolute destroyer of moths, and is being demanded by people building new dwellings and by those who wish Kilmoth placed right over the plastered closet of old construction. Endorsed by leading architects and builders.

"Now is the time for you to give utmost consideration to the sale of this product. For full information concerning our new Distribution Plan, fill in the coupon below."

KILMOTH

Products Corp. 50 Union Square, New York

Please send me your Distribution Plan.

Check opposite your business Builder or Contractor
 Sash door, Mill and Supply Lumber and Supply.

**KILMOTH is AROMATIC
RED CEDAR**

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Frank Edward Wing— Died May 13, 1923

FRANK E. WING, Treasurer of The L. S. Starrett Company, of Athol, Mass., died at his home in that city on May 13, after a long illness. Although for some time failing health had made it increasingly difficult for him to attend to the duties of his office, he insisted on continuing his work up to within a very short time of his death.



Frank Edward Wing—1866-1923.

Mr. Wing, who was fifty-seven years of age at the time of his death, was born in Conway, Mass., and was the son of Edward Everett and Helen Jane (Newman) Wing, the fifth generation of Wings in that town.

Mr. Wing attended the public schools of Conway and then Smith Academy, Hatfield, Mass., from which he was graduated in 1882. He entered Yale in the fall of that year and was graduated with degree of B. A. in the class of 1886. He was honored by his class by being chosen Fence Orator and also Class Historian, positions that are gained only by recognized ability and deserved popularity. He also won the distinguished honor of being chosen Chairman of the editorial board of the Yale Courant, one of the leading college periodicals. His college fraternity was Psi Upsilon.

He came to Athol in April, 1887, and was employed by the late Laroy S. Starrett as bookkeeper and clerk, being at that time, the whole office force, bookkeeper, shipping clerk. He also at that time, attended to all of the correspondence. When The L. S. Starrett Company was incorporated in 1900, he was chosen Clerk and a Director, which offices he continued to hold, together with that of Treasurer, since 1912.

He was intimately connected with the Starrett business through the time required for its development and expansion from a one-room shop in leased quarters to the commodious, well-arranged Starrett plant of today.

A MONEY MAKER

Is the LANSING No. 5 "Half-Sack" Mixer with standard wheelbarrow hopper. For sidewalk construction, curbing, small foundations—in fact any job not requiring over 30 or 50 cubic yards per day. The LANSING No. 5 "Half-Sack" Mixer can't be beaten.



We manufacture a complete line of contractors' equipment. Write for our catalog showing **The Lansing Line.**

Batch Concrete Mixers, Paving Mixers, Continuous Mixers, Mortar Mixers, Hoists, Scrapers, Concrete Barrows, Concrete Carts, Finishing Tools, Tile Machines, Block Machines, Brick Machines.

Lansing Company
Lansing, Michigan

THE Kawneer COMPANY

1626 Front St. Niles, Mich.

GENTLEMEN:—Please send me a copy of your latest Book of Designs.

Name _____

Address _____

Kawneer Resilient Store Front Construction has helped thousands of contractors build prestige for quality work. They are able to point to any one of more than 260,000 Kawneer Solid Copper Store Fronts as a guarantee of the quality of work they propose to furnish.

More than a quarter of a million retailers are being told about Kawneer Resilient Store Fronts ever month. Your story is more than half told when you mention Kawneer Store Fronts.

Why not investigate Kawneer Store Fronts as an added line of construction work. Mail the coupon (just pin it to your letterhead) and let us show you how you can make money with Kawneer work in your locality.

Kawneer

SOLID COPPER

STORE FRONTS

Sketch shows No. 40 sash and No. 6 corner bar at underside of our No. 28 awning transom bar with No. 1469-A uncovering over entrance way and No. 1437-A used as a jamb in refectory.

THE Kawneer COMPANY
Niles, Mich.

John Edgar Rhodes, Capable Secretary-Manager of Southern Pine Association Taken by Death

JOHN EDGAR RHODES, for the last eight years secretary-manager of the Southern Pine Association, and widely known throughout the lumber industry and in business circles of the United States, died June 2, in Touro Infirmary, New Orleans. Mr. Rhodes had been ill for the last two months and had not been at his office in that time.

Funeral services were held from the late residence, at 1229 Calhoun Street, at 3 o'clock Sunday afternoon, and burial was in Metairie Cemetery. The pallbearers were selected from among the members of the Southern Pine Association staff who had been longest associated with Mr. Rhodes, and included: A. G. T. Moore, H. C. Berckes, J. E. Jones, King H. Pullen, A. S. Boisfontaine and A. G. Hill.

Mr. Rhodes is survived by his widow, formerly Miss Louise Robinson of Minneapolis, and by his father, James Rhodes, and a brother, Frank A. Rhodes.

John E. Rhodes was born at Kent, Ohio, July 9, 1874. When he was a boy he moved with his parents to Brainerd, Minn., where Mr. Rhodes started in newspaper work at an early age. Later he became private secretary to a high official of the Northern Pacific Railroad and for several years he was located in Winnipeg. Mr. Rhodes left to become secretary of the Minnesota Logging Company, but after a few years his fondness for newspaper work led him again to become a writer on the Minneapolis Tribune.

One of his big stories while connected with the Minneapolis newspaper was covering the Leach Lake Chippewa Indian uprising in Minnesota in 1898. In 1898, Mr. Rhodes became secretary-manager of the Northern Pine Association, serving in that capacity for ten years; then for two years he was con-

nected with the Weyerhaeuser timber interests, serving in a confidential capacity to the head of those important interests.

In 1912 Mr. Rhodes became publisher and editor of the Tacoma, Wash., Tribune. When the newspaper was sold Mr. Rhodes was appointed secretary-manager of the National Lumber Manufacturers' Association, with headquarters in Chicago.

In January, 1915, Mr. Rhodes was elected secretary-manager of the Southern Pine Association, helping it to become one of the most efficient organizations in the lumber industry.

Mr. Rhodes was recognized as one of the best informed men in the lumber industry of the country. Among his friends and associates he was noted for his charity and generosity. His uniform kindness toward and consideration for those who worked under his direction and all those who came into contact with him won for him many and strong friendships.



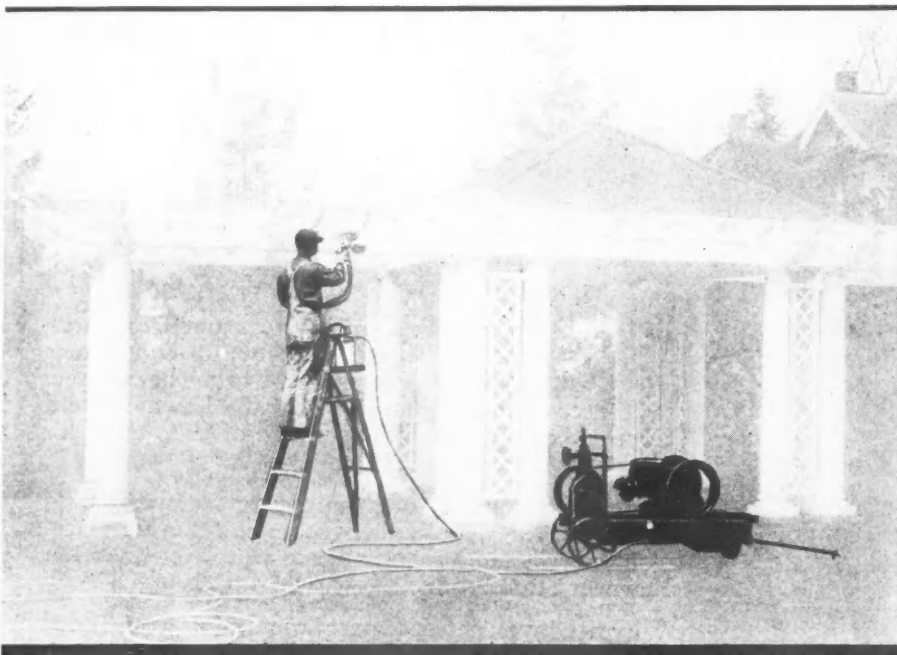
Warner Elevator Mfg. Co., Complete World's Second Largest Electric Elevator Factory

THE Warner Elevator Mfg. Co. have completed a large addition to their plant at Cincinnati which gives them a main shop length of 500 feet, 200 feet in width—two stories and basement.

This addition makes this the second largest factory in the world for the exclusive manufacture of Electric Passenger and Freight Elevators.

A traveling crane in the new south wing connects the railroad spur with the main bay and eliminates most of the trucking to and from the freight cars.

A rather unusual problem was solved when the 165 foot elevator test tower was moved bodily to a new location to avoid interference with the main crane track.



An Outstanding Feature

A long performance record of making good in every field of painting, emphasizes ADAPTABILITY as one of the outstanding features of the DeVilbiss Spray-painting System.

This DeVilbiss *adaptability* means that you can spray-paint substantially the entire surface of houses and all that goes with them; spray-paint public, factory and other buildings, inside and out; spray-paint other structural surfaces, large and small, of wood-concrete-plaster-brick or metal. . . . And by doing all this *painting the DeVilbiss way* means that you can do *faster and more work*, get *improved and more satisfactory results*, make *bigger and more painting profits*.

The speed of DeVilbiss spray-painting averages 4 to 5 times that of hand-brushing. The sprayed coating thoroughly and uniformly covers the surface to be painted, and has greater hiding power than a brushed coat.

The DeVilbiss spray gun applies any kind of paint at the lowest practicable air pressure, and is easy and non-tiring to operate.

The adaptable DeVilbiss Spray-painting System will unfailingly serve you to advantage and with profit—we should like to tell you about this more in detail. Address—

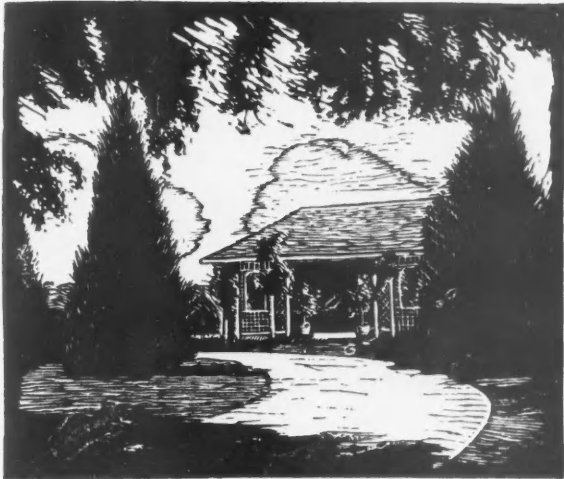
DeVilbiss Spray-painting System

(Complete, Practical, Reliable Equipment for Every Painting Requirement)

The DeVilbiss Mfg. Co.

238 Phillips Ave.

Toledo, Ohio



Building Homes— and a Reputation

The homes you build are your testimonials.

Long-Bell trade-marked lumber pledges a minimum of repairs, a more permanent building and more personal satisfaction.

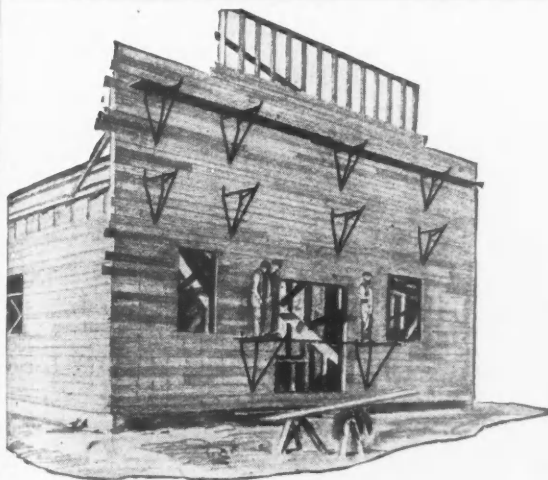
Today the name Long-Bell on the end of a board, on a timber, or on flooring is a guide to good material. You can use Long-Bell lumber and know that you are getting dependable material of uniform quality.

Ask your lumberman for Long-Bell trade-marked lumber.

You will be interested in our new, non-technical booklet, "Saving Home Construction Costs"—a valuable contribution to building information. Send for your copy—today.

The Long-Bell Lumber Company

R. A. LONG BUILDING Lumbermen since 1875 KANSAS CITY, MO.



This Scaffold can be raised 6 feet in 10 minutes

Here is a scaffold which grows with the building. You can put up a set of Reliable Scaffold Brackets as fast as you can drive 8d nails. And you can take them down just as easily. Standing on one set of brackets, you can put up another set 6 or 7 feet higher, in ten minutes.

Can you erect a wood scaffold in ten minutes? And how many times can you use your wood scaffolding? Reliable Scaffold Brackets bought seven years ago are still in service today—without a cent of repairs.

Reliable Scaffold Brackets are saving your competitors hundreds of dollars in lumber and time on every job. How much longer can you afford to keep on using wood scaffolds?

You can see for yourself how easily Reliable Scaffold Brackets work and what time and money savers they are before you pay a penny. We ship on approval C. O. D.

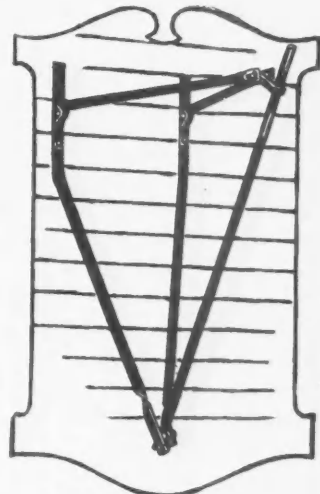
Reliable Brackets can be used on frame, brick or stucco buildings.

Write for our catalog and price list.

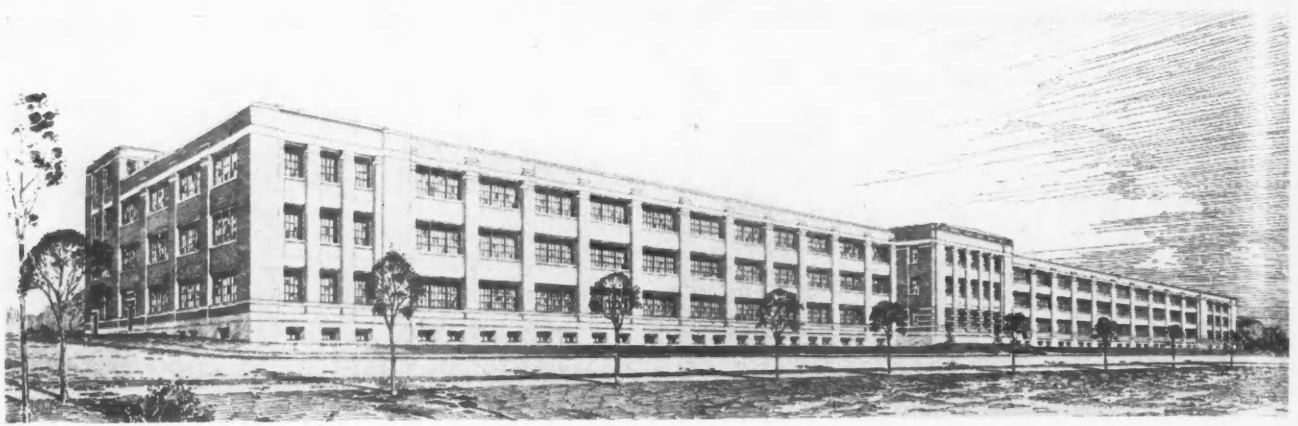
Elite Manufacturing Co.
Dept. A-7 ASHLAND, OHIO

Reliable Scaffold Brackets

Patented Oct. 4, 1910
No holes to plug after they are removed



Reliable Scaffold Bracket Folded



New Million Dollar Plant of the De Vilbiss Mfg. Co., Toledo, Ohio.

De Vilbiss Mfg. Co. Erecting Million Dollar Plant

GROUND has been broken for the construction of a new plant unit for The De Vilbiss Mfg. Co., Toledo, Ohio, makers of the widely used De Vilbiss Spray-painting System, which will call for an expenditure of \$1,000,000, including equipment.

This new unit of fireproof brick and concrete construction with four stories, will be 580 feet long by 80 feet deep and will face on Phillips Avenue, southeast of present buildings, and lie between Detroit Avenue and Lagrange Street. The structure is the first of two similar buildings to be constructed on the company's 55-acre factory plot to afford more adequate plant room and improved production facilities for the rapid and substantial expansion of the business. The completion of this first unit will also enable the De Vilbiss concern to effect a more efficient grouping and consolidation of the several

manufacturing divisions of the business, now located at this point and in other parts of the city.

The De Vilbiss Company expects to occupy the new building within six months.



Armstrong Cork Co. Acts as Host to Editors

EDITORS of the AMERICAN BUILDER and of several other architectural and building publications spent Tuesday, June 12, at the plant of the Armstrong Cork Co., Lancaster, Pa. An interesting program was arranged for their benefit, including a demonstration at St. Joseph's Hospital on the laying, cleaning, waxing and polishing of linoleum floors; inspection of linoleum-floored homes in Lancaster, and addresses and discussions led by Mr. J. J. Evans, president, and H. W. Prentice, Dr. C. N. Wenrich, Hugh M. Clark and Mrs. Hazel D. Brown, for the company. A buffet luncheon and a tour of inspection through the works completed an interesting day.

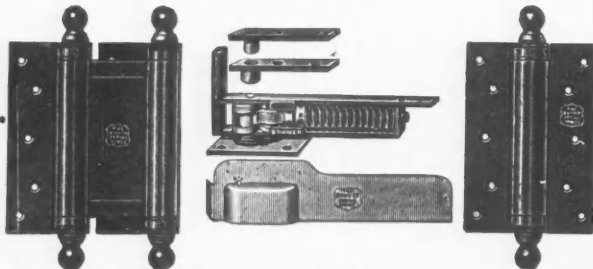
A melancholy chap was he
Until an "Ad" he chanced to see
which said!
"BOMMER SPRING HINGES" are the best

And now he is a happy man
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It pays to take that "Ad's" advice—
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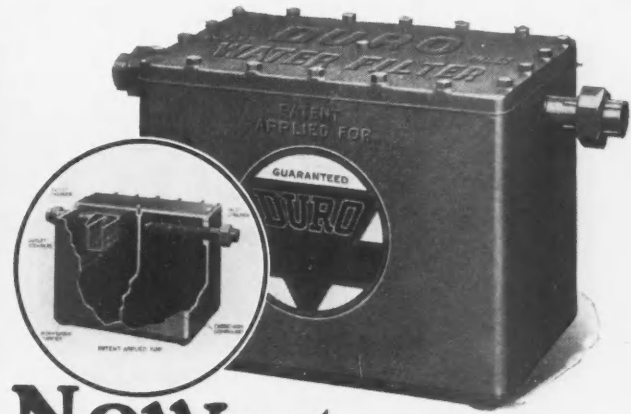
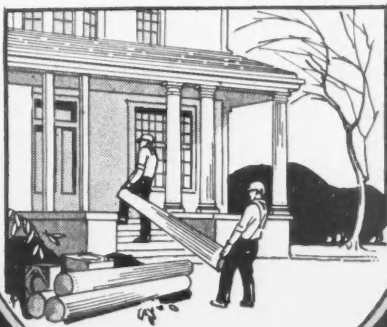
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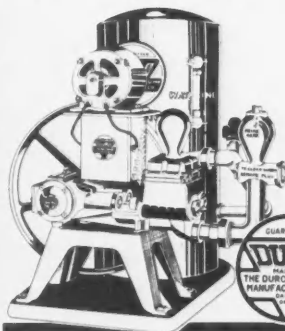
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BOOKS, BOOKLETS and CATALOGS RECEIVED



THE literature and publications listed below are now being distributed and the concerns mentioned will be glad to send copies to any of our readers who will write and ask for them.

"Union Metal Columns" is a folder issued by the Union Metal Mfg. Co., Canton, O., showing the staunch construction of the very finely designed steel columns manufactured by the company. Proper architectural handling of the column detail in residence construction is also furthered by the typical installations shown.

"Oak Flooring, Its Uses and Advantages," is fully covered in a series of booklets issued by the Oak Flooring Bureau, 1014 Ashland Block, Chicago. Modern finishes, including special effects for the home, are illustrated in full colors. The Bureau co-operates with architects and builders, sending complete literature and practical information on request.

"A Manual of Concrete Masonry Construction" issued by the Portland Cement Association, 111 West Washington, Street, Chicago, Ill. To insure the most satisfactory

results with any building material, the user must thoroughly understand the proper methods of its employment in the class of construction in which he is engaging. This booklet gives approved practices and methods.

"Harter Electric Lighting Specialties." This is Catalog No. 11 issued by the Harter Mfg. Company, 1850-58 Fulton Street, Chicago, Ill. The company illustrates and describes its complete line of illuminating fixtures, its "Nitrolites" and "Deluxlites" being especially commendable. The other items appear also to advantage, and emphasis is laid upon increased facilities for shipment due to location in the new Harter office and factory, just recently occupied entire by the company.

"American Air-Tight Doors" are fully described in a folder at hand from the manufacturers, the Conveyors Corporation of America, 326 West Madison Street, Chicago, Ill. This company has perfected a strong, durable, non-warping, cast-iron door that is air-tight, suitable for ash pits, boiler setting, coke ovens, core ovens, oil stills, dryers, retorts and kilns.

"The Strength of Ordinary Brickwork" is a pamphlet issued by the Common Brick Manufacturers Association of America, Cleveland, O. We find on reading the result of a recent New York city test described therein that old brick walls which had been laid by an ordinary bricklayer possessed just as great strength as brickwork laid especially for testing in a laboratory. Likewise the "Ideal" type of brick wall is proved to be approximately 24 per cent stronger than the eight inch solid brick wall,—a fact worthy of the attention of engineers, architects and builders generally.

"Building Residence Lighting Business" is a monograph, one of the first of the reference books produced by the Society for Electrical Development in co-operation with



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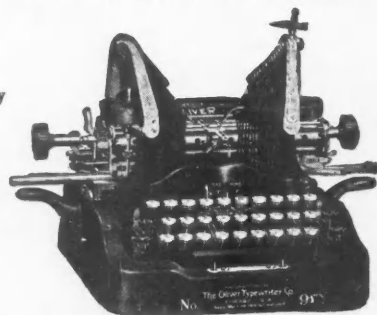
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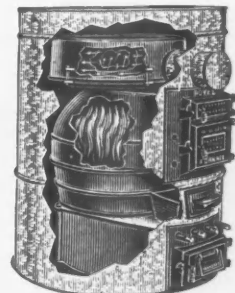
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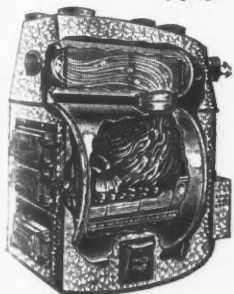
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the Joint Committee for Business Development to further the business building program embraced in the slogan "Electrify." It is a constructive treatise that will be of material assistance in increasing residence lighting business, and may be had, gratis, from the Staff Headquarters, 522 Fifth Ave., New York, N. Y.

"Truscon-I Construction" is a folder issued for the benefit of architects, builders and contractors, by the Truscon Steel Company, Youngstown, O. Details of floors, girders and framing using this particular type of construction are shown, and data given on the extraordinary strength it has developed in tests.

"McKinney Complete Garage Sets" for all types of entrances and illustrated and described in a catalog at hand from the McKinney Manufacturing Company, Pittsburgh, Pa. By packing specially designed garage hardware in compact and complete units this company has

made selection and purchase of garage door hardware a simple transaction, and instead of troubling themselves with specifications covering a lot of odds and ends architects and carpenters only need to use this catalog to note the proper McKinney set number in connection with their plans and specifications.

"Buttonlath System Fireproof Construction" is described in an interesting folder at hand from the Buttonlath Manufacturing Company, Los Angeles, Cal. "Buttonlath" is an improved lathing material which embodies the best features of metal lath and plaster board, and provides a positive mechanical key to hold plaster on a rustproof lathing material. The resulting wall is fire-retarding, sound deadening, non-staining, and heat insulating.

"Lanterns for Interior and Exterior Use" is issued by the Friedley-Voshardt Company, 733 South Halsted Street, Chicago, Ill., and illustrates and lists the complete line of illuminating lanterns manufactured by the company. These are for use with electric light, using quaint old motifs for modern requirements.

"Betzco Kitchunits" form the subject of a very informing folder at hand from the Frank S. Betz Co., Hammond, Ind. Convenience and cleanliness, two requirements of the modern kitchen, are offered by these Kitchunits, and they are sturdy, attractive and economical.

"The Stucco Beautiful" is a well-illustrated and thoroughly informing little book issued by the Magnesite Products Company, Chamber of Commerce Building, Chicago, Ill. Engineers, architects, builders and contractors and all those who plan to build will find in this booklet many interesting and helpful suggestions regarding the use of Kragstone Magnesite Stucco for exterior finish.

"Union Portable and Bench Type Wood Working Machines," manufactured by Gallmeyer & Livingston Co., Grand Rapids, Mich., are fully illustrated and described in a folder at hand from the makers. Combination and individual jointers and saw benches, boring machines, spindle carvers, routers and spiral twist machines are shown, and are of a type which appeal to the builder and contractor anxious to make the most of his woodworking equipment.

"Flexible Fixture Hangers" is the title of a booklet issued by the Crouse-Hinds Company, Syracuse, N. Y., and which illustrates and lists condulet, cushion and ball fixture hangers which provide a flexible suspension for electric fixtures. They are provided with effective means to prevent turning or twisting the fixture stem in such a way as to injure the wires or connections.

"Howe Haiss Truck Loaders Make Road Building More Profitable" is at hand from the manufacturers, The George Haiss Mfg. Co., 141st Street and Rider Avenue, New York, N. Y. With a choice of the creeper or wheel type, the builder and contractor can use these at stock piles, sand and gravel banks, storage piles at crushers, material yards, etc., with a

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896

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Hotel Sylvania, Philadelphia, Pa. Architect Leroy B. Rothschild, Philadelphia, Pa. Gen. Contractors, John R. Wiggins Co., Philadelphia, Pa.

Atlantic Refining Co., Office Building, Phila., Pa. Archts. Joseph F. Kuntz, Pittsburg, Pa. General Contractors, Metzger, Fisher and White Phila., Pa.



Rittenhouse Square Apartment House, Phila., Pa. Architects McIlvain & Roberts, Phila., Pa. Gen. Contractors, Metzger, Fisher and White, Phila., Pa.

Remember This Important Fact

The "Truss-Loop" Used on the Above Jobs Was Not Chosen Because It Cost Less

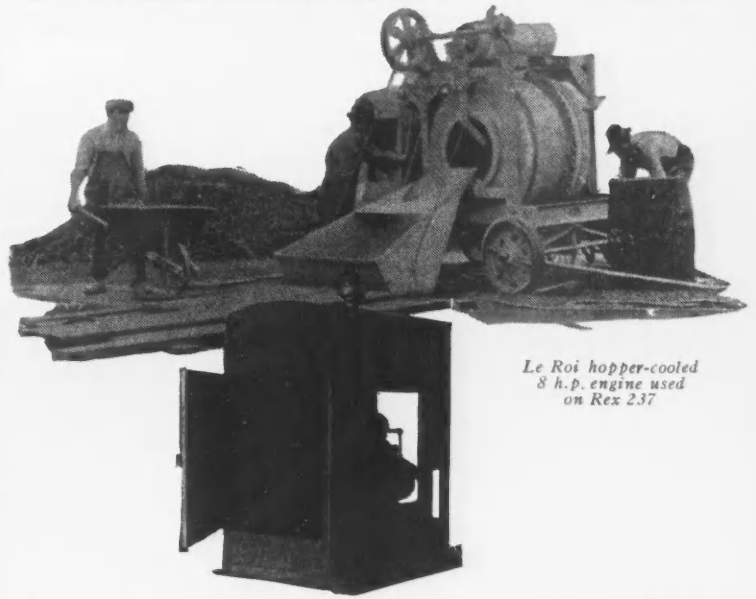
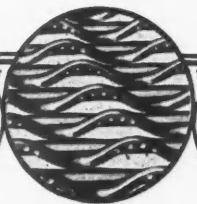
On the contrary, it cost more—that is, in first cost. That BOSTWICK "Truss-Loop" was chosen for these jobs *despite* the fact that *its price per yard is higher*, is the point we want to emphasize.

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saving of time, material and labor which easily pays for the loader, as figures are adduced to show.

"Glue Problems—How to Meet Them" is the title of an unusually interesting book published by the Monite Waterproof Glue Company, 1628 North Second Street, Minneapolis, Minn. It acquaints the reader with the superior adhesive properties and advantages of modern casein glue—a glue of such unusual adhesion, high water resistance and enduring qualities, and yet economical price.

"Lock Block, a Real Building Unit" is a folder issued by the Concrete Block Machine Co., 111 Hamilton St., Newark, N. J. With architects and builders ever on the alert for suitable materials to accelerate construction the Interlocking Concrete Block described herein fills a real need. It is the only dry tamped block of its kind and is easily made with the new, economical lock block machine.

"F W D Winch Equipment" is issued by the Four Wheel Drive Auto Company, Clintonville, Wis. The manufacturers have aimed at perfection of design and construction, and produced a F W D truck with winch equipment applicable to the many different kinds of building conditions where haulage is a factor, and dependable and high power hoisting and pulling force is required.

"Copper Roofing" is a very informative book, bringing to architects, builders and roofing contractors competent information concerning the use of copper and brass in building construction. It outlines various methods of roofing, and gives condensed specifications, illustrated with structural details of various roofs, gutters and leaders. It is obtainable free of charge from the Copper and Brass Research Association, 25 Broadway, New York, N. Y.

"Novo Reliable Power" is Bulletin No. 153 at hand from the Novo Engine Company, Lansing, Mich., and illustrates and describes Novo Air Compressor Outfits. Belt drives and in-

dividual cooling systems are distinctive features of these Novo units, and the engines can, if desired, be used as independent power plants.

"Principles and Practices of Up-Keep Painting" is a new 200-page, fabrikoid bound book, issued by the Paint and Varnish Division of E. I. duPont de Nemours and Company, Wilmington, Del. It is intended for plant superintendents and others responsible for the maintenance of industrial property, besides architects, builders and engineers concerned with protection of new construction.

"Through the Ages" for May is the first number of a publication to be published monthly hereafter by the National Association of Marble Dealers, Gay and Water Sts., Baltimore, Md. It is an illustrated and very well-edited publication of 66 pages, devoted to the ancient and modern architectural uses of marble. The subscription is \$3 per year, single copies 35 cents.

"Fire-Stopping in Dwelling Construction" is Vol. V, Chapter 2 of the **"Lumber and Its Utilization"** Series issued by the National Lumber Manufacturers Association, Washington, D. C. Since fire-stopping cannot safely or wisely be ignored by the home builder this bulletin, with its graphic illustrations and suggestions, is of great help. In fact, every architect and builder ought to be collecting this whole "Lumber and Its Utilization" library.

"Ruud Multi-Copper-Coil Automatic Storage Systems" is an attractive catalog issued by the Ruud Manufacturing Company, Pittsburgh, Pa., and illustrates and describes the Ruud System for supplying hot water in large quantities to meet large residence, apartment building, hotel, hospital, gymnasium and factory requirements. It is a system which operates under any gas and water conditions and may be had in many combinations of different capacities.



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