

# AMERICAN BUILDER



Formerly AMERICAN CARPENTER AND BUILDER

Member of the Audit Bureau of Circulations—Circulation Audited and Verified April, 1922

## American Builder

Entered as second-class matter July 1, 1905, at the post office at Chicago, Ill., under the Act of Congress of March 3, 1879.

Published on the first day of each month by

### AMERICAN CARPENTER AND BUILDER COMPANY

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Radford Building, 1827 Prairie Ave., Chicago

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EASTERN OFFICE: 261 BROADWAY, NEW YORK CITY

### SUBSCRIPTION RATES

One year, \$2.00; six months, \$1.00; single copies, 35 cents. Special rates for two or more subscriptions when received together, to be sent to different addresses—Two subscriptions, \$1.75 each; three subscriptions, \$1.50 each; five subscriptions, \$1.25 each; ten or more subscriptions, \$1.00 each. Extra postage to Canada, 50 cents; to foreign countries, \$1.00.

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### ADVERTISING RATES

Furnished on application. Advertising forms close on the 15th of the month preceding date of publication.

VOL. 33

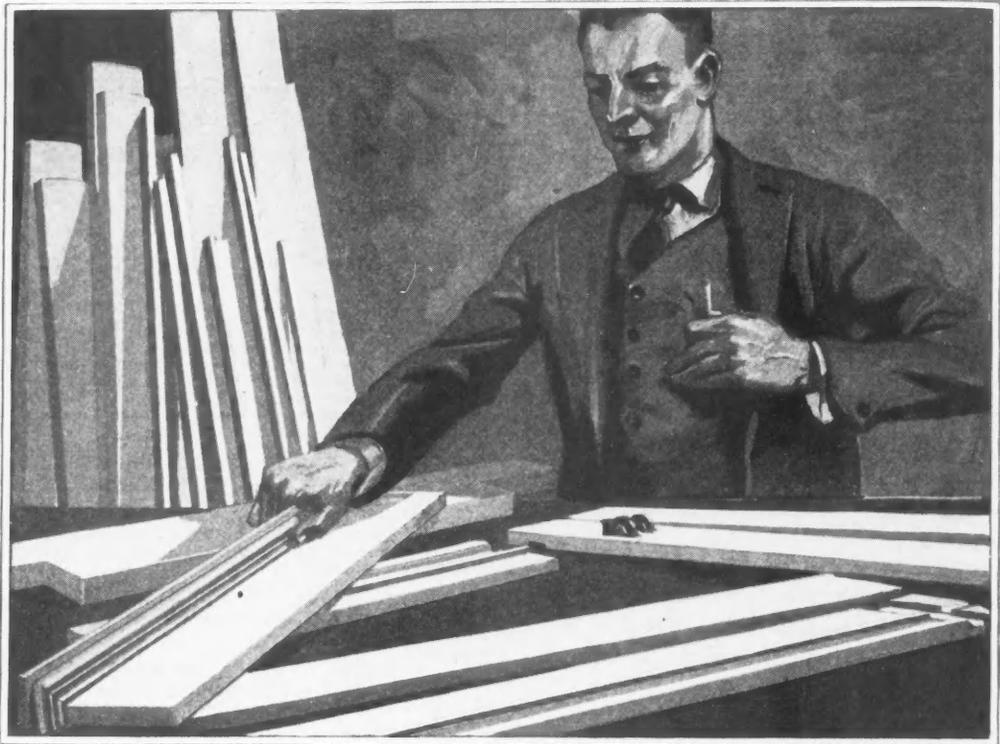
August, 1922

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*EDITOR'S NOTE—We want and welcome practical, informative articles on any subject of interest to the builder. Men who have special knowledge or such experience that reveals improved methods can find a market for their skill in the AMERICAN BUILDER. Accepted manuscripts will be paid for at regular rates. Turn your time and ability into increased earnings by writing on practical timely subjects for the AMERICAN BUILDER.*



## Where 57 Parts Are Reduced to 7

**T**HERE are 57 separate parts in an ordinary frame. Andersen Standard Window Frames reduce these 57 parts to seven units.

Using only a hammer, these seven units can be assembled into a frame, complete with pockets and pulleys in place, in 10 minutes or less.

Any dealer in Andersen Window Frames can immediately supply 121 different sizes from a stock of only 11 standard frames, simply by interchanging heights and widths. This prompt delivery is a decided advantage over the method of ordering made-to-order frames weeks in advance with no assurance of delivery.

Because of its abilities to endure for cen-

turies without warping, rotting, shrinking or cracking, White Pine is used in all exposed portions of Andersen Frames.

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Dealers prefer to handle Andersen Frames because they require less space, a smaller stock and a smaller investment. Builders prefer them because they save time and labor. You, too, will prefer them once you have learned their advantages.

### *Write for This Book*

We have prepared an interesting book on the qualities and economies of Andersen Frames. Upon request, we will gladly send you a copy without charge.

Andersen Lumber Company  
Department A-8 South Stillwater, Minn.



T.M.

REG.

# Andersen FRAMES

# Short Talks by the Editor

## A Picture of Prosperity

ONE man's opinion of the country's commercial condition is about as good as the ideas of the next man. And both opinions are almost as valuable as a grain of sand on the seashore. One man does not greatly influence the big, broad general situation.



Doc World: "Well, Business, You Are Looking Better, Very Much Better. Your Complete Recovery Is Sure."

He is vitally affected by it, but has very little to do with changing or forming country-wide conditions.

The individual is always the individual in looking at the picture of prosperity. He sees in the scene little more than is in his own mind. If his business is good then he regards business, in general, as good. If his affairs are slipping and sliding he sees the whole business structure in a downward avalanche.

But, despite a personal peak of prosperity or a solitary instance that spells doom and disaster, the whole structure of business must flourish or fall.

Right now, the picture seems a pleasant one. Fundamental conditions, in this country are, for the most part, favorable. The agricultural situation is good—much better than it has been. The construction industry is enjoying a healthy state that carries prosperity to many contributory industries. The financial situation is just about A-1. There is an abundance of money available at low rates. Foreign trade is on the gain. Prices show strength. The lumber industry is operating at about 100 per cent. Shipments, production and unfilled orders of brick have touched a new high. There may be a few dark spots, but, in the main, the business landscape is a pleasant, cheerful one.

He who cannot see prosperity in the picture either has his eyes closed or is blinded with dust from his own narrow desk.

## The Woman Wins

JOHN WANAMAKER may or may not be the greatest genius known in the art of merchandising, but most of us would be satisfied to make as great a success as he has made. Wanamaker says one of the most important things he has learned about the art of selling is the importance of the woman buyer.

Eighty-five per cent of the things sold in a department store are sold to women. In other fields the percentage will not be quite so high, but woman buys or influences the buying of nearly everything humanity uses.

To recognize the important influence of Mrs. Housewife and her buying power is a first step towards success in selling. The builder who caters to "women's whims" is apt to be a busier builder than the competitor who turns up his nose at "women's notions." Many a sizeable home-building job has been landed because a breakfast nook, a large sun-parlor, a kitchen convenience or some other little refinement caught the fancy of the lady of the house.



Madam Buyer: "I'll Take That One with the Nice Big Porch."

Builders recognize that it is good business to consider the comfort and convenience of the woman when planning the home. Pleasing her just about amounts to pleasing the whole family.

Cultivate Mrs. Owner as well as Mr. Owner. It pays.



## An Age of Apartments

ONE city alone is spending more than a million dollars each week in building apartment buildings. Multiply that in terms of the nation and we get an impressive conception of the magnitude of business this type of building means to our industry.

The builder who goes after the apartment building business of his community will bag big game.



HOURS spent in careful drawing of the plans usually saves days in the actual construction of the building.

# Hammers, Saws Unknown to Island Carpenters

YET BUILDINGS MUST BE WELL ERECTED TO PROTECT OCCUPANTS FROM RAINY DOWNPOURS

By **Betram Sandham**

**B**UILDINGS under construction in our country are little noticed by the hundreds of people that pass by. But in the South Seas I found the contrary true. Even old residents of these isolated isles who had seen scores of native huts and buildings erected, stop and inspect each hut and building, and is newly amused at the various methods of construction. The tools, which are usually exceedingly primitive, and the materials that are employed are always matters of interest.

These emerald isles on account of their geographical location are visited and swept by most every element of the sea and sky, and the builder must take all this into consideration if he wishes his hut or building to last any length of time.

### Rain, Rain, Then More Rain

Rainfall for the last twelve years on the island of Tutuila, in the Samoan group, showed an average yearly precipitation of 196.20 inches, one year's fall coming up to 284.4 inches, the lightest year showing 130.02 inches. This calls for buildings with high cement foundations to keep the living quarters away from the damp ground. Despite the height of the floor from the ground, the boards remain semi-damp and cool the year round. A pair of shoes, if not in use, will become covered with mold within a week or ten days.

Sills, doors and window casings are necessarily of special construction with such torrential downpours as are experienced in this southern island group. Then again, building must be so planned that as much of it as possible be thrown open for ventilation and to receive the cool trade winds as a relief from the rays of "old Sol." The roofs are of corrugated iron, with

gutters on all sides and leading to a large storage tank in the rear. Large sized gutters are used, and precautions are taken that every drop of rain be caught. The only water available on the islands is that which is caught from the roofs, unless one feels inclined to walk several miles to a creek and transport it in bottles, as is done by the natives.

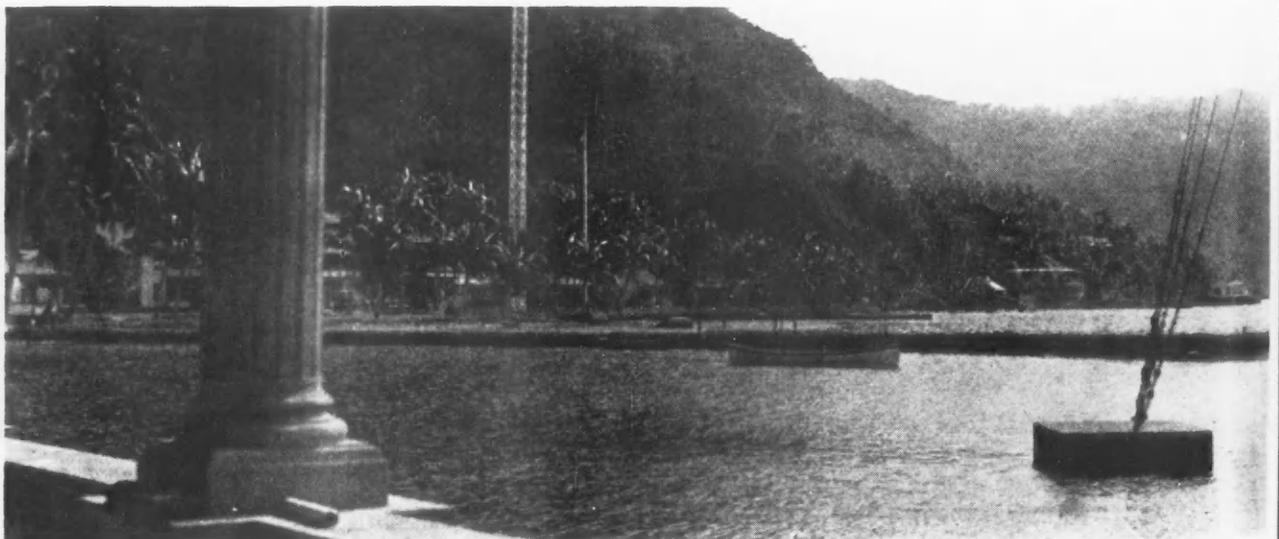
### Withstand Winds

Earthquakes and hurricanes are other adversaries found in this part of the globe. While the last named is not frequent, the extent of the damage to the structures is of course greater. Additional bracing of the frames is carried out to guard against this element as much as possible. The roofs, tho securely built, are the first to suffer from the consequences of the heavy gales. The ends of the corrugated iron are torn loose from the frames and bent up at the next cross row of nails. The heads of these nails, unless large washers are used, are soon pulled thru by the titanic strength of the wind and the roof is again folded over, continuing this method to the end of the sheet, which is finally cast many yards away.

The government buildings and almost all the residences are grouped together facing the palm-lined road that traverses the edge of the harbor of Pago Pago. Cement sidewalks are built connecting all these structures facing this road. There are no other cement sidewalks on the island. A good grade of exterior paint must be used to weather the heavy rains. All the government buildings and most dwellings are done in white, with a dark brown trim.

### Painted the Town Red

This reminds me of the native helper engaged in



Government Buildings May Be Seen in the Background of This South Sea Island Scene. The Picture Was Taken from the First Concrete Structure Erected at Tutuila. It Has Just Been Completed.

the construction of two crib masts erected for the support of a wireless antenna. Great difficulty was experienced in securing native labor for this job. The

this day one will see their primitive tools and methods still used in the erection of their dwellings. They are prone to use these ancient methods in everything concerning their daily life. This feature is what makes these islands so appealing to the traveler and tourist. The islands of the South Seas, particularly the smaller ones, have not become commercialized to the same extent as have other remote possessions. Their villages were founded and built at the foot of cliffs wherever possible, and always on or close to the palm-shaded beaches. Their huts vary in size, but are practically alike in their shape; and the same material is used in all. The upright supports which are required in the center of the larger huts, are taken from the trunks of various trees, preferably the "Fetou" species. This wood is exceedingly hard and very heavy. These tree trunks are trimmed in the mountains to the desired size and then transported to the dwelling site on the broad shoulders of several dozen natives.

#### Crude Tools Used

The hewing of these trees to the required measurements is not accomplished with the modern tools. The natives' favorite tool is a primitive adze. A sharp piece of coral bound to a handle is used in most cases. The more up-to-date builder replaces the coral with the blade of a plane, but these are scarce and the price prohibitive for the native.

#### No Nails, Screws, Bolts

With these posts set in the center and smaller ones placed along the edges of the site, narrow ribs are hung, which in time will support the thatched cane roof. Not a nail, screw or bolt is used in the entire construction. Every joint is fastened by binding it with its own tropical cord. This is woven from the hairs of the cocoanut and is no simple accomplishment. The hair must be beaten from the heavy husks that encircle the cocoanut, and is then buried below the surface of the sea. A hole in the coral reef provides an excellent place and this prevents these bunches of hair being



A Samoan Hut in the Early Stages of Erection. The Ribs and Methods of Binding Are Clearly Shown.

majority of them not being inclined to take their feet off terra firma, or not higher than a cocoanut palm at the most. This native while engaged in red-leading the shackle bolts, etc., at the top of the mast, tipped over his bucket of red lead. The heavy trade winds which were blowing at this time spread it in the air like fine mist and soon all the white buildings were spotted with red lead from roof to ground, and those in their white dresses and white uniforms were soon covered with the rust preventer.

Conservation of materials is a universal practice in the South Sea Islands, as all supplies must be shipped in from either the United States or Australia, and the original cost is considerably inflated when a four thousand mile freight bill is included.

The construction of the native homes or huts is peculiar in most every phase of the work. Even to



Here We Have a View of the Inside of a South Sea Island Hut. Yes, Large Families Live in These Small Huts.

carried out with the tide. They are left there for about two weeks, which removes all residue and toughens them. The hair is again separated and laid in the sun to be thoroly dried. Women and men then weave it into large balls of sennit braid. It is very strong and will not rot, and is also used in the building of outrigger canoes.

The amount of small ribs used in the roof, run into the hundreds, with several cross ribs to hold them in place. At each intersection of these cross ribs the sennit is employed in binding them together. This is a most tedious job for the builder. Dried sugar cane leaves are used in making the roof. They are water proof to a great extent and will not crack or shrink under the hot sun. The first layer is bound to the ribs with sennit, as are the succeeding layers, and is put on to a thickness of from 12 to 18 inches.

#### Floors Built of Stone

The storm thatches or side curtains are made from the cocoanut palm leaf and fastened at the lower edge of the roof, and can be put up or down as the weather requires. The floor is built of flat and smooth rocks and pebbles gathered from the beach. In most cases large boulders are set up around the edge of the hut to a height of from one to two feet. The floor is then filled in with sand to about six inches of the top of the boulders, the small rocks are then laid on the sand to an even height of the boulders and the hut is then completed. Mats are laid on the rock floor for resting places and are not any too soft, as I well know. About three months are required for the erection of a native's hut of ordinary size.

A builder or contractor contemplating a trip to the South Seas will enjoy viewing the construction of these buildings and huts equally as much as he will appreciate the scenic splendor of the Samoan Islands and the primitive environment which is infinitely greater than is evident on many of the Southern Isles. And he will gain appreciation for the saw, hammer, plane and other tools so common in the progressive U. S. A.

Such a visit would not only increase the artisan's appreciation for the splendid tools he has for every operation, but would greatly impress him with the advantages of having varied materials which may be used in construction work. The South Sea Islander must use crude materials and so he can build only crude buildings.

But we can have a variety and beauty of materials that make our homes and other buildings so varied and attractive that it is a joy to build them as well as to live in them.



The High Foundation, Sheet Iron Roof and This Type of Porch Are Common in the South Sea Islands.

### Ten Commandments for Foreman and Others Who Handle Men

1. Be an optimist. Confidence is infectious.
2. Make few promises. Keep every promise made.
3. Every question has two sides. Always hear both.
4. Study your men. Put each where he can do his best work.
5. Never show discouragement. A stout heart will never die.
6. Don't hold spite. Correct when necessary, but forgive afterward.



Some Rules for Success in Handling Men Are as Old as the Law of Moses

7. Notice good work as well as bad. Give both credit and blame justly.
8. Be fair. A foreman often has to act as judge, and therefore must be just.
9. Control yourself. Anger is too valuable to use except on special occasions.
10. Take your full share of the blame. Sharing both blame and praise with workers is a big part of the secret of managing men.—National Cash Register's "Rules for Success."

# A Simple Frame House for a Fifty-Foot Lot

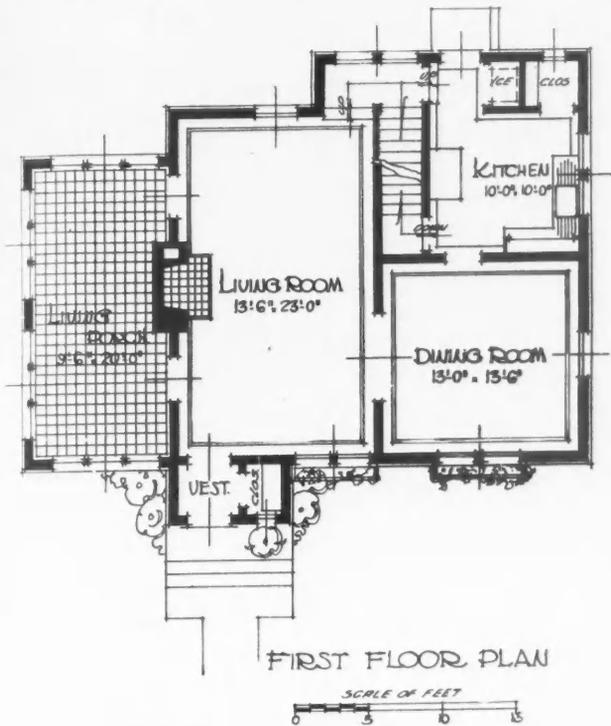
COMFORTABLE, COMMODIOUS HOUSE, SET ON TERRACE, PROVIDES LARGE LIVING ROOM, PORCH AND BEDROOMS

By R. C. Hunter

**T**HIS house follows no particular style of architecture, but is a simple, straightforward house whose exterior is an outward expression of the plan requirements within.

design which changes this custom is interesting.

Surely no one will object to the placing of the living room as it has been done in this plan. The side porch gives desired privacy and the advantages of a living



Living Room and Living Porch Are Big, Roomy and Attractive.

The house is designed to set comfortably on a lot with a 50-foot frontage and leave ample room for a drive on one side.

The entrance vestibule with adjoining coat closet is a convenience and it allows the usual entrance hall to be eliminated, giving the space over to the living room.

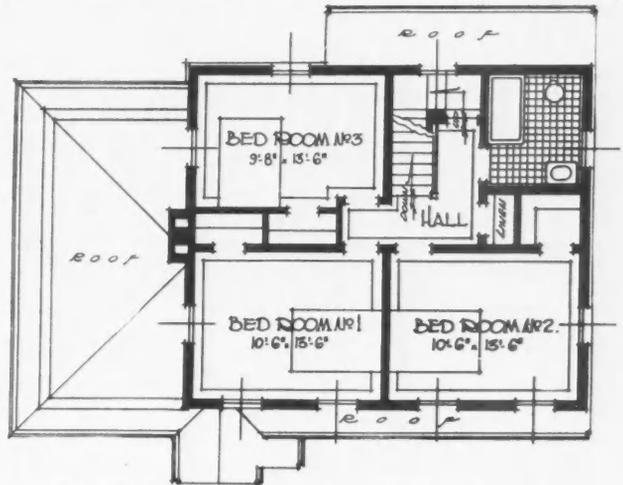
Three bedrooms and a bath complete the second floor and stairs lead up to a generous attic where a room can be finished off if desired.

The exterior walls are sheathed and covered with siding. The roof is slate in a number of shades, giving color and texture.

The living porch is completely enclosed so that it becomes another room.

The foundation is concrete and a cellar extends under the entire house. The house sits on an elevated terrace, insuring a dry cellar.

It has so long been the practice in building most homes to put the living room at the front that any



Second Floor Plan Affords Ample Sleeping Quarters.

room opening onto such a porch are obvious.

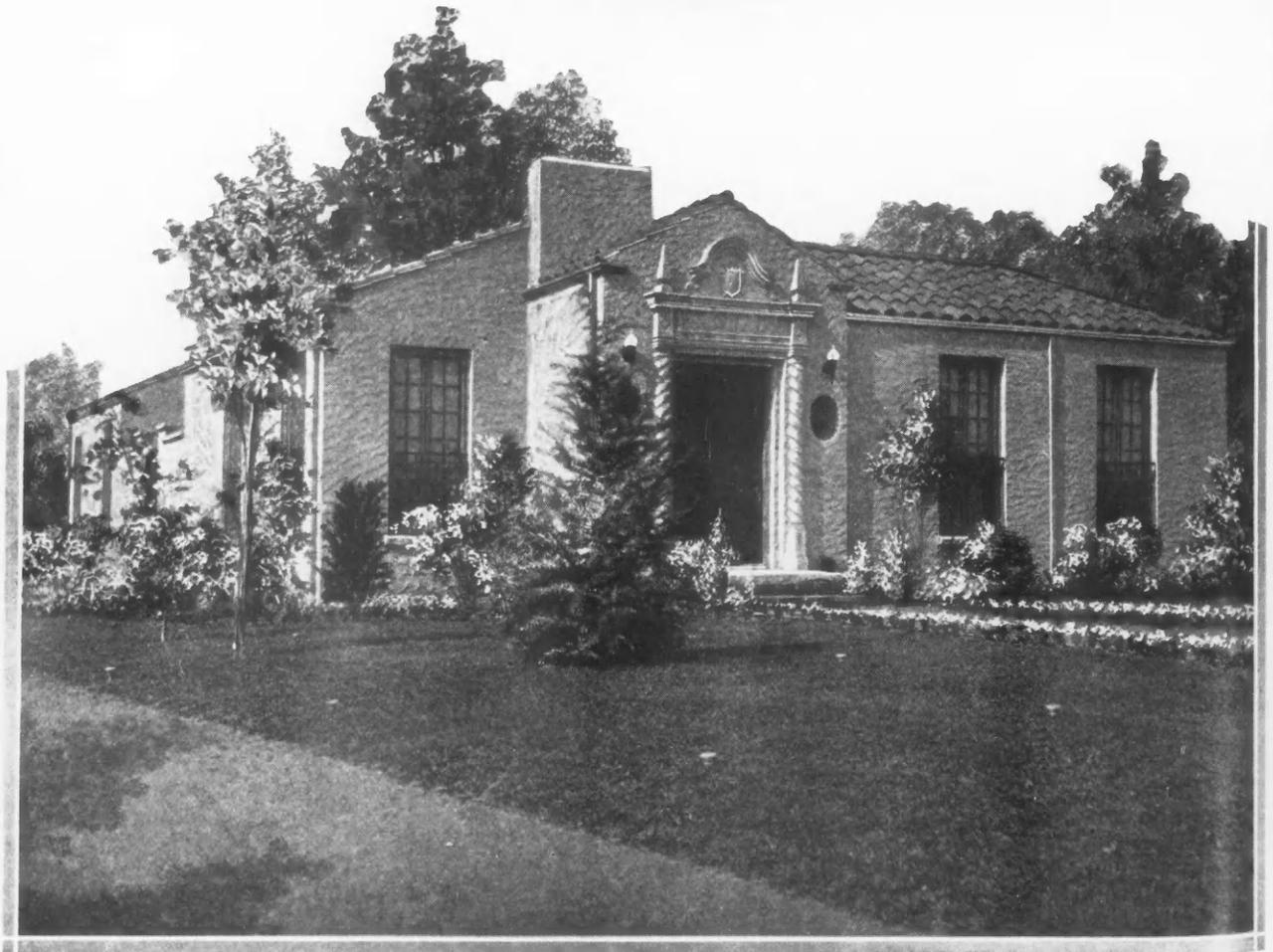
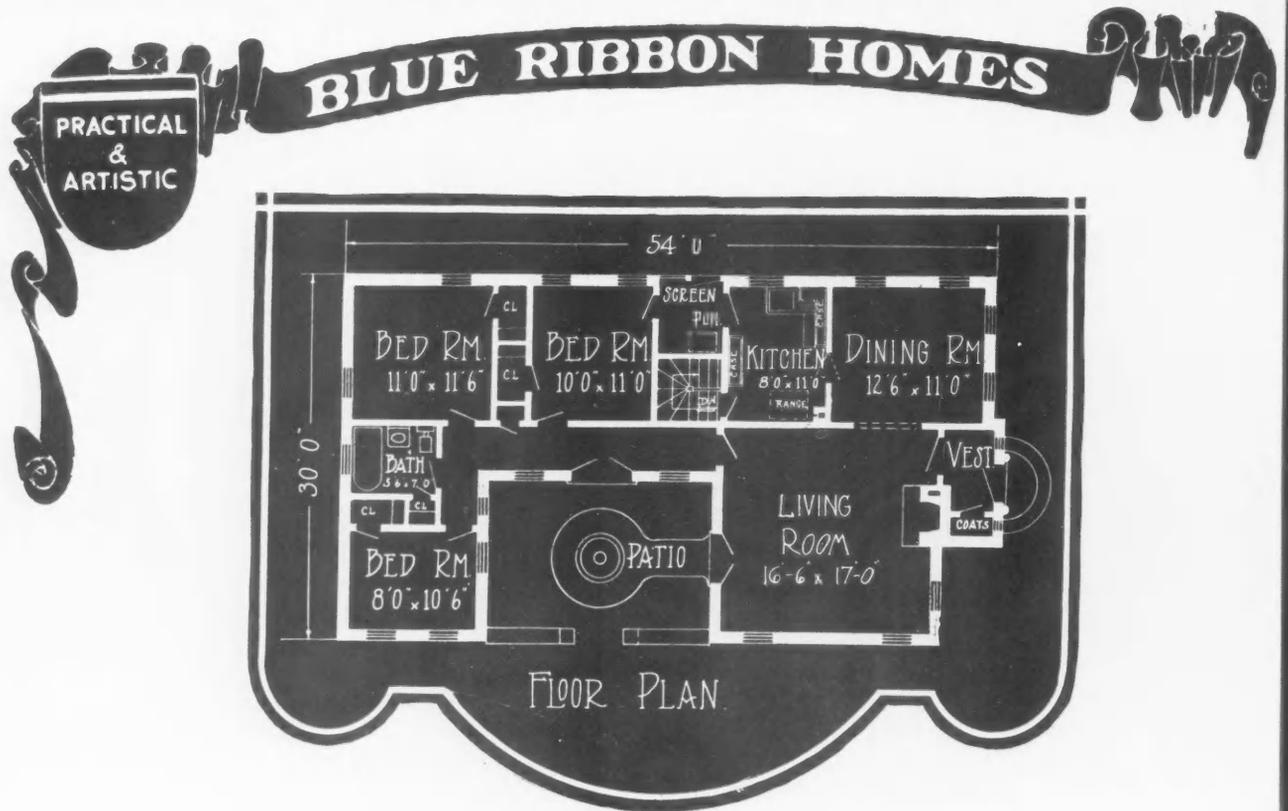
Situating the home on a terrace always appeals to many people. It makes a more attractive lawn and affords a better view than if the house is on the street level.

The sturdy simplicity and roominess of this home will appeal to all.

A woman who has pronounced ideas on many subjects expressed a worth thinking about thought when she said: "Fancy clothes and fancy homes have a short welcome." The first impression of the ornate and fanciful may be favorable, but long association often makes them distasteful. This home commends itself because it is sensibly designed and built.



An Interesting Example of a Good Home for a Fifty-Foot Lot. R. C. Hunter & Bro., Architects.

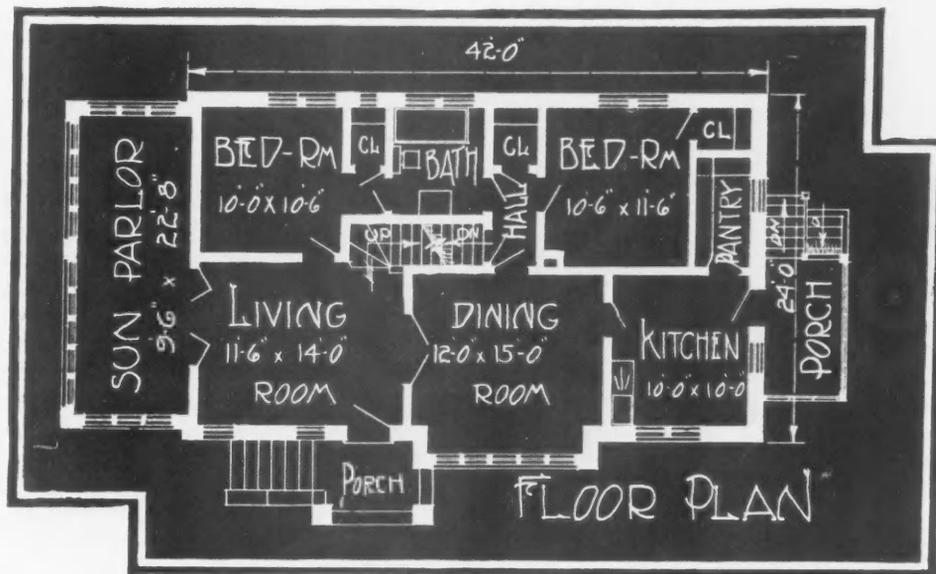


**CALIFORNIA CREATED THIS TYPE OF HOME.** But now it is in favor everywhere. Those who value the unusual will admire this design. Its strong lines, inviting entrance and durable materials make a universal appeal. It affords the bungalow convenience of having all rooms on one floor and yet it is not "a doll's house," there being three bedrooms as well as a generous-sized living room and an adequate kitchen and dining room. Little features that are appreciated are the long windows admitting an abundance of light and air, a vestibule and a conveniently placed wardrobe. The growing demand for a patio has been recognized in designing this fine home.

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close

**BLUE RIBBON HOMES**

PRACTICAL & ARTISTIC



**BUILT TO PLEASE AND BUILT TO LAST.** This brick home will be a source of pride and joy to the owner and to his children and his children's children. Such construction is enduring. And this design is livable as well as lasting. What an attractive sun-parlor! The porch is well placed. Dining room, kitchen and pantry are grouped according to the best practices in home arrangements. Every room is especially well lighted, there being three windows in the kitchen, two in the bathroom and one in the pantry, rooms that are often left dark and dingy. The convenient close off the hall is just one more reason for admiring the arrangements and general plan of this home.

## Profitable for Builder, Owner and Occupant

APARTMENT BUILDINGS PAY GENEROUS DIVIDENDS NOT OTHERWISE POSSIBLE FOR ALL THE PARTIES CONCERNED

**I**T takes three parties to put the stamp of success on an apartment building venture. Each has his separate desires and demands. But while their aims are different each one enjoys special benefits which a new building of homes is sure to bring. Without such buildings all three would be deprived of real gains.

To the owner, a new apartment building is simply an investment promising regular and attractive interest returns on his money.

To the builder, it is only a part of the job, out of which he hopes to make money and add to his good name as a reliable and trustworthy builder.

To the occupant, it is just a place to live where he hopes to get the maximum of convenience and comfort for the smallest possible monthly outlay.

And yet while owner, builder and occupant look with a cold eye and strictly with a pocketbook view at the apartment building, each reaps benefits and gains they otherwise would never realize.

It's a fact that the apartment idea means more to our financial interests and general happiness than we are at first inclined to realize.

### Tip-Top Investment

For the owner, an investment in an apartment building is an investment second to none other. No bank or bond will give him anywhere near the same interest yield. No other investment can promise more in increased value. No other enterprise can assure him more in safety and security. The man who builds a good apartment build-

ing may well consider he is using his money to the best possible advantage. He has fulfilled the conditions which assure him a steady, sizable income. He has made the most of the opportunity which his money gives him. He may well regard the apartment idea as a means for him to enjoy benefits that otherwise his money would never bring him.

### Big in the Building Boom

The steadily increasing demand for apartment buildings adds millions—many millions—of dollars to the building program that otherwise would be sadly missed. The builder who does not realize that apartment building is one of his biggest sources of business can scarcely be regarded as conscious of a big fact. In Chicago alone nearly \$1,000,000 is the weekly sum total of apartment building investments. Stop apartment building in any big city and you would stop

two-thirds of its building activity. One of the best guarantees the builder can have for continuous and profitable demands for his services is the great need for apartment building.

Any check on this enterprise is a slow-up or stop signal for the building material manufacturer, the dealer and the builder. Apartment building is a big fact and a dominant factor in our building activities.

The manufacturer or builder who fails to encourage and aid the apartment building idea is performing a feat of self-surgery which may find him with the right arm of his business receipts missing.

There is an element of standardization and sameness in the several styles of apartment buildings that permits a quantity business which is always attractive.

The investor gets more for his money and the building industry adds millions to its sales total through building apartments and even the occupant is financially better off because our cities are dotted with these community homes.

### Means Moderate—Home Modern

How many people could afford a home of brick, with fire-place and beautiful built-in furniture, modern plumbing, complete wiring, steam heat and every convenience unless

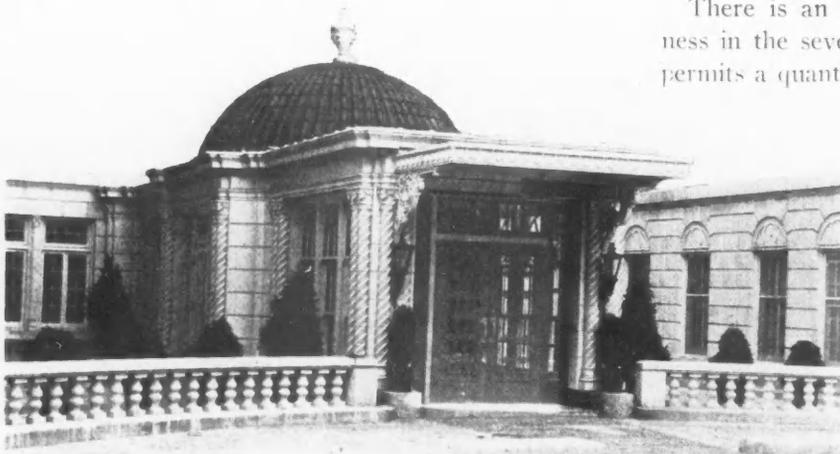
## BENEFITS FOR ALL IN BUILDING APARTMENTS

The owner invests his money to the best possible advantage when he builds an apartment building.

More business with a good margin of profit is a benefit to the builder.

Sales of building materials are greatly stimulated by an activity which runs into millions.

Occupants have a better home at less cost in a modern apartment building than if they were to build the individual home they could afford.



Inviting and Beautiful Entrance of Modern Apartment Hotel. Every City Reports Unusual Activity in Building Apartment Hotels.

such a home were made possible thru the economy of building apartments? Erecting a twenty-apartment building of five rooms each calls for a considerably smaller investment than building twenty homes of equal room size. One roof, one heating plant, one lot and one of many other items of cost serve the purpose of twenty. The occupant shares the benefit of this vast saving.

### An Appreciated Advantage

Suppose individual homes were required for each family in our congested cities. Such a condition would require many city workers to live at such a distance from their work they never would have time for recreation. But the idea of building homes several stories high permits millions to live within a radius of a few miles and to enjoy the comforts of a good home within an easy distance of their places of employment.

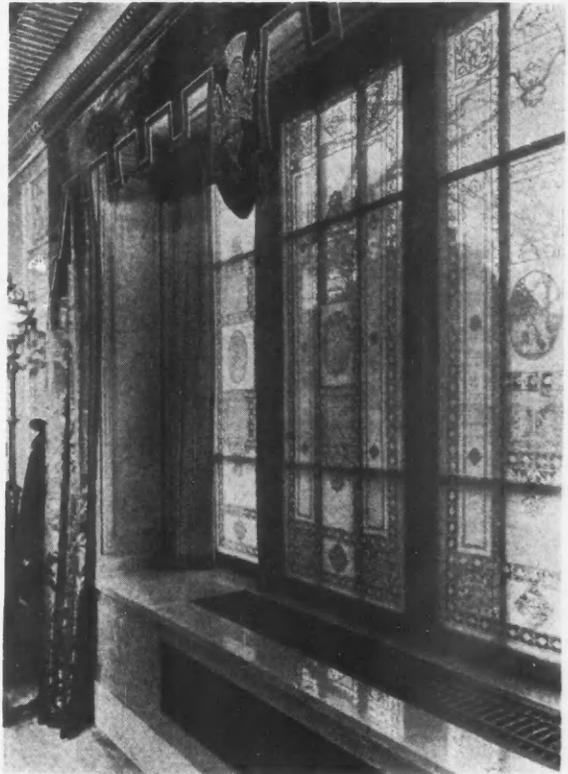
Many builders who, by no means, are old men recall that an apartment building was something of a novelty not long ago. The average builder would have only occasional opportunities to figure a building of this type.

Now in many communities this class of construction represents the largest number of jobs and the largest investment for a single class of buildings.

Large quantities of quality materials are used in such enterprises.

And while the demand is now big it is sure to increase as our cities become more congested.

Better homes for the occupants, better business for the builder and better earnings for the investor—these are the benefits of the apartment building idea—



Quality Construction Within and Without Make Apartment Building Business Good Business to Get.

a feature of building whose volume and profit constitute one of the most healthy phases of the industry.



### Saving the Shavings

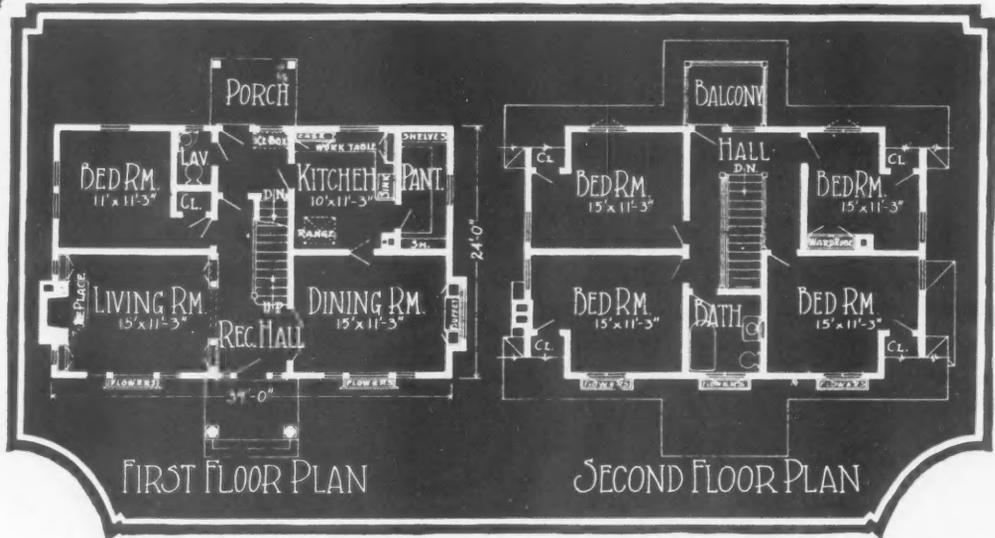
**J**APANESE artists take long wood shavings, weave them together into a mat and then paint pictures upon them.



Not Only Are Great Quantities of Material Used in Apartment Buildings but a High Quality of Supplies Are Demanded. So the Building Will Attract Tenants and Earn Long Dividends.

# BLUE RIBBON HOMES

PRACTICAL  
&  
ARTISTIC

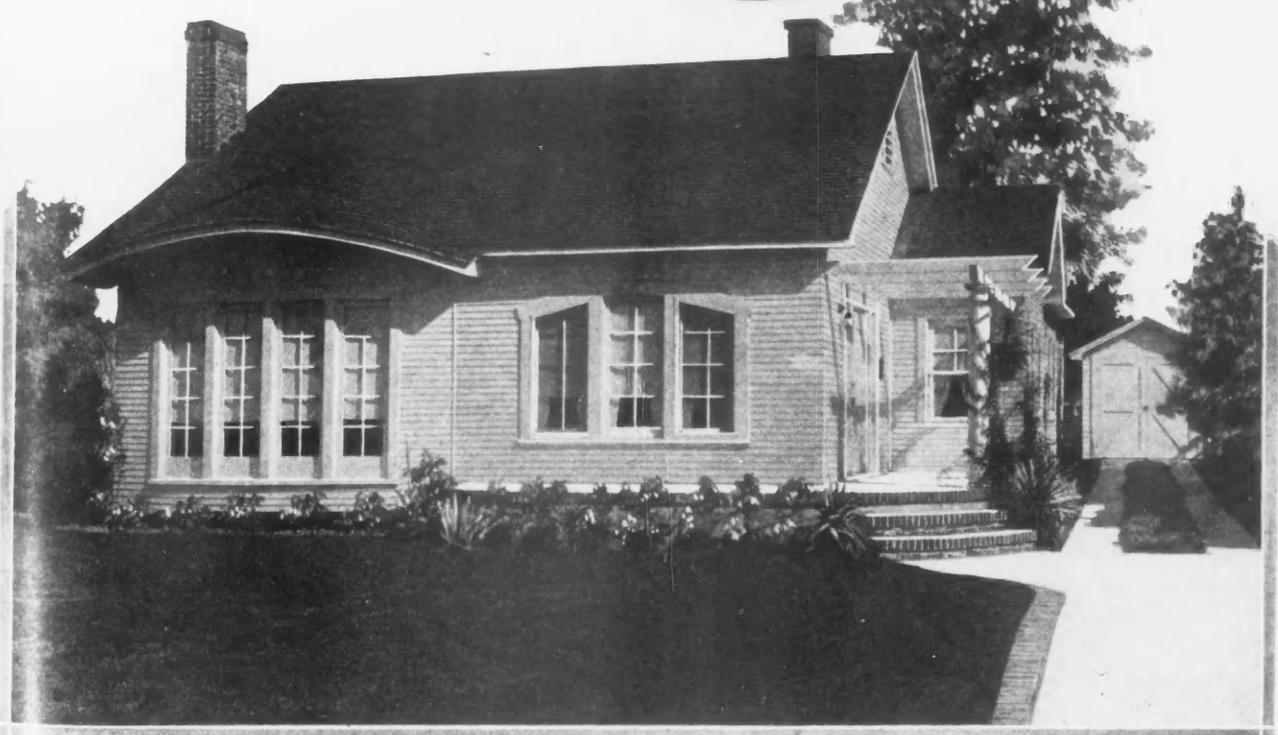
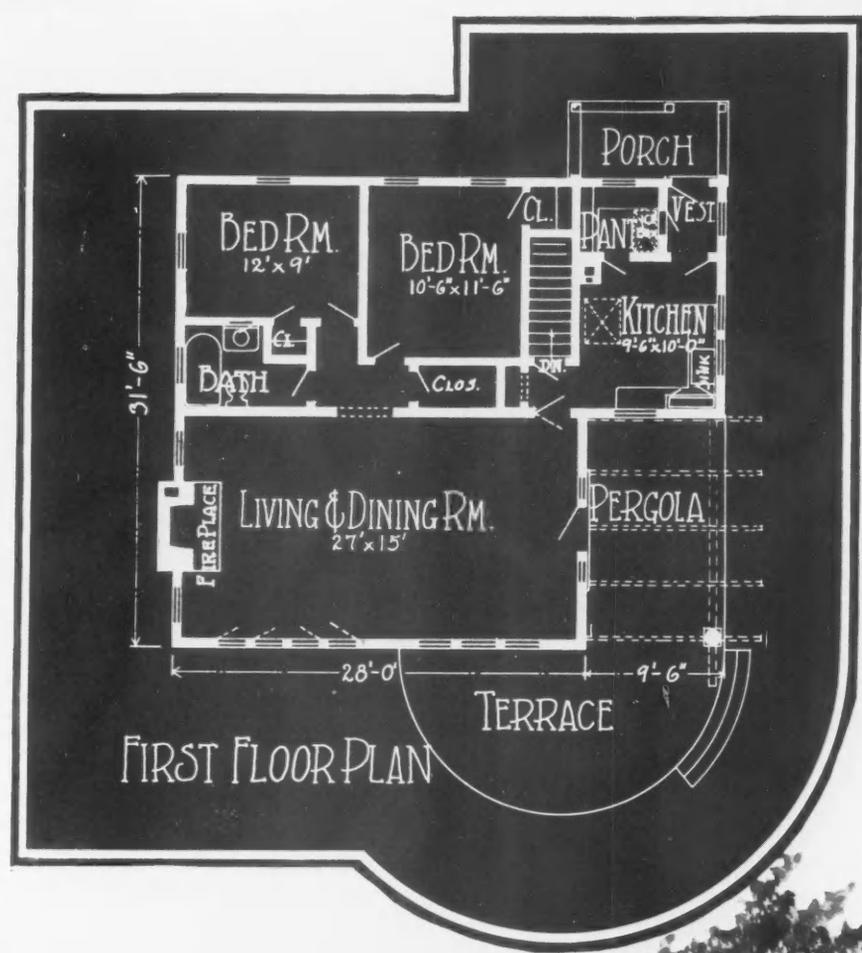


**DELIGHTFUL DUTCH COLONIAL HOME.** One of its best features is the generous and novel window treatment. Both the living room and dining room are blest with triple front windows, the wide center windows being flanked with two smaller ones. All these windows have divided lights in upper sash. Casement windows with flower boxes are graceful features for the upper story. This home has four bedrooms, all good sized, up stairs, as well as a first floor sleeping room. The pleasing curve of the entrance roof and the simply substantial pillars are inviting. Dutch Colonial architecture is in great favor. This suggestion is one of the most pleasing homes of that type.

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**BLUE RIBBON HOMES**

PRACTICAL & ARTISTIC



**T**HIS SINGLE STORY HOME SAVES STEPS. All the rooms are on one floor and compactly arranged. No running up and down stairs, no needless steps in caring for this home. A moderate sum of money will build this design and it is indeed attractive. The combination living and dining room affords a big room to spend idle hours in. The terrace and pergola are praiseworthy exterior touches of beauty.

## Cheerful Colors Chase Hospital Gloom

BUILDER'S GOOD JUDGMENT IN DECORATING WALLS  
A MEANS OF MAKING A GOOD JOB STILL BETTER

**B**UILDERS are concerned with colors. Interiors and exteriors may be made or marred by attention or lack of attention to color effects. The builder who is careful and gives sound advice in such details as color effects increases his business and gains the greater respect of his customers.

While the following study of colors is particularly applied to hospitals, the same truths are of concern to anyone interested in building school buildings, factories and homes.

Many interesting experiments have been carried out in regard to the effect of color upon the human mind. The effect of red upon the normal person is found to be stimulating and exciting. This color has frequently been used before a race by athletes, who fix their eyes for a few minutes upon a red handkerchief in order to stimulate action. Blue is a cool color, and has soothing and health-giving qualities. Plants are quite susceptible to this color and if placed under a blue glass they greatly increase in size and are much hardier than plants grown under ordinary conditions. Yellow is a stimulating color and has proved beneficial to humans in cases of shell shock, as it excites hope and cheerfulness in the mind of the patient.

The hospital should be the first place in which full advantage is taken of the power of color to effect helpful results.

### Sunshine Colors

Use the warm and cheerful sunshine colors in decorating the lobby to create a favorable first impression of the hospital. These so-called "sunshine colors" are those which lie on the warm active side of the color circle, such as red, orange and yellow.

The waiting room is for the convenience of visitors and prospective patients. Is there not likely to be an unfavorable reaction to a room that has white

walls, unattractive floors and uncomfortable looking chairs?

On the other hand, if visitors were ushered into a room with walls of a warm and cheerful color instead of plain white, how much better they would feel. To see a rug on the floor with some bright spots of color in it, comfortable chairs and pictures hung on the walls is to feel encouraged and bright instead of depressed and worried.

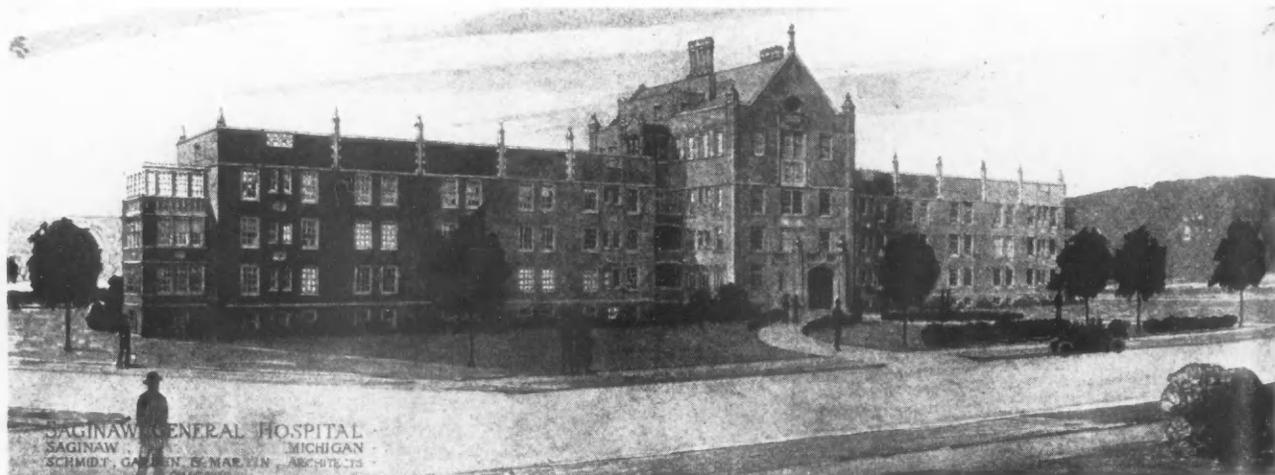
In rooms that are well lighted a cooler color should be used on the walls, such as French gray, olive green or blue. Rooms that lack the necessary light and warmth should have a tan, buff or warm green treatment. Gray may be used in rooms of this kind, but yellow must be added to give warmth.

### Helping the Surgeon

In decorating the hospital, consideration should be given to the surgeon as well as to the patient. In the operating room an abundance of light is required. When the light strikes a flat finish the rays are diffused in a uniform way so that an even and restful effect is produced. But when it strikes gloss paint and glazed tiles, the light is not properly diffused and produces glaring high lights. The result is that the eyesight of the surgeon is slightly but nevertheless harmfully impaired whenever he looks up from his work for a moment.

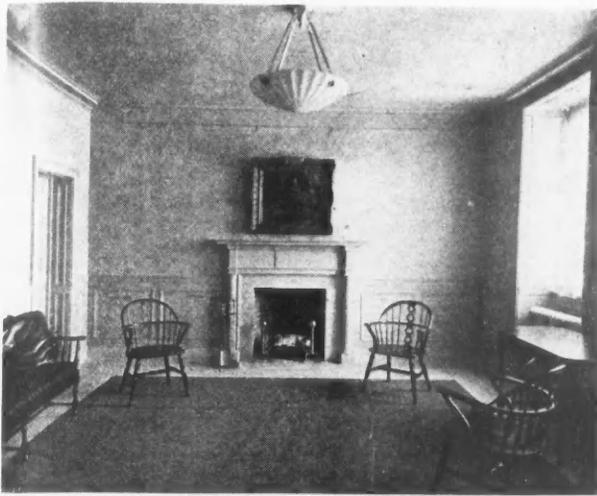
French gray is recommended for use in the operating room. Olive green is also a satisfactory color. If gray is employed, it should be darker at the bottom of the wall in the form of a wainscoting, followed by a medium gray for the sidewalls and a very pale gray for the ceiling.

In selecting a color for the wards, the general condition of the patients should be taken into consideration. A warm green or tan could be used to good



While the Principal Demand May Be That It Shall Be Practical, There Is No Reason Why the Modern Hospital Should Not Be Beautiful. Proper Decorating Will Make It Not Only Attractive but More Practical.

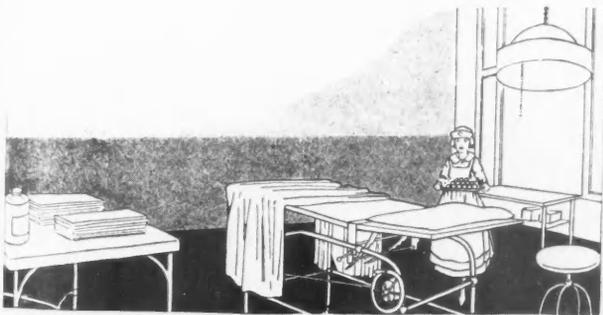
advantage for this purpose, as warm green is pleasing and restful, while tan retains the stimulating quality of a yellow that has been lowered in strength and softened by the addition of white and black.



A Light, Bright Hospital Reception Room Cheers Callers.

**Stencils Suggested**

An interesting form of wall decoration can be added to a room by the use of stencils. As the stencils are applied flat, there is no overhang to catch the dust or dirt. After they are applied a touch can be added here and there of bright colors to give interest to the design. The cost of these is small in comparison to the enjoyment and cheer that is derived from them by the patient.



A Well-Lighted Operating Room Is a Silent Aid for the Surgeon.

**Vary the Monotony**

Rooms in which one must be confined for long stretches of time should contain stencils that have imaginative qualities. In the children's wards could be used a stencil that has a border of bright red berries and green leaves, Dutch scenes or animal forms. These suggestive motifs always amuse the children and help pass many weary hours.

People are realizing more and more the value of color in the hospital and how much can be accomplished by its use. Cover the hospital walls with color instead of blank, cheerless white. The invalids' thoughts will then be directed into other and more cheerful channels, which will lead them more quickly along the road to recovery.

**How to Tell Birch, Beech and Maple Apart**

**B**IRCH, beech and maple are very similar in appearance, and have approximately the same weight. Hence it is comparatively easy to mistake one of them for another. A method which anyone can use to distinguish them is suggested by the U. S. Forest Products Laboratory. The method makes use of the relative width of the pores and medullary rays in the three woods.

If the end grain of birch, beech or maple is cut smooth with a sharp knife and examined with a hand lens, the pores will be seen as tiny holes distributed fairly evenly over the surface, and the medullary rays will appear as narrow lines of a different shade running at right angles to the growth rings.

In beech some of the rays are very distinct even without a lens. The large rays are fully twice as wide as the largest pores.

In maple the rays are less distinct, and the largest are about the same width as the largest pores.

In birch the rays are very fine, invisible without a lens. The pores are several times larger than the rays, usually being visible to the unaided eye as minute holes on the end grain and as fine grooves on dressed faces of the board. The pores in birch are considerably larger than the pores in beech or maple.

The appearance of the medullary rays on a "quartered" surface is also distinctive. Here they appear in beech as distinct "flakes," the largest being between 1/16 and 1/8 inch in height when measured along the grain of the wood. In maple they are considerably smaller, rarely attaining a height of 1/16 inch. In birch they are comparatively inconspicuous.



**Construction Industry Conspicuous in Boom**

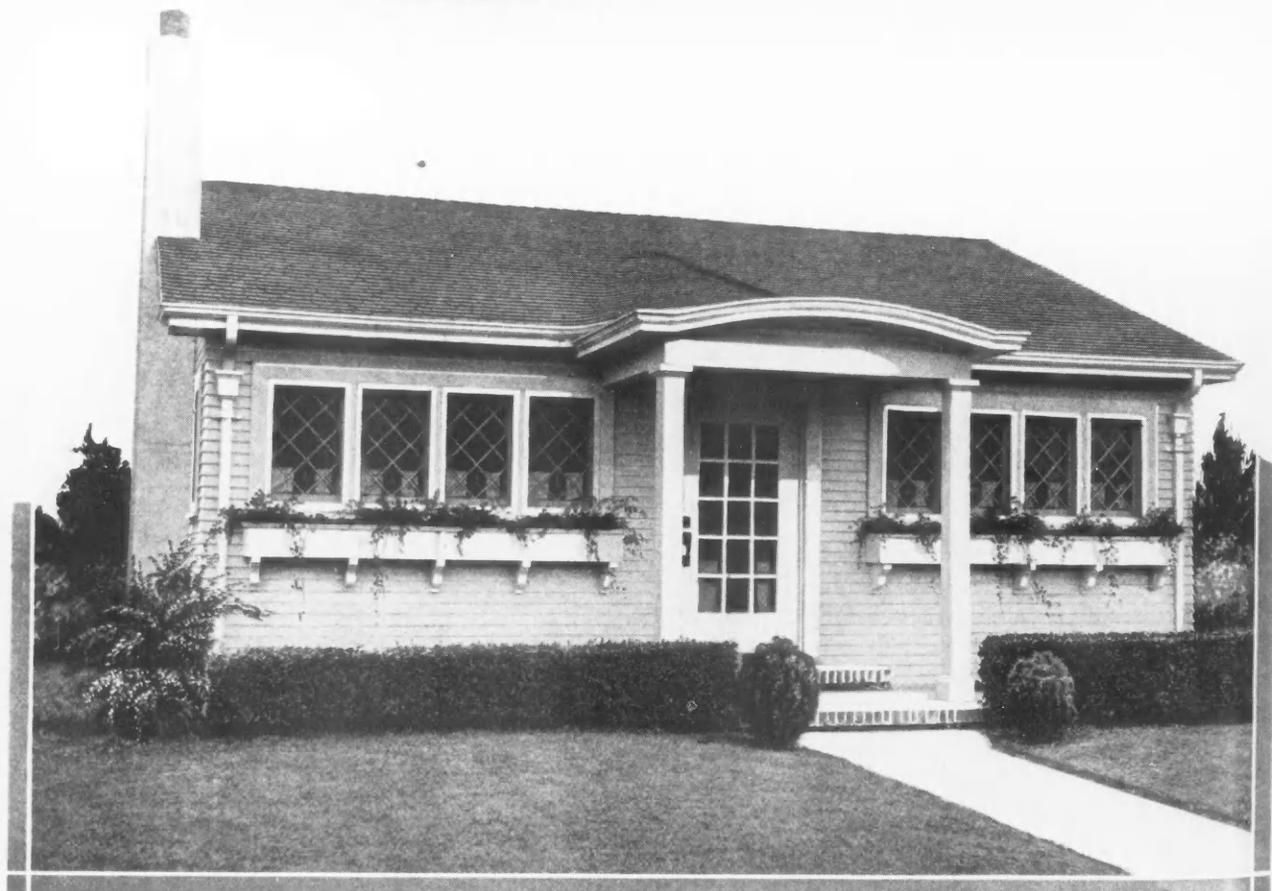
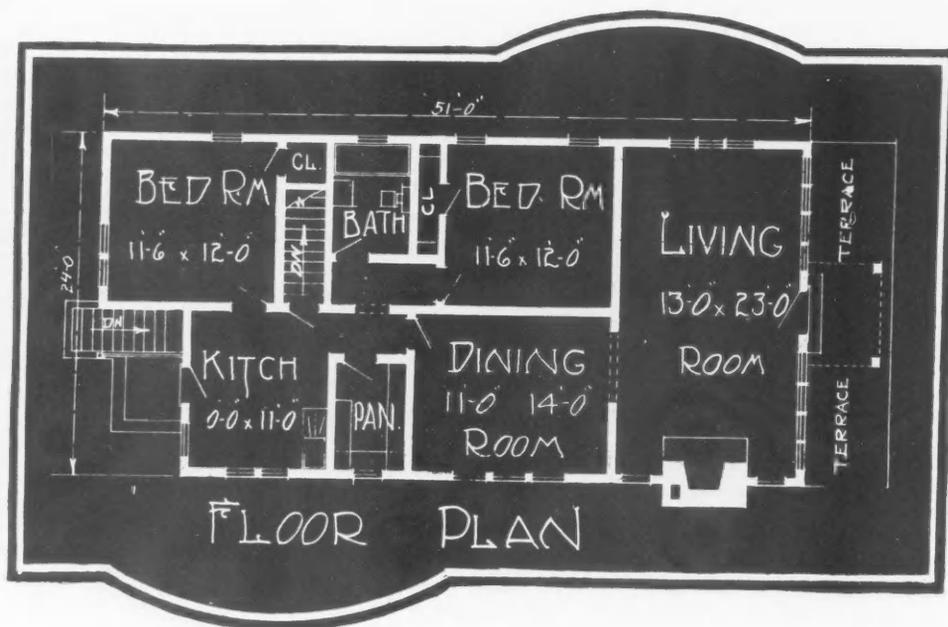
**T**HE REVIVAL of industry is continuing slowly without dangerous inflation, according to *The Industrial Digest*, which bases its judgment on close reading of 1,000 trade papers and technical magazines, covering every important industry.

Business leaders of the country seem to realize that it is dangerous to try to go ahead with too much speed in times like the present. This spirit, the magazine says, is showing itself especially in the construction industry, which has enjoyed a nation-wide boom, and whose leaders have advised wisely against attempts at over-expansion.

The building industry has preferred to enjoy the steady benefits of a gradual return to normalcy rather than the boom which might be forced but which could not long survive.



**T**HE MAN who says that "talk is cheap" has never said "Darling, will you be mine?"

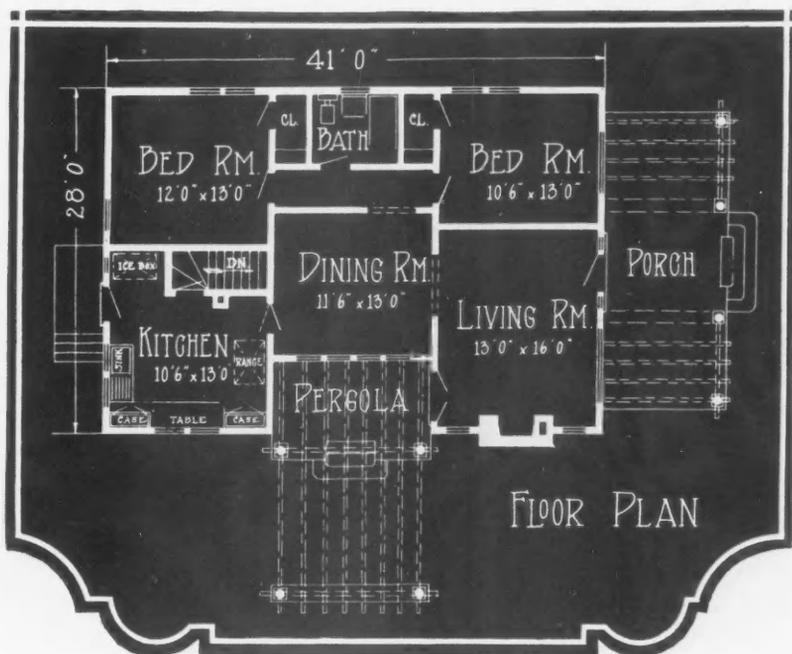


**A** LARGE, LIGHT LIVING ROOM. That always desired feature has been excellently worked out in this home of modest cost but maximum convenience. The entire frontage has been utilized to make cheerful the most used room in the home. And how light it is! Two groups of four windows each allow the cheer and good health of Old Sol to fill every corner. Two fair sized bedrooms conveniently adjoin the bathroom. The dining room and kitchen are compact without being crowded. While built on plain economical lines there are little touches of beauty such as the graceful entrance porch, a fireplace, a unique setting of window glass, zinc spouting, etc.

**A** N  
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pleas

# BLUE RIBBON HOMES

PRACTICAL & ARTISTIC



**AN EXTERIOR THAT INVITES.** And the pleasing effect has been accomplished without extreme expense. Terrace treatment at either side of the entrance, a delightful pergola at the side, narrow windows on either side of the paneled solid door and a pleasing bit of lattice work for vines, and what might have been a plain house is unusually inviting. The interior provides a comfortable home for the average family, there being two bedrooms as well as sufficiently large day rooms. The kitchen arrangements show careful planning. The work table, sink, range and cupboards are grouped to save time and steps. This home will appeal to those who wish to build economically but with pleasing effect.

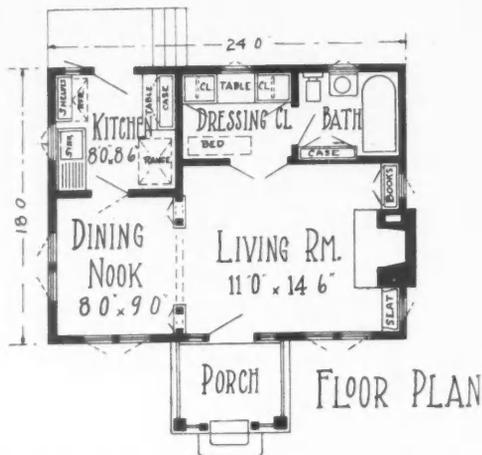
# The Bungalowette



A Welcome Suggestion for Those Who Seek to Have A Home No Matter How Modest It May Be

*"Be it ever so humble,  
There's no place like home."*

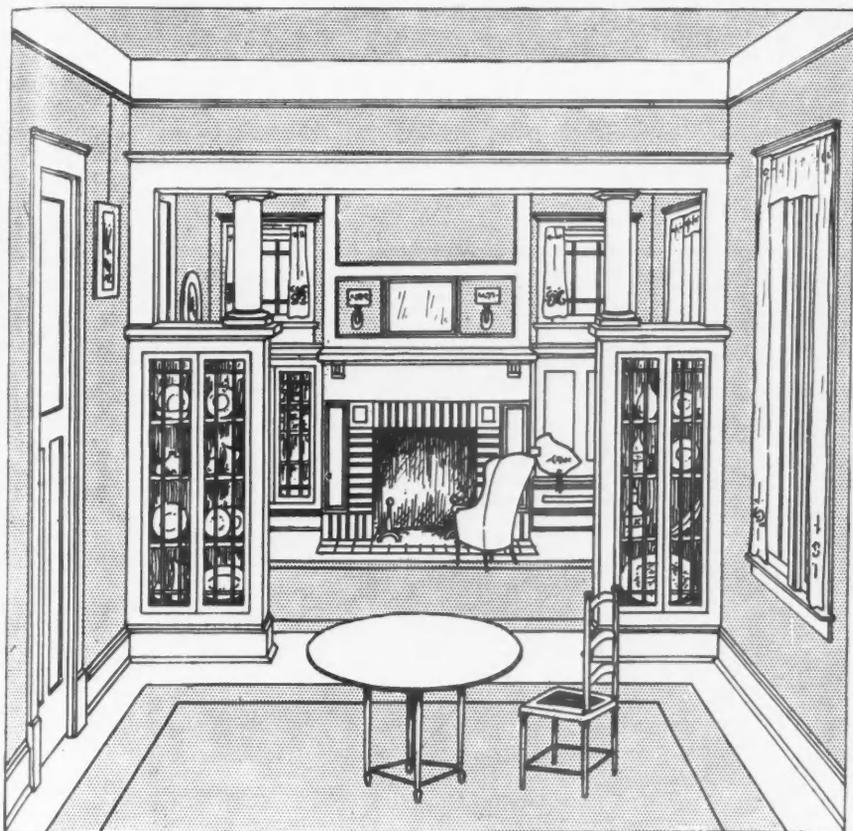
THE type of man who would rather have a sandwich at home than a hotel banquet is the type of man who would rather live in his own bungalowette than to rent space in the most elaborate apartment hotel in one of our leading cities. And the woman who has the laudable home-making instinct and would rather be a home-maker than to be waited on



Compactly Arranged but with Every Convenience.



The Well Established Tendency Towards Smaller Homes Helps Make Popular the Bungalowette. This Design Is Convenient and Attractive Without Excessive Cost.



Looking from Dining Nook Into the Living Room, Showing China Cases, Fireplace and Bookcase.

by a retinue of servants is the woman who will find satisfaction, joy and happiness in this type of modest but delightful home.

For the small family the bungalowette idea is a complete answer to that universal instinct for "some place to call our very own."

Altho the financial resources be small, this home can be possessed and enjoyed by the newlyweds.

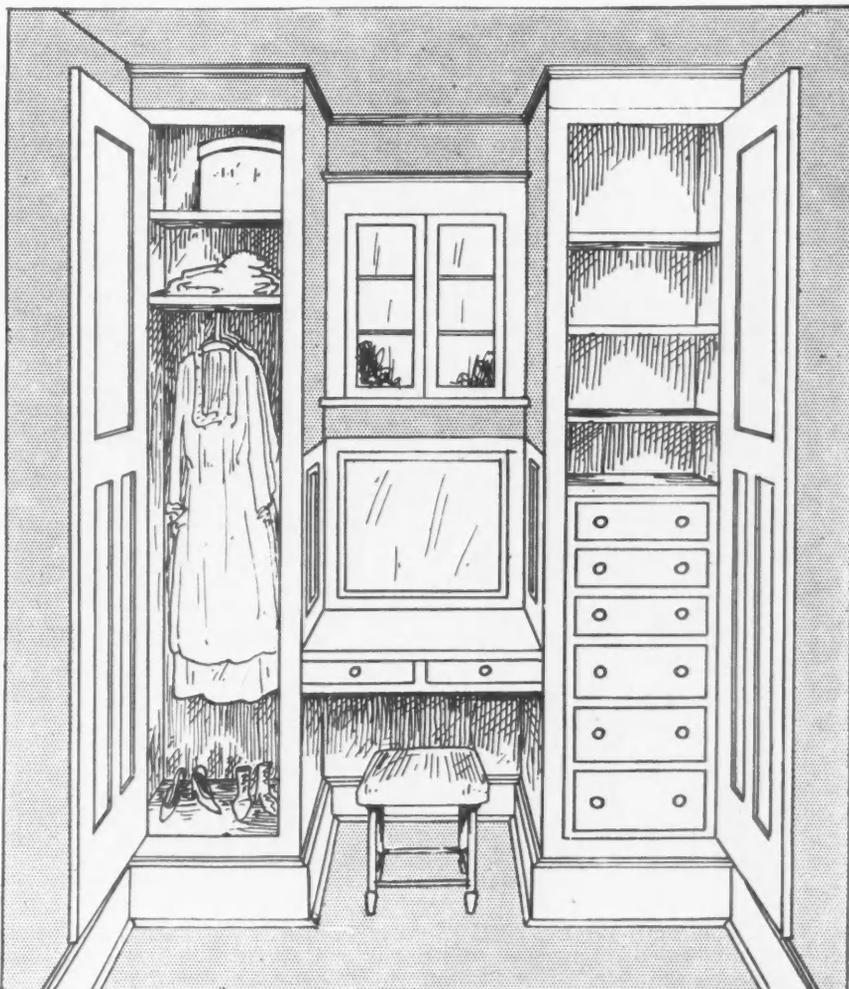
The built-in features dispense with the necessity of buying much furniture. China closets are built into the dining room and seats and table may be built if desired. The fireplace is flanked with a bookcase and a built-in window seat, while the bedroom, or dressing closet, has a combination dressing table and wardrobe that "goes with the house." The saving on furniture, alone, will go a long way towards meeting the initial payment for this cozy, charming bungalowette. There are built-in cases in the kitchen and bathroom that save furniture investment and provide drawer room that is always needed.

It will be noted that the rooms are well lighted.

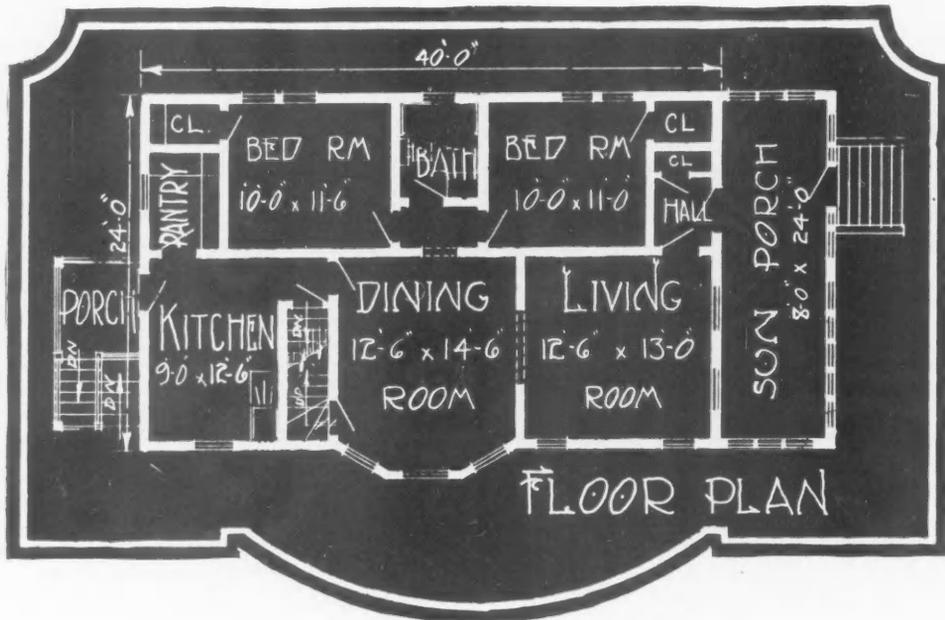
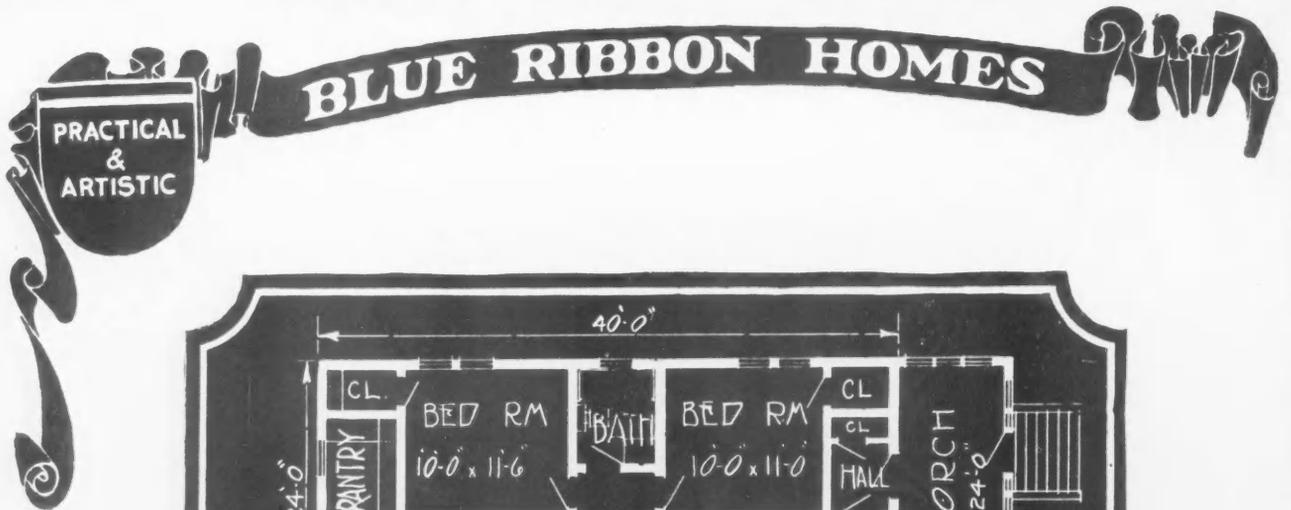
The living room is as large as that provided for many full sized homes.

Happiness and comfort will be gained by using this plan as a model for the small family home.

There would be more homes built if more people knew the low cost of a modest bungalowette. Many people feel they have to be rich or near-rich to build a home. Builders are doing a big thing to encourage home-owning when they explain the possibilities of the bungalowette type of home. Why should the thousands who are longing for the comforts of a home postpone the pleasure many years just because they do not realize the economy of the compact, simply built little bungalow? Many of these small homes can be so built that they can be enlarged in later years. Anyhow, they are an answer to a big need. And builders will find this class of business well worth cultivating.



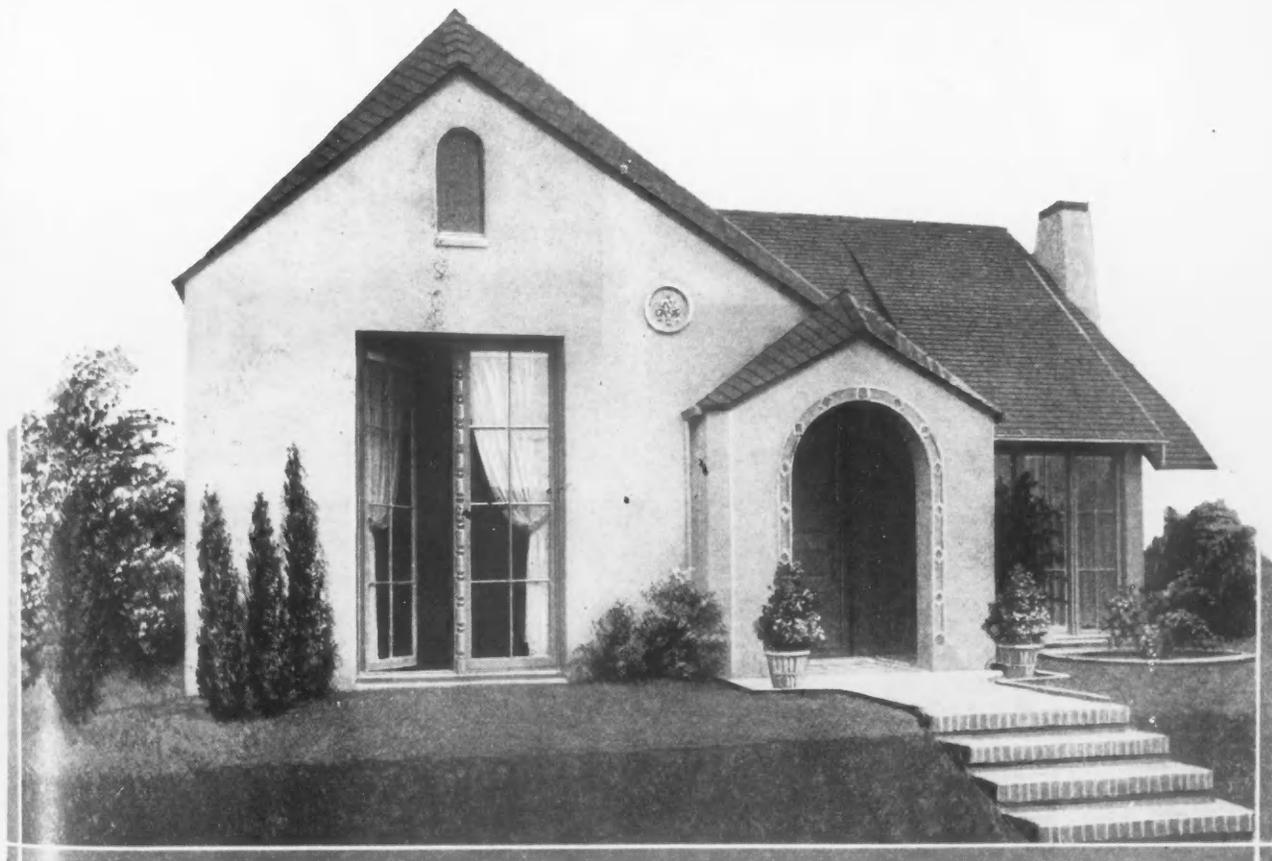
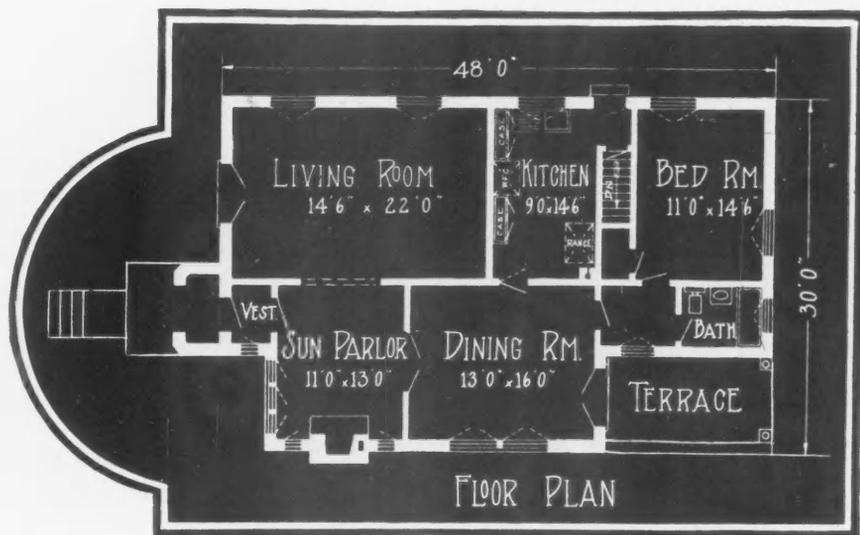
Elevation of the Admirable Built-in Features the Dressing Table and Wardrobe in the Dressing Closet.



**A PLACE YOU WOULD BE PROUD TO CALL HOME.** Built to please and built to endure, this stucco residence will be economical to maintain and delightful to live in for a lifetime. Immediately you are impressed with the expansive sun porch. It has fifteen windows and is abundantly roomy. The living room and dining room are of fair size and as they open into each other are usable as one large room. The bay window treatment adds room and pleasing lines to the dining room. Kitchen and pantry are ideally located. Each bedroom has a spacious closet and adjoins the bathroom. The need for economy and good taste are both well served in this design.

**BLUE RIBBON HOMES**

PRACTICAL & ARTISTIC



IF YOU LIKE THE UNIQUE YOU'LL LIKE THIS HOME. And many people do prefer distinctive design and unusual arrangements in a home as well as individuality in clothes. California and the craze for the mission type of architecture give us this suggestion. The long windows and odd entrance are "something different" and very pleasing. Note the generous roominess of all the rooms, ranging from a bedroom 11 by 14½ to the living room which is 14½ by 22 feet and extra high of ceiling. And the other rooms are of good size, too. Such a design as this is quite common in the west and seems to be growing in favor in all sections of the country.

## Improved Method for Drying of Lumber

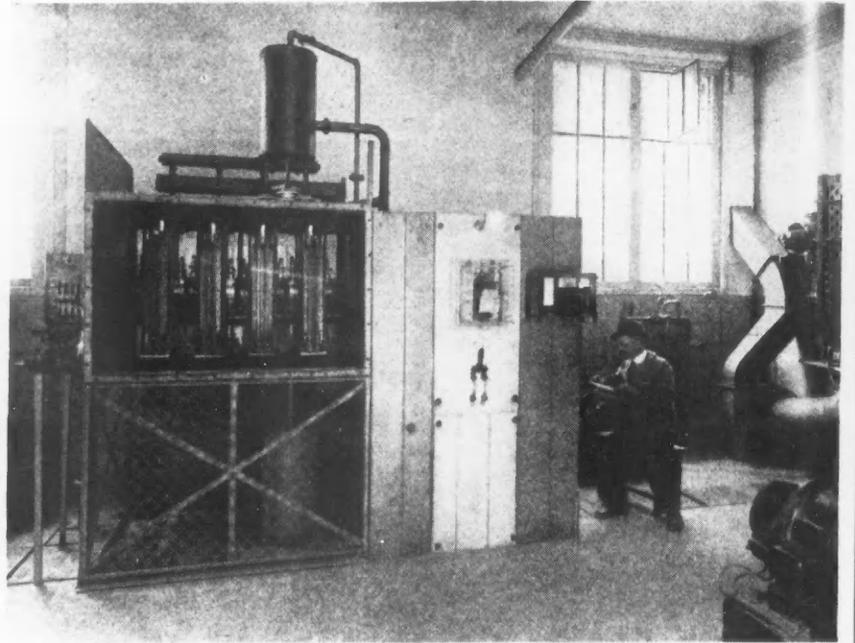
NEED FOR SPEED TO RESTORE FRANCE RESULTS IN DRY KILN PROCESS THAT REQUIRES ONLY TWO DAYS

**F**OR centuries lumber men have resorted to the natural heat of the sun for drying of lumber intended for building purposes. The natural drying often required several months before the wood is properly seasoned to make it ready for building uses.

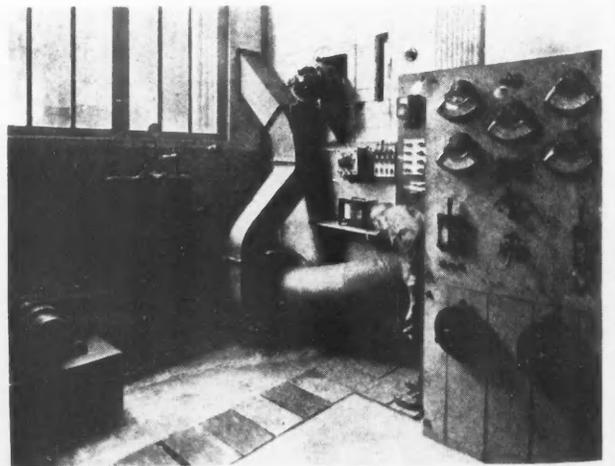
In France, due to the present-day need of speedy construction in the devastated regions, a more modern method has been adopted. Thru the medium of improved kiln drying, lumber is ready for building purposes in two days after it has been cut down in the forests.

Kiln drying is by no means new in France, but the method of handling the lumber and the introduction of chemically treated air have served to give better results than with older processes.

A series of small barns, or build-ings, have been equipped with apparatus which manufactures an ozone air known as super-oxygen, which, when heated to a certain degree, not only dries the lumber more effectively and in less time, but also destroys the millions of germs and insects which abound in the pores of the green wood. The natural heat rays of the sun cannot do this work, and the result is that the finished lumber, when used for build-



Battery Room in French Kiln-Drying Plant. A Device Measures the Flow of Drying Vapors from the Engine to the Drying Rooms.



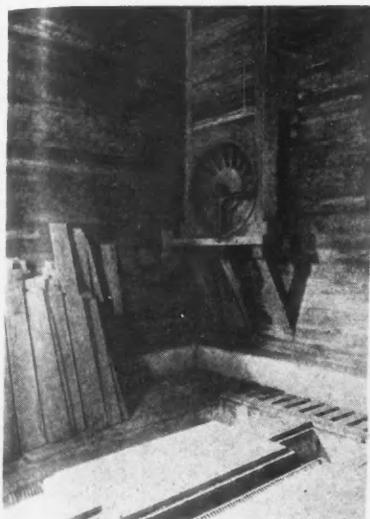
Ventilating Pipes Leading Into the Main Drying Room. There Are Return Pipes for the Used Vapors.



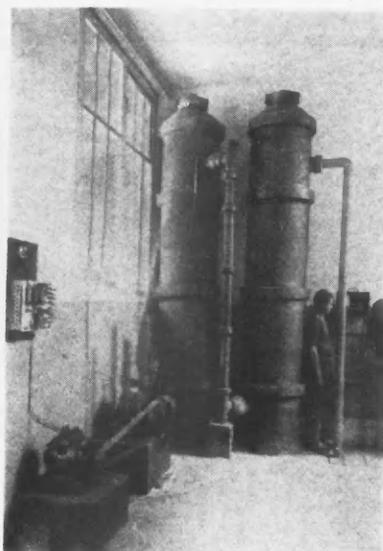
This Is How the Freshly Cut Lumber Is Piled for Treatment by Super-Oxygen in a French Kiln-Drying Plant.

ing purposes is so treated as to add new life to the wood. The treatment of the wood by the composition of super-oxygen is looked upon as one of the greatest steps in the lumbering industry and aids materially in improving the grain of all woods.

This series of photos show some of the various stages thru which the raw lumber goes in the course of its speedy but effective treatment at the kiln drying plant in France.



A Ventilator Keeps Heat Swirling in Waves Thru the Piles of Lumber.



Pumps in the Engine Room Where the Drying Super-Oxygen Is Produced.

## Some Timely Thoughts on Complete Co-operation

By ERNEST T. TRIGG

President National Federation of Construction Industries

IT IS LIKELY there was never a time during days of peace, when co-operation was more needed than now. Contractors, artisans, bankers, railroad men, miners, farmers, women—indeed everybody—must join in unselfish, helpful, friendly, and intelligent co-operative effort, if we are to obtain for our country the prosperity and internal peace which is the goal.

### Second Largest Industry

This is particularly true of those connected with the construction industry. The condition of this industry, and particularly the building branch, has probably larger and more potent possibilities of influence upon the business and industry of the country as a whole, than any other division of productive activity. It represents, next to agriculture, the greatest classification of industrial activity in the country, and is the industry thru which the permanent wealth of the country is largely created.

### Economy for Volume

We are now in process of endeavoring to re-establish a proper balance in construction, and to readjust prices and production to points where construction may be renewed economically in sufficiently great volume not only to supply the normal needs of the people, but to make up the shortage caused by the unbalanced activities of the past few years. This is a large project, and only thru co-operation can it be carried out.

One thing seems every evident—that before we can look for a permanent revival of construction activities, we must as an industry, justify to the public a full confidence in values, and that means that we must earn

and be entitled to their confidence.

### Principal Costs Lower

In the matter of home-building there has not been a general return of activity because prospective buyers have not had sufficient confidence in the stability of prices. There are three outstanding elements entering into the cost of constructing a home. I refer to the cost of financing, material costs and the cost of labor. Fortunately, the cost of money is on a reasonable basis. Many material costs have been reduced to a reasonable level, in some instances below the cost of replacement.

Labor in some centers has been wise enough to accept reasonable reductions.

### Community Co-operation

The construction industry presents an unusually complex problem, because the contractor, as a rule, maintains only a skeleton permanent force, while the great bulk of the employees under his direction rapidly change in personnel. Under these conditions it is a matter of extreme difficulty for a single employer to build up the substantial and reliable forms of contact between himself and his workers which are to be found in many of our best-managed and controlled industrial establishments having plants in fixed locations and carrying on a more or less continuous operation.

The problem is, however, in many respects, one for community co-operation. Each community should have a committee of employees, engineers, architects, and others, to which is delegated the specific problem of endeavoring to develop plans under which the investor, the architect and engineer, the employer, and the workman may safely join in building programs.



### Germans Plan First Skyscraper in Europe

A THIRTY-STORY skyscraper—the first in Europe—will be erected in Leipzig, where for over 400 years merchants from all over the world have assembled twice a year, in spring and fall, to get ideas on new merchandise assembled there by thousands of exhibitors. The architect of the proposed building is Prof. Peter Behrens, who visited this country in 1913, having been commissioned by the German government to prepare plans for a new embassy building in Washington. The skyscraper will cost 250,000,000 marks.

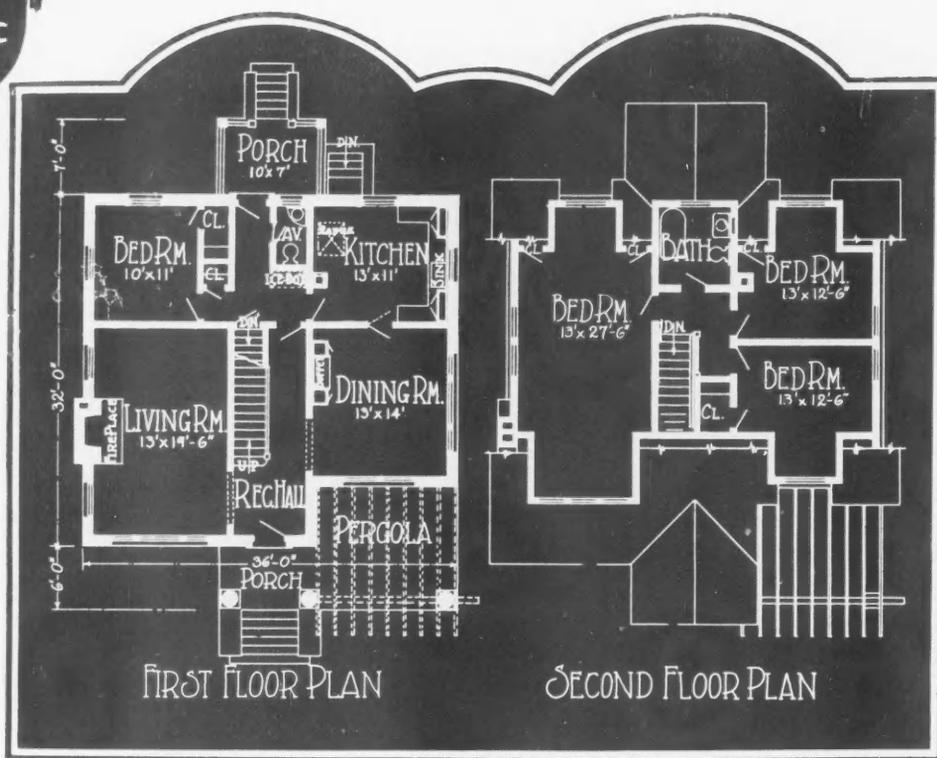


### New Game Every Day

BUSINESS is like baseball. The hits you made yesterday won't win the game today.

# BLUE RIBBON HOMES

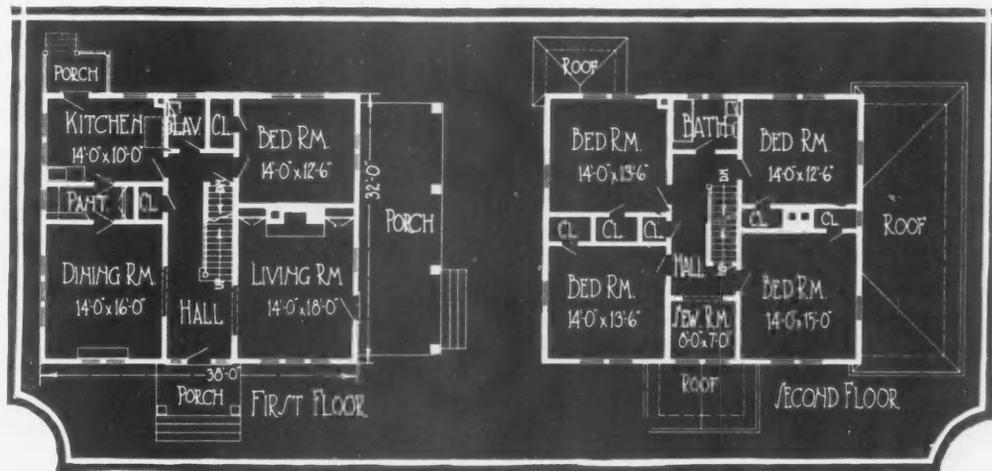
PRACTICAL  
&  
ARTISTIC



**A BEAUTIFUL BRICK HOME WITH GAMBREL ROOF.** Its durability makes it an ideal investment. Its beauty and roominess make it delightful to live in. The gambrel roof with its dormer windows, the pergola and entrance are excellent exterior features. The large master bedroom, three other bedrooms and the all-around convenience of the room arrangement make the interior ideal.

**BLUE RIBBON HOMES**

PRACTICAL & ARTISTIC



**THE SQUARE SHAPED HOUSE HAS LOST NONE OF ITS POPULARITY.** Economy and good taste are served in building the square or rectangular formed homes. Use of shingle for the siding and two especially inviting porches serve to make this design particularly pleasing. Who could refrain from admiration for the entrance? The lines are in harmony with those of the roof and dormer windows, making the general impression most favorable. Even the entrance porch is large enough to be of practical use. Five bedrooms demonstrate the roominess of this splendid eight-room home.

Its  
and  
veni-

# Build Many Quality Homes—Each One Different

HUEBER BROTHERS, SYRACUSE, N. Y., PLEASE PATRONS  
WITH VARIETY OF DESIGNS AND LASTING CONSTRUCTION

By A. J. R. Curtis

**I**N SYRACUSE, N. Y., one may easily have the supreme satisfaction of owning a house of reinforced concrete construction, convenient in plan, beautiful in architecture and surface texture, and perfectly insulated by an ingenious and obviously efficient method.

### Sound as Skyscraper

Hueber Brothers, architects and builders, are erecting small two-story homes with the idea of making their buildings structurally as sound as a skyscraper. Their houses are as nearly fireproof as fire-resistant floors and partitions, as well as walls and roof, can make them. The Hueber houses have a monolithic concrete shell with floors and walls approximately six inches thick, reinforced according to approved engineering principles, with a network of steel rods. The reinforcing is placed in the center of the walls and is sufficient to prevent cracking from settlement, thereby assuring perfect exterior surfaces.

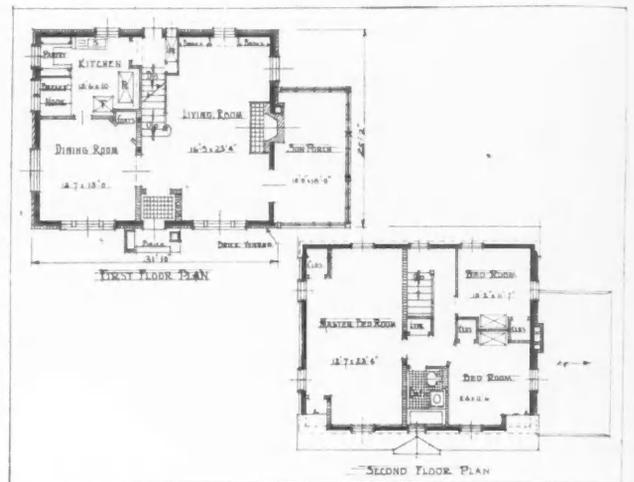
Three types of partitions have been used in the various houses: (1) Cement plaster on metal lath, supported on steel ribs or an ordinary 2 by 4; (2) gypsum block, and (3) cinder concrete. The exterior of these houses affords opportunity for a variety of treatment, but the greater number are covered with tinted stucco of relatively smooth texture. One or two are veneered with face brick and others are finished in a combination of face brick and stucco.

### Insulation Principles

There are two principles which have to be regarded when it is desired to produce houses of maximum warmth in winter and maximum coolness in summer. The first is to make the house windproof; that is without cracks or joints; the second is to provide efficient insulation against the passage of heat. Hueber Brothers in their designs, choice of materials and method of use have shown unusual skill in producing houses that are both tight and well insulated. Coupled with those fundamental advantages of structure these houses have an artistic touch rarely found except in a few communities in southern California or perhaps occasionally in the ex-

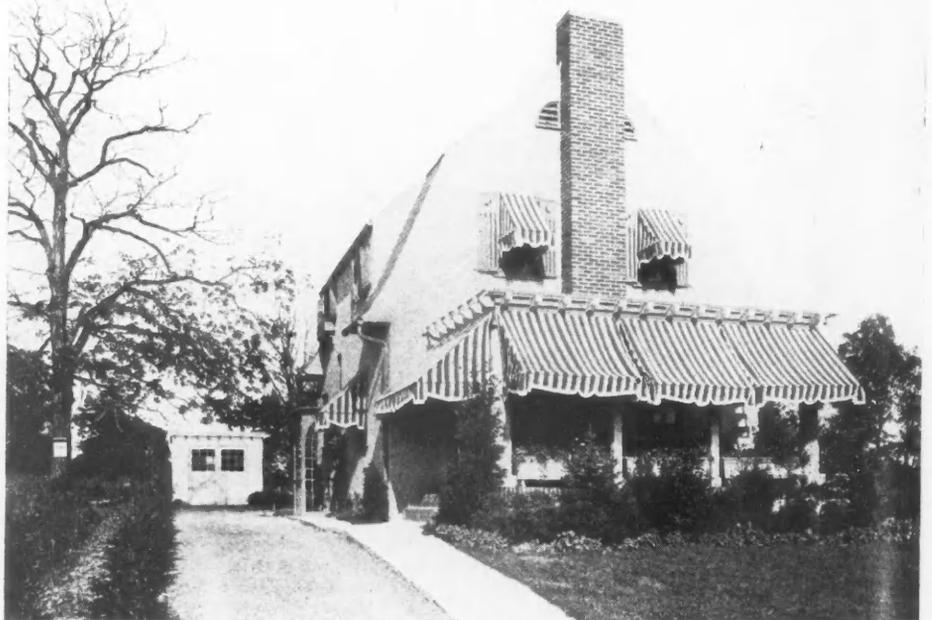
clusive atmosphere of great country estates.

The inner surfaces of the exterior walls of these houses (with the exception of one or two which have hollow walls formed by the air spaces between con-



Good Planning Is a Feature of the Hueber Houses. All Are Designed by One of the Firm Who Is Known as an Able Architect.

crete and brick) are being lined with one-inch cork board, producing one of the most efficient types of wall insulation available. The cork boards are very easily and quickly attached to light nailing strips set in the concrete, or by means of nails driven directly into the walls where cinder concrete is used. The Hueber houses are thus constructed on the identical principle commonly employed in the largest cold storage ware-



A Home of Beautiful Lines and Extremely Pleasing Exterior.

houses and their obvious advantages in this regard are quickly discovered by the occupants. The cork lining supported on the concrete wall produces a satisfactory base for the direct application of the plaster.

### Delightfully Different

Contrary to the idea developed by several builders

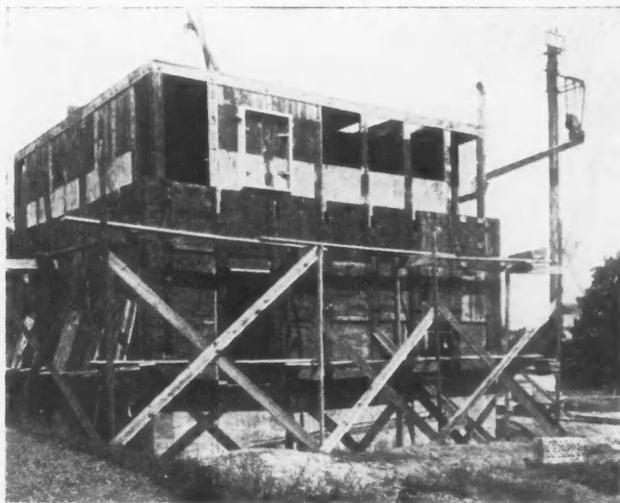


All of Hueber Brothers Houses Have Artistic Fireplaces of Specially Surfaced Concrete.

of equipping themselves with a complete outfit of forms for building one type of house, each structure substantially duplicating those previously built, Hueber Brothers have built every house entirely different and from an entirely original set of plans. The quality of the houses has sold them rapidly so there has been no endeavor to produce cheap houses at the expense of quality. Still these houses, built by a new method and without the advantages of a large quantity production methods, have proven to be moderate in cost compared with other well-built homes.

The concrete work on these houses has been very quickly handled and further developments may cut even further the time and labor required for producing the

house. Six men erect the complete forms for a house in four eight-hour days. Erecting scaffold, placing reinforcing and depositing the concrete takes six men about three days; two days are required for



House of Monolithic Concrete Under Construction by Hueber Brothers, Syracuse, N. Y.

the same gang to strip the forms and clean them up for the next job.

### Hardwood Flooring

Plaster is applied to metal lath suspended from the floor slab above, or directly on the slab. The concrete floors are in most cases covered with high quality oak and maple floors. All conduits and pipes are run in partitions where they are relatively easy to get at in case of necessity. The buildings are equipped with a variety of heating plants, but all testify to the decided ease with which these houses can be maintained at even heat in the coldest weather.

Handsome concrete mantles are an added attractive feature of these houses. ❖

### Some Girls Do

"When is your daughter thinking of getting married?"

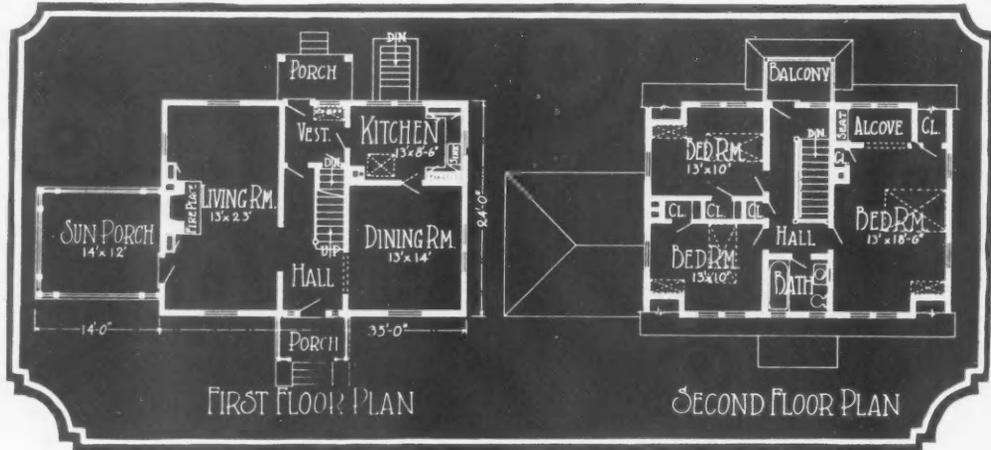
"Constantly," was the reply.



A Glimpse of the Interior of Hueber Brothers Houses Indicate Substantial Beauty.

# BLUE RIBBON HOMES

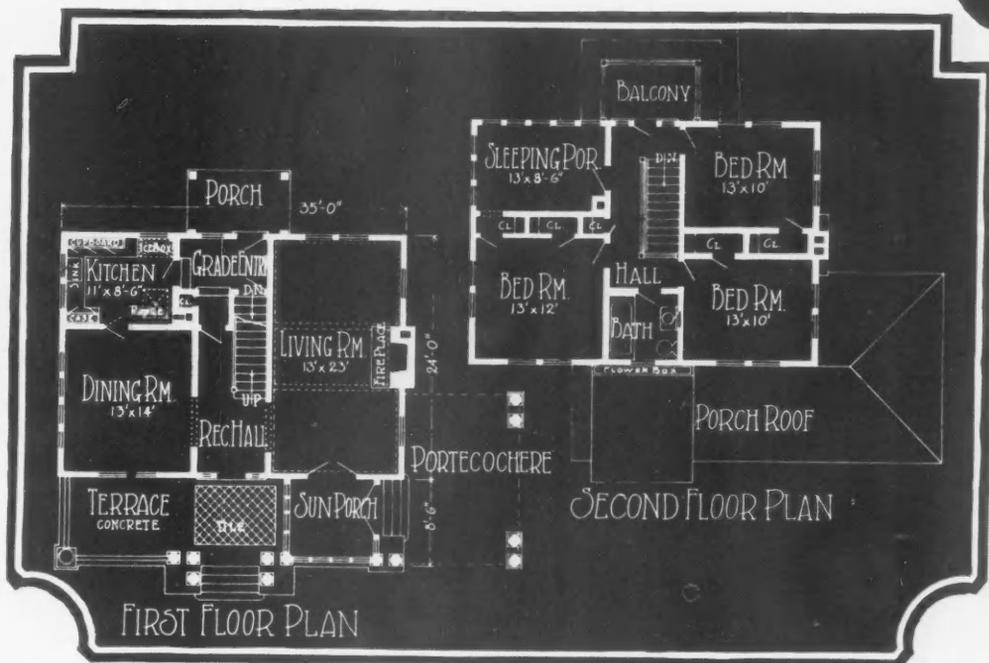
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&  
ARTISTIC



**A GOOD GAMBREL ROOF HOME.** The decided advantage of full height second stories, together with the pleasing effect it gives have made gambrel roof construction a popular idea for the home builder. Stucco is pleasingly set off in this design with shingle roofing and lumber siding for the second story. Lattice work increases the attractiveness of entrance and side porches. Within doors, we find three full-sized bedrooms, one having a cozy alcove in addition to the commodious dining room, living room, kitchen and vestibule. This home is in the "somewhat different" class without being at all expensive.

**BLUE RIBBON HOMES**

PRACTICAL & ARTISTIC



**WORTHY OF THE NAME—HOME.** Most any city street would be improved by this magnificent home. It is clean and substantial looking and commodious and comfortable to live in. The porte cochere is indeed attractive. Besides the three bedrooms there is a roomy sleeping porch. In appearance and utility this is a prize home.

## Improved Illumination for the Dining Room

EITHER DIRECT OR INDIRECT METHOD MAY BE USED, MUCH DEPENDING ON TYPE OF FIXTURES

By A. W. Powell and H. A. Smith

**A**DINING ROOM has lighting requirements peculiar to itself; rarely is it used as anything but a place to eat. The interest, therefore, is primarily centered on the table, and this interest may be increased by having the table lighted to a higher intensity than the rest of the room.

It is a matter of personal taste which way the dining room shall be lighted, whether by direct or indirect methods. The old style dome, while often crude and inartistic, provided a most desirable distribution of light. The table was the brightest spot in the room, yet enough light was transmitted thru the glass to illuminate the corners of the room, preventing too great a contrast. There are several requirements which must be fulfilled where a dome is employed.

It must be hung high enough that one can see the person on the opposite side of the table and yet not so high that the lamps are visible. This will place the bottom of the dome about 56 inches above the floor. A dome can often be made more effective by using a small direct lighting reflector inside of the fabric or glass to send the light downward and conceal the lamp from view. A number of styles of domes have recently appeared on the market much more artistic than those produced in the past, and hence more generally applicable to the home where harmony is sought. A 50-watt white Mazda lamp will give the desirable intensity on the table top when a dome is employed, altho in individual instances higher or lower values are considered more pleasing.

### More Uniform Illumination

Some people prefer the room more uniformly illu-

minated and this can be accomplished by the use of the semi-indirect system. By choosing the proper density of glass, a suitable amount of light will be

transmitted, the table receiving more light than the surroundings. With the type of semi-direct luminaire it is possible to modify the color of the transmitted light and use a shade which harmonizes with the room finish. For this system, 75, 100 and 150-watt Mazda C lamps are applicable, depending on personal preference as to intensity and on color of surroundings. It is often possible to provide two circuits in a semi-direct luminaire, one giving the low illumination for setting the table.

### Soft Tone Shades

Wall brackets may supplement the lighting in the room, but if they are used they should be provided with shades so that there will be no glare from them.

The color scheme can be worked out in this room by the use of colored bulbs placed in urns or concealed around the plate rail. Well-shaded candlesticks containing small bulbs are often attractively used on the dining and serving tables. The small shades soften and tone the transmitted light, and, if lined with light material, will act as reflectors. The luminaire is wired with two circuits so that during the dinner just the table is illuminated, while afterwards, as the spirit expands over a satisfactory meal, the room is more generally illuminated.

### Outlets for Cooking Utensils

Luminaires should not serve as sources of current for cooking devices. A convenience outlet should be installed under the edge of the table, and this, in turn,



Convenience Outlet Under Table Edge Furnishes Electricity for Cooking.

**T**HAT the public is intensely interested in improved home lighting is again shown by the experience of the Commonwealth Edison Co., Chicago, in its plan to carry the message of correct lighting direct to the people by a series of community lectures and demonstrations.

Combining the lure of a radio concert with an illustrated lecture on "Home Lighting," group gatherings have been held in several sections of Chicago. The average attendance has been about 225. Postal cards were distributed permitting the prospect to ask for further information. Most of the cards have been returned showing the attendance was not prompted by idle curiosity but by positive interest.

The lectures have been so helpful that there have been calls for them from all sections of Chicago and the company has decided to resume them in the fall when maximum attendance may be expected. Every agency is combining to educate the home owner to the need and possibility of better lighting. The builder is keeping step with the times by means of such articles as are being presented in the **AMERICAN BUILDER**.

attached to a floor plug. A baseboard convenience outlet near the buffet or serving table permits the percolator, toaster or grill to be used without the unsightly collection of cords dangling from overhead, as is too commonly the case.

### Hall or Reception Room Lighting

Every room in the house has a particular meaning and, as the hall is the first one entered, a feeling of hospitality should prevail. Lighting can be of great assistance in attaining this end.

There are two kinds of halls, just as there are two varieties of porches. One is merely an intermission between the front door and the rest of the house, the other of the reception room type. In the first class a moderate intensity of illumination suffices and a 25-watt Mazda lamp in a suitable diffusing globe close to the ceiling will furnish enough light for removing one's wraps. The upstairs hall has generally the same requirements and may be similarly lighted.

*EDITOR'S NOTE: This is the third in a series of articles on correct lighting and lighting fixtures for the home. As each treats of distinctive rooms and every room has its own peculiar requirements each article is complete so far as the rooms described are concerned. But for a complete understanding of the whole home lighting problem the series should be studied as a whole.*

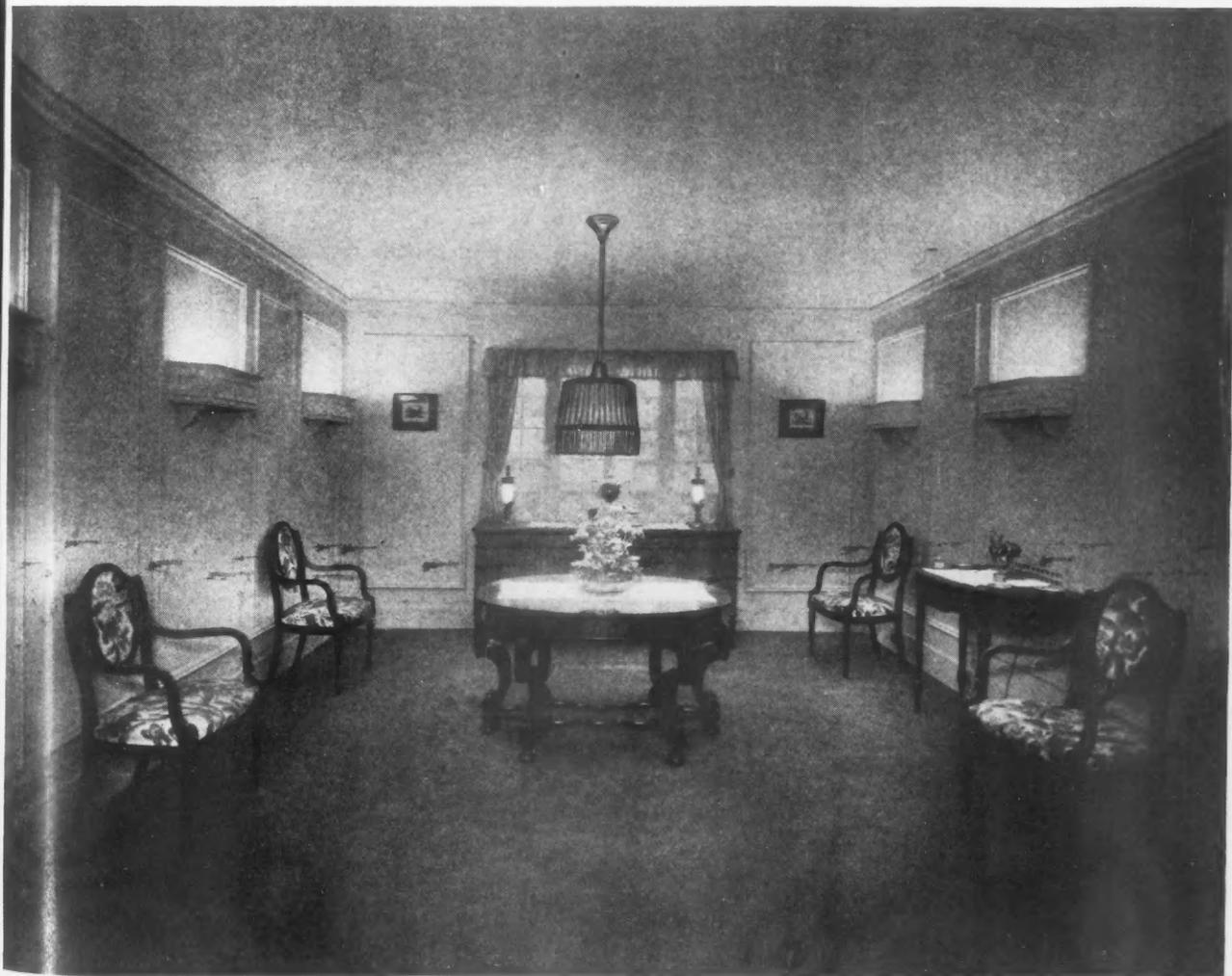
The methods of lighting the living room are quite generally applicable to the hall of the reception type. Urn-shaped enclosing globes are harmonious with many interiors and are often used for reception halls.

The control for hall lighting is important. Three-way switches are most desirable, one near the entrance doorway and the other at a convenient point in the second floor hall. The slight additional expense in installing these is more than offset by the security and comfort gained.

### Wired Furniture

Of particular interest to those who desire the ideal dining room, electrically, is the late development in wired furniture. Such furniture permits better illumination of china closet and buffet and saves interference with or improper use of the regular lighting outlets.

With wired furniture the beautiful glassware that is almost hidden in the china cabinet is made to sparkle



Local Illumination Is Provided with a Silk-Shaded Strong Light Directly Over the Table. General Lighting Is Secured from the Basket-Like Wall Brackets.

and show its beauty. This is done with concealed tubular lights. China as well as glassware shows to best advantage when a strong light is playing on it.



These Examples Are Typical of the Variety of Luminaires That Are Suitable for the Reception or Formal Hall.

Electrically lighted candlesticks on the buffet shedding a bright glow on the electrical percolator makes that practical and useful utensil a beautiful thing to behold. And if the buffet is electrically wired the coffee urn need not be on the table during the main dinner course when room is sometimes needed.

Wiring the tea wagon is considered a great advantage by many owners. Such a tea wagon may be moved to any room and such a convenience permits the hostess to remain with her guests while she is preparing the luncheon.

Wired furniture should not only permit one outlet for cooking but sufficient outlets for illumination as well.

Old furniture may be wired as well as new. It is not necessary to buy new wired furniture.

The dining room is always very important in entertaining guests. To have it light and bright increases the cheer and enjoyment of all present.

The days of the tallow dip and kerosene lamp are, as the fiction writers say, "in the dim, distant past."

"Dim" is right. But those dull days are past.

Today the home lover recognizes that cheerfulness is a great force in



Some Well Designed Dining Room Units. It Is of Interest to Note the Tassel at the Bottom of the Semi-Indirect Bowl. This Conceals Half of an Attachment Plug for Use with Cooking Devices. The Wicker Dome Carries an Opalescent Reflector Indicated by Dotted Lines.

making home the brightest spot on earth. Good light and good cheer go along together. So we find builders bettering their service by providing adequate wiring so that home may be bright and light at all times.

The demand for improved lighting is more noticeable each building season.



The Luminaire Shown Here Makes the Table Bright and at the Same Time Provides General Room Illumination. A 75-Watt Lamp Is Used in the Center Light and 25-Watt Bulbs in the Others.

# OUR FRONT COVER HOME

THOSE who build with a "look into future years" will appreciate the home which has the honor of gracing our front cover this month and some of the interior features of which are shown on this page. This home successfully combats the dissatisfaction and expense of a house that requires constant repairs, after the first few years. It is built of durable materials and can be maintained in first-class condition without large outlay.

floor, a house-keeping advantage all women appreciate.

She will also place a high value on the built-in conveniences. Who wouldn't be proud of the built-in buffet and china closet when company is entertained? It has substantial and beautiful lines and besides effectively showing off the choice china affords the always-wanted drawer room. The linen closet is desirable and well located near the bedrooms and dining room.

The roomy pantry and having the icebox on the rear porch are also appealing arrangements that will please any woman.

The five-room design has the usual two bedrooms, both of which are of good size. Many will appreciate having one of the rooms at the front of the house.

While compact, the kitchen dimensions take it out of the cramped, crowded class.

Practical, permanent, beautiful—the three real essentials of a home are well provided for in this delightful design.

Those who decide to follow the general plan of this front cover

home will never have any need to regret the step. It is typical of many of the best things in present day building practice, combining, as it does, durability with attractiveness and the popular idea of a one floor arrangement of rooms. This arrangement is in high favor and will remain so because it is practical.



— FLOOR PLAN —

Well Arranged Rooms of Good Size Feature This Plan. For Perspective Sketch See Front Cover.

Magnesite stucco is used for the exterior walls. Besides the distinct advantage of long life, magnesite stucco has the qualities of being damp-proof and frost-proof. It is also worthy of note that it can be put on in freezing weather. Another important quality of magnesite stucco, a quality which may well be emphasized, is its resistance against fire.

But the home builder's wants are not fully met even by a material that assures coolness in summer, warmth in winter and durability. The home owner wants beauty as well as durability and comfort. His demand for the attractive need know no sacrifice if he builds this home. A wide range of color tints is available by combining proper aggregates with the stucco. He may choose blue or pink or tan or other shades which will in no wise lessen the tensile strength of the walls or their long life and which will relieve the monotony of the neutral tone of plain stucco.

Beauty and permanence are the twin qualities this type of construction affords.

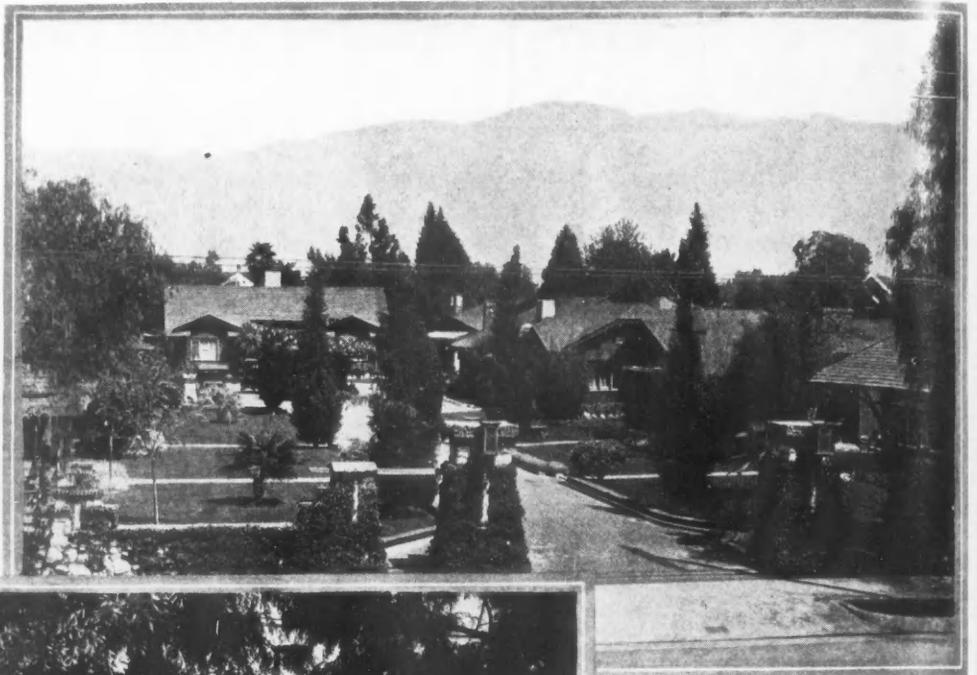
Mrs. Homemaker will put her seal of approval on the interior arrangement. All the rooms are on one



Suggestion for Dining Room Treatment in Front Cover Home. Built-In Furniture Has a Stability and Massive Appearance That Appeals to All. It Is Always in Favor in Better Homes.

## COZY HOME GROUPS

**L**AWNS that are both spacious and beautiful are the pride and joy of the home owner. Homes arranged on a court may have this great advantage and with marked saving of valuable land.



### BEAUTIFUL AND PRACTICAL

**T**O take full advantage of long narrow lots and conserve ground space and because there are other advantages to be gained, homes are often arranged in cozy court groups. Such a plan is practical, but it is practical without any sacrifice of beauty. Instead the lawns of these court homes are splendid examples of well planned and beautifully kept yards. Cleanliness, shade and the joy of a large lawn combine to make the court home idea a decidedly popular one.





## THE LURE OF THE TREE

**F**ORTUNATE, indeed, is the home owner whose site is graced and beautified with a stately oak, a towering elm or a spreading maple tree. And if these be missing early steps should be taken to plant them. It may take many years for them to reach their full majesty, but it will not be more than a year or so when they are an adornment and enjoyed for the shade they afford. The home includes the site and it, as well as the structure upon it, can be beautiful and usable.





"P" has been applied the two parts of the beam will take the form shown at (b). Now assume a prism in the lower piece extending across the beam as shown at "A." The upper piece in sliding over the lower will exert a force which tends to rotate the prism "A" toward the left. To prevent this rotation there must be a vertical force acting as shown. In every beam

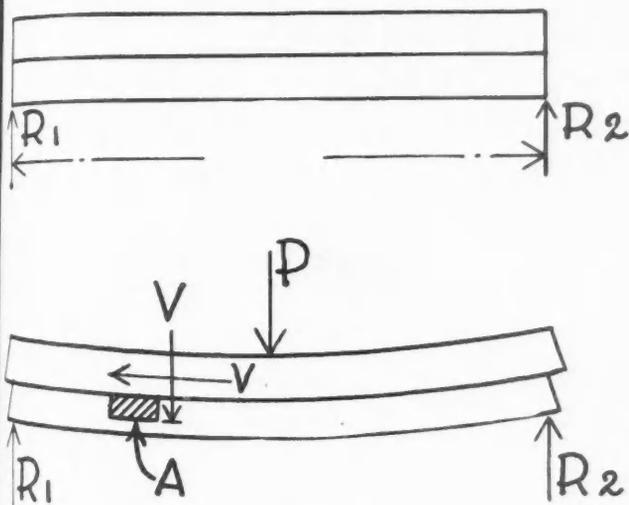


Fig. 3. Showing Horizontal and Vertical Shear.

there exists this same tendency for one portion of the beam to slide relative to the part above or below.

It is shown in mechanics that the unit vertical shearing stress "Sv" is equal to the unit horizontal shearing stress "Sh," which is determined from formula (I). Now, if any, such prism as at (A) is considered by itself then in Fig. 4-A the forces occur in pairs in order to satisfy the summation of horizontal and vertical forces. Then on any plane such as B-B there will be a resultant tensile force due to the shear alone, while on plane "A-A" there would be a corresponding compressive force. In addition to the shear any such prism in the beam is also subjected to a tensile or a compressive bending stress so that in Fig. 4-B we have forces as shown.

On a plane at any assumed angle with the horizontal we can now find the resultant stresses perpendicular and parallel to the plane. It has been found that there is some plane for which these values will be a maximum. The maximum tensile stress or diagonal tension

is given by the formula "St'" =  $\frac{1}{2} St + \sqrt{\frac{St^2}{4} + Ss^2}$

and the direction of this stress is given by the formula  $\tan. 2K = \frac{2Ss}{St}$ , where "K" is the angle of the maximum tension with the horizontal, "St" is the tensile stress at the point and "Ss" is the shearing stress. Where the shear is zero as at the dangerous section the direction of the maximum tension is horizontal. At a point where the bending stress is zero, the tension due to the shear will be inclined 45 degrees with the horizontal. At any other point where both stresses exist the diagonal tensions will make angles corresponding. If the bend-

ing and shearing stresses are determined at a large number of points such as "p," then the directions of the maximum tensions may be computed and drawn as shown in Fig. 5.

In any beam there will be a tendency for rupture to occur along planes such as "C-C" perpendicular to the lines of maximum tension. The influence of the shear and the diagonal tension become important in the concrete beam. Since the concrete is weak in tension, it will be evident from an inspection of Fig. 5 that reinforcing steel should follow these lines of maximum tension.

Steel Carries Tensile Stresses

In the reinforced concrete beam the steel is intended to carry the principal tensile stresses while the concrete is to carry compressive stresses and a part of the shear. At the dangerous section the steel is horizontal and placed near the bottom of the beam. And since there is little or no shear these horizontal rods are sufficient. It is in the part of the beam near the supports where there is a large amount of shear together with some stress due to the bending that the diagonal tension needs especial treatment. These inclined stresses can be partially provided for by bending up some of the horizontal

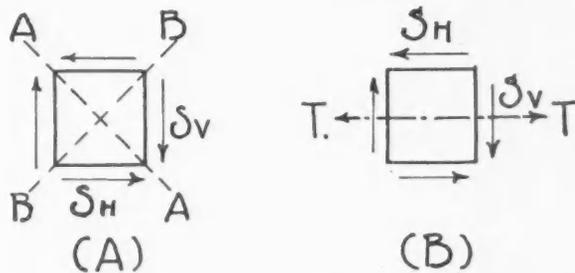


Fig. 4. Stresses on a Prism in a Beam.

tension steel at an angle of 45 degrees. A number of the tension rods must always extend the full length of the beam. Since in a simple beam the moment decreases from the middle towards the ends, less steel is needed near the ends of the beam, and this excess steel may

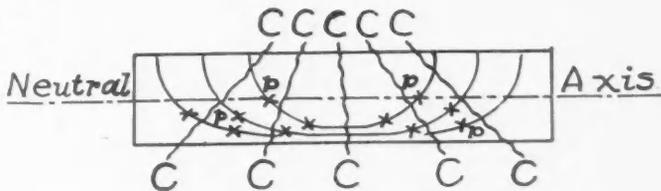


Fig. 5. Lines of Maximum Tension In a Beam.

be bent up. Not infrequently the bent up steel will prove sufficient, but there are other cases where additional vertical reinforcing is added because too few rods are available for bending.

These vertical rods are called stirrups and are bent into a U shape. Generally a combination of vertical and bent up steel will be most desirable. Bent up rods alone are apt to be of limited value owing to the difficulty of providing rods close enough. The hori-

zontal steel will usually consist of a few large rods and consequently there are too few rods to be bent up.

**Variation in Different Beams**

In the reinforced concrete beam the variation in shear differs from that in a steel or wooden beam, due to the

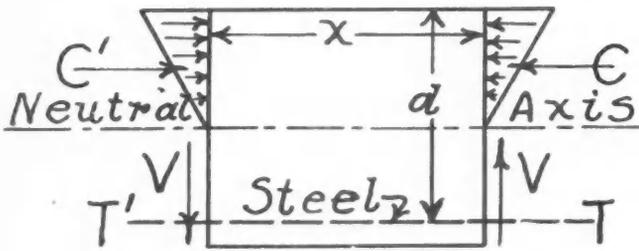


Fig. 6. Shear in a Reinforced Concrete Beam.

concentration of the tensile stress in steel. In Fig. 6 let the portion of the beam be considered as a free body. The distance "X" is parallel to the length of the beam, and is taken small so that any distributed load on the portion may be neglected. The forces acting are as shown. Since the forces C<sub>1</sub>, T<sub>1</sub>, C and T depend on the bending moments at the two sections, the force C<sub>1</sub> will not equal C, and T<sub>1</sub> will not equal "T." It is evident that a shearing force must act along any horizontal plane considered in order to produce equilibrium.

On any plane between the steel and neutral axis the shear will be equal to (T<sub>1</sub> - T), and the unit shearing stress will be "Ss" =  $\frac{T_1 - T}{bx}$ . From the equality of moments Vx = (T<sub>1</sub> - T) jd, or (T<sub>1</sub> - T) =  $\frac{Vx}{j}$ . Substituting for (T<sub>1</sub> - T) in the formula above "Ss" =  $\frac{V}{jbd}$  (II). Above the neutral axis the shear will vary as in an ordinary beam since the stress in the compression surface is not concentrated in a plane as is the tensile stress but varies from the neutral axis to the extreme compression fiber.

If the unit shearing stress does not exceed 40 pounds per square inch, no web reinforcement is required. Since the shear will be greatest near the supports, there will usually be a region near the middle of the beam where the unit shearing stress does not exceed 30 to 40 pounds per square inch and no web reinforcement is needed. When steel is used to resist stresses due to shear, it is considered good practice to assume that the concrete will safely resist one-third of the shear, and then provide steel to take the other two-thirds of the shear. Since the shear varies along the beam, the stirrups need not be spaced uniformly. In order to determine the spacing it will be necessary to derive an expression with the aid of Fig. 7.

The maximum unit vertical or horizontal shearing stress at any section "C to C" is equal to V<sub>1</sub>/bjd. If we multiply this value by the width of the beam, then Vb<sub>1</sub>/bjd is the maximum horizontal shear per inch of length. In a length "Z," the total shear will be V<sub>1</sub>bz/bjd, which will be the vertical or the horizontal component of the diagonal tension in a length "Z." When a stirrup is placed as at "B-B" in Fig. 7 then

the vertical component of the diagonal tension to be taken by the stirrup will be  $\frac{Vz}{jd}$ , which causes a tension in the stirrup. The horizontal component of the diagonal tension is carried by the horizontal steel. Since the total stress in the stirrup must be equal to the vertical component of the diagonal tension, then AsS =  $\frac{Vz}{jd}$  (III). Both "As" and "Z" are unknown. Satisfactory diameters of stirrups vary from 5/16 inch to 1/2 inch for beams from 10 inches to 50 inches deep. Since "As" will be assumed, "Z," the spacing for the stirrups may be computed from (III). A minimum spacing of not much less than 6 inches and a maximum spacing of not to exceed one-half the depth of the beam are desirable. From tests it appears that stirrups spaced more than one-half the depth of beam are of little value.

**A Practical Example**

*Example*—Design a beam 10 feet long to support a load, including its own weight, of 690 pounds per foot. Let "St" = 16,000 pounds per square inch, and "Sc" = 650 pounds per square inch and "n" = 15.

$$M = \frac{Wl}{8} = \frac{(690 \times 10) \times 10 \times 12}{8} = 103,500$$

inch pounds. The proper percentage of steel to give the stresses assigned will be

$$"p" = \frac{\frac{1}{2}}{St \left( \frac{St+1}{Sc} \right)} = \frac{\frac{1}{2}}{\frac{16,000(16,000+1)}{650(15 \times 650)}} = .0077.$$

$$"k" = \frac{2 St p}{Sc} = \frac{2 \times 16,000 \times .0077}{650} = .378;$$

$$j = 1 - \frac{k}{3} = .874$$

$$M = \frac{Sc}{2} k j b d^2; 103,500 = \frac{650}{2} \times .378 \times .874 b d^2;$$

and solving for  $b d^2 = \frac{103,500 \times 2}{650 \times .378 \times .874} = 965.$

Let "b" = 7 inches, then "d" = 11 1/2 inches.

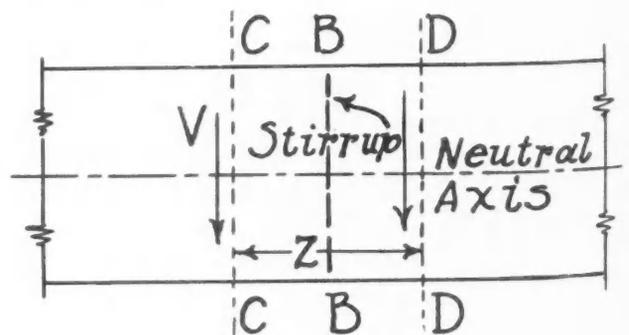


Fig. 7. Stirrup Spacing in a Beam.

The area of the tensile steel "As" = .0077 x 7 x 11.5 = .62 square inch. Three 1/2-inch square rods will amply provide the area. To find whether stirrups will be needed, compute the shearing stress from

$$"Ss" = \frac{V}{bjd}; "Ss" = \frac{690 \times 5}{7 \times \frac{7}{8} \times 11.5} = 49 \text{ pounds per}$$

square inch. If we assume an allowable unit shearing stress of 35 pounds per square inch in the concrete, then stirrups are needed. Since the shear is zero at the middle of the beam, and increases toward the supports, it is evident that stirrups will not be needed near the middle of the beam. We may determine the distance from the supports to the sections where web reinforcing is un-

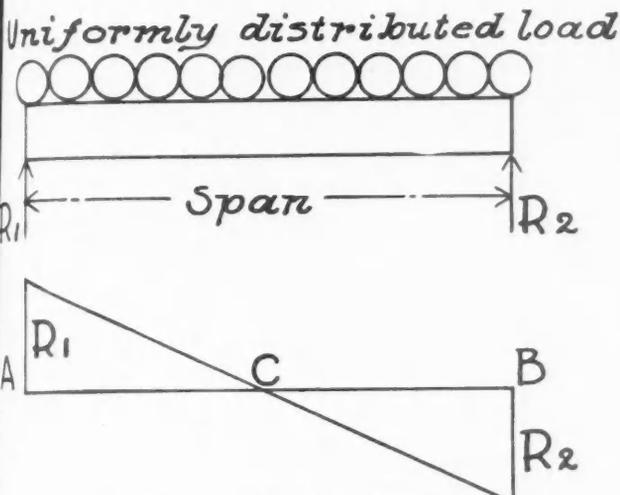


Fig. 8. Shear Diagram to Determine Region of Web Reinforcement

necessary by means of Fig. 8. "A-B" is laid off as the unit shearing stress at the support. "C" is the point of zero shear. There will be some section as "F-G" where the shear will be equal to the maximum allowable value for plain concrete. Between "F-G" and "A-B" stirrups will be needed. Determine the position of "F-G" by proportion.  $x:5 = 35:49$ , and  $x = 3.57$  feet. Stirrups must then be provided for a distance of 1.43 feet from the supports. One-fourth inch round rods may be used, and the spacing from formula (III)

$$\text{will be "Z"} = \frac{3}{2} \frac{AsStjd}{V}, \text{ and}$$

$$\text{"Z"} = \frac{3}{2} \times \frac{2 \times .049 \times 16,000 \times \frac{7}{8}}{5 \times 690} \times 11.5 = 6.8 \text{ in.}$$

The stirrups will appear as shown in the sketch. Bent up rods alone or with stirrups will be considered later.



**Proving the Case for Ventilation**

ACCORDING to investigations made in New York factories, 15 per cent more physical work was done when a temperature of 68 degrees was maintained than when it was kept at 75 degrees. It was also definitely established that proper ventilation and air conditioning greatly affected the amount of work accomplished in a given time. Builders will better serve their clients if they give them proper advice on ventilation.



**Takes Lots of Lumber to Manufacture Autos**

MORE than 365,000,000 feet of lumber has been used in a single year in the manufacture of automobiles and trucks in the United States.

**Lumber Firm's Friendliness Helps Gain New Customers**

THE Bertrand Lumber Company, Ltd., who conduct a retail lumber and general hardware business, and sash, blind and door factory at New Iberia, La., believe that a spirit of friendliness and welcome should be shown to the foreigners who come to live in America. A great many French immigrants pass through New Iberia and they are made welcome by the sign at the entrance of the office and store of the company, which reads "Ici on Parle Francais." (Here we speak French.) This sign not only creates an impression of friendliness, but also creates good-will for the company; naturally, the French immigrant who settles in New Iberia will want to trade some day at the store with the French sign.

An advertising feature which the company has adopted attracts considerable attention—all their buildings are painted a bright yellow, and the same color scheme is used in their stationery.

On the counter and yard slips which the Bertrand Lumber Company use is the motto:

"Always giving all we can for what we get, instead of getting all we can for what we give."



**Rubber Roads—Ought to Ride Smooth**

EXPERIMENTS are being carried out by the Colombo municipality in the use of rubber as a road-surface dressing, says Consul Vance, Colombo, in a recent report to the Department of Commerce. The dressing, which is the invention of a Ceylon rubber planter, is now being used on a portion of Darley Road, which is one of the most used thoroughfares in Colombo. This solution was first tried on a road of the Deviturai rubber estate, where it has been in use for the past thirteen months. A short stretch was later laid in the municipality of Galle. The present test, however, is the hardest to which the new solution has been put.

The solution is made from pure bark and scrap rubber. The experiments so far show that this solution is easier to handle than tar. It is a secret formula and the inventor is still working toward its perfection.

The idea of using rubber for roads has been almost exclusively confined in the past to rubber blocks, the cost being very high. The cost of the liquid-rubber road dressing is 50 to 75 per cent more than that of tar, but it is found that a tar dressing in Ceylon must be renewed every three or four months, while rubber dressing is expected to last from eight to nine months or longer. It is anticipated that a slight difference in the cost of material, in favor of the rubber dressing, will be found; that labor cost will be reduced 50 per cent at least, and that a better road surface will be procured.

## Power Equipment Saves Labor Cost of 16 Men

ST. PAUL PUBLIC WORKS DEPARTMENT DRILLS THRU  
ROCK SATISFACTORILY AND ECONOMICALLY WITH OUTFIT

**U**SING proper power equipment is saving considerable time and much money for the public works department of the city of St. Paul, Minnesota.

St. Paul has a 15 H. P. engine operating an air compressor, another is operating a trench back filler and a third 15 H. P. engine is operating a concrete mixer. Two engines of 2 H. P. each are used on pump rigs, which pump water from trenches when water mains are being laid.

The two small engines have been in service seven years. On the basis of their good performance the three large engines were bought and these have seen over two years' satisfactory service.

Two men and the outfit replace 18 men on a similar operation. The saving in labor alone is over \$65 a day and more work is accomplished than when the 18 men were using their hands in place of the air compressor rig now operated. This rig is used on jobs requiring the laying of water mains thru rock. In many parts of St. Paul the rock lies close to the surface, so it is often necessary to dig trenches thru long, deep layers of rock mostly sandstone and limestone.

The equipment, consisting of a 15 H. P. engine and an air compressor rig, will, in the hardest lime rock, average a drilling of about one foot per minute. The outfit produces 80 cubic feet of air at 100 lbs. pressure per minute. It has met the requirements of the most difficult drilling and with plenty of power to spare.

The power engine is mounted on wheels and is easy to transport to any section of the city where it may be needed. Mounting an engine on wheels is very essential when work takes the contractor into widely separated districts. An electric driven compressor could not always be used, as there are frequently situations in which it could not be fastened onto a supply of current.

The engine and air compressor rig is lighter, smaller and more easily transported than a steam compressor could be, and for that reason more practical to handle.

Considerable work is done in St. Paul in the winter. It is just as trying to cut thru rock in summer as in winter, so work is done in all seasons in that city. The engines used by that municipality have proven frost proof and seem to work satisfactorily in all temperatures. But special care must be given the compressor rig as it is water cooled.

The trench back filler is used to fill in the trenches after the pipe is laid. This outfit is made up of a 15 H. P. standard engine equipped with double drum, drag line and scraper with a 30-foot boom. The capacity of the scraper is about one yard. The engine is set up on one side of the trench and the scraper on the other. It is a one-man machine, very flexible in operation as it is mounted on caterpillar tread. The men who use it say it "can be turned on a nickel." It does the work of about three teams with drivers and three added men to hold the scrapers, when teams

are used.

This trench backfiller will backfill a trench 8 feet deep and an average of 3 feet wide at the rate of about 110 feet per hour. This capacity, in other terms is 2,640 cubic feet per hour.

The cost of repairs on either outfit averages less than \$50 a year. J. W. Kelsey, general superintendent of

the St. Paul Water Works Department, states he believes such outfits have a full four years of life and can then be traded in towards new power equipment.

St. Paul's experience has been with a standard, well known engine, which is so simply constructed that anyone knowing a little about gasoline engines can operate them without trouble. Their simplicity of design reduces repair delays and costs and when new parts must be set the task is a simple one requiring very little time.

On this type of engine the valves are easily accessible and the ignition system is so simple that timing causes very little trouble.

Manufacturers of power equipment have so perfected and simplified their products that an early objection that they were frequently out of order and were costly to operate and maintain has been conquered.



Power Operated Air Compressor Rig Successfully Drilling in Hard Rock at St. Paul, Minn.

## Law of Interest to the Builder

RIGHT OF CONTRACTOR TO ABANDON CONTRACT WHERE  
OWNER REFUSES TO PAY FOR EXTRAS REQUIRED BY OFFICIAL

By Leslie Childs

THE right of a city to supervise building operations is well recognized and is usually in charge of a well-defined department. Such departments usually function thru building inspectors, who inspect buildings in the course of construction and see that proper methods are employed to insure safety.

It follows that owners must take into account the regulations of such departments when building operations are contemplated. And, as work of this kind is usually accomplished by contract, building contractors are perhaps in many cases as vitally interested in the rules and regulations of the building inspection departments of their cities as the owners themselves.

### Orders Affecting Contractors

This brings up the question of how orders issued by a building inspector may affect the rights of a contractor where such orders cannot be obeyed in the light of the plans and specifications under which the contractor is working. Suppose the contractor proceeds upon a given piece of work, according to the plans and specifications, and when the work has reached a certain stage the building inspection department orders additional work to be done before it will permit the work to proceed.

This extra work may amount to a considerable outlay; the contractor objects to the extra expense, and the owner refused to assume it. In such a situation the question of the right of the contractor to abandon the contract and recover for the work he has already done may easily arise. This point was passed upon in *Di Biasio vs. Ross*, a Rhode Island case reported in 110 Atl. 415, under the following facts:

The contractor entered into a contract whereby he was to make certain repairs to a house and cellar. This contract, among other things, stipulated that, "the work shall be built in accordance with the specifications and designations marked on said plan."

### Building Inspector Ordered Footing Wall

The contractor entered upon the work, excavated for the cellar, and prepared to put in the cement walls according to the plans, when a city building inspector examined the premises. The inspector was not satisfied with the firmness of the soil and refused to permit the contractor to go on unless he placed a footing wall under the proposed walls, or unless the walls were placed deeper upon a more solid foundation.

The inspector made a sketch of the footing wall he thought the situation required. It would cost a substantial sum. The contractor then, it appears, declined to proceed with the work unless the owner would agree to pay for these extras. The owner refused to assume this additional expense, and the contractor abandoned the contract, and brought suit to recover payment for work and materials used up to that time.

Upon the trial of the cause the lower court charged the jury in part as follows: "The plaintiff, the contractor, claimed that he was notified that he must either put a broad stone foundation under the wall, or else dig a foot deeper than the plan called for, or otherwise not build at all. Now if that was the act of the city, and not willfully caused by the plaintiff, the contractor, he would have a right to abandon the contract, and, having abandoned it, he would have a right to recover the reasonable value of work done and which had not been paid for."

The trial in the lower court resulted in a judgment in favor of the contractor. The owner appealed, and among other things complained of the foregoing instruction given to the jury. In passing upon this the higher court, in part, said:

### What the High Court Decided

"This was a correct statement of the law applicable to the case, as it is well established that the perform-

ance of a contract cannot be compelled where it would involve a violation of law. \* \* \*

The court next directed its attention to the terms of the contract in the case and compared the circumstances surrounding the abandonment of the contract with those of another case much relied upon by the owner. After this, the court ruled:

"In the case at bar the plaintiff, the contractor, did not voluntarily abandon the work required under his contract, but was prevented from proceeding with it by order of the assistant building inspector requiring a footing wall to be placed under the cement walls. The plaintiff endeavored to agree with the defendant owner upon a price for the new work required, and upon failing to do this, and the defendant not offering to have it done, the plaintiff was justified in abandoning the contract and bringing suit to recover the balance due him for work and materials furnished. \* \* \*

The court overruled the owner's exceptions and ordered judgment for the contractor.

Another legal case of great importance to contractors will be presented in this department next month.



If the Building Inspector Orders Extra Work the Owner Must Pay the Contractor.

### New Blower Elevator Used Where No Inside Cup Elevator Was Built In

MANY architects and builders, operating in corn belt states, are preparing plans for high corn cribs and granaries, and are seeing to it that the modern, labor-saving grain elevating equipment is planned for and built in.

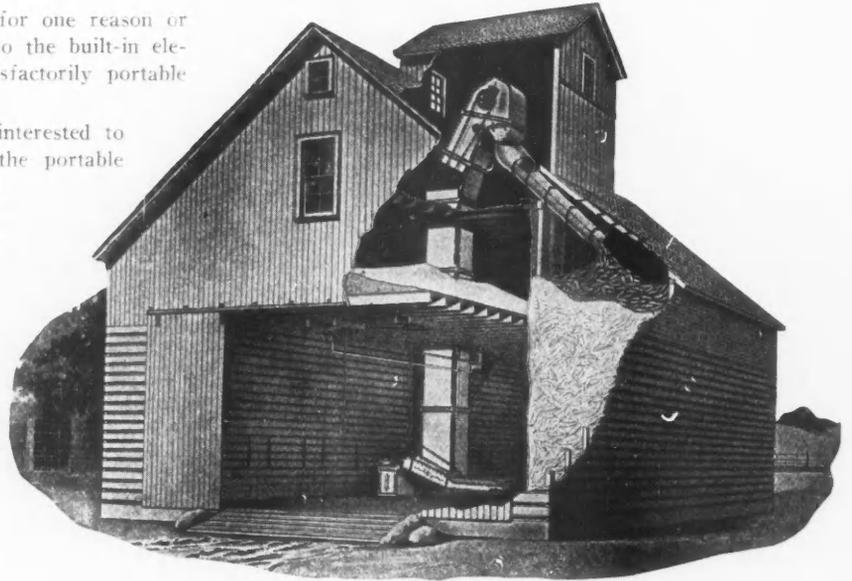
Of course it often happens that for one reason or another the farmer will not agree to the built-in elevating equipment, but wants a satisfactorily portable power elevating rig.

Rural builders will therefore be interested to know that there is now available the portable blower elevator illustrated below. It is made by the same concern that has been serving the rural builders with their built-in cup elevators.

It requires an 8 to 12 horsepower engine to operate this machine. It will elevate all kinds of small grain. The open hood at the end of the spout allows a large quantity of dirt and chaff to be blown out of the grain as it is elevated, making the grain cleaner and grade higher. By the special construction of the hollow fan, the grain is not broken or damaged. Users have elevated their seed wheat with this machine without the slightest trace of damage.

This elevator has been given a most thoro trial under actual working conditions during the past three years.

This blower elevator and grain drier is a very convenient and practical outfit for drying grain. While the grain is elevated, the force of the air removes a large per cent of the dampness, and also separates grains that are stuck together.



The Standard Popular Type of Stationary Inside Cup Elevator Which Rural Builders Are Recommending.



New Blower Elevator in Operation on Farm of H. S. Lampe, near El Paso, Ill., Where Is Hoisted 3,800 Bushels of Oats Into This Crib, 24 Feet High.



**Looks Like Bumper Crops**

GOVERNMENT reports show crops in generally good condition with estimated yields greatly exceeding those of last year.

**An Eye Open for Jake**

IKEY and Jacob went rowing in separate boats. Ikey's boat capsized. He came up for the second time. "Ikey," asked Jake, "if you don't come up again, can I have your boat?"

**Clay Pipe for Drainage Use**

LABORATORY tests made in the College of Industries of Carnegie Institute of Technology, Pittsburgh, show that bituminous clay pipe for drainage and sewerage use is the equal of the more expensive cast iron pipe which has been employed heretofore.

**Rubber Tires on 7-S Mixers**

MIXERS made by a well-known company are now being furnished with rubber tires when desired. The fact that this type and size of mixer is used to such a great extent for city and town concrete jobs such as building foundations, curbs, culverts, bridge approaches, etc., requires considerable transportation from one location to another. The rubber tires make the transportation easier and quicker besides saving unnecessary jarring of the mixer.

**Varnish Watermelons to Preserve Quality**

THE latest victim of science is the watermelon. Time was when it was ripened on the vine and in the sand hills of Georgia and cooled in the spring house. And ten cents was a top price.

But growers suffered a heavy loss in shipments to the Northern market. Something had to be done about it and the Department of Agriculture was appealed to.

Now the watermelon has the endurance and vitality of the cold storage egg. Scientists discovered that by covering the rind with a thin coat of varnish the melon would retain all its delightful qualities indefinitely.

**Fair Weather Bargain**

TWO darky boys in a Southern city met on the street, each wearing a new suit. One asked: "Nigger, how much do they set you back for dem clo's? Fo'ty dollahs?" "Yes, sah; fo'ty dollahs." "Look at me," said the first. "I'se got a suit w'at's mos' perzackly like yourn, and I don't pay but ten dollahs fuh mine. Somebody shore flimflammed you." The possessor of the forty-dollar suit took hold of one of the coat sleeves of the ten-dollar suit and pulled on it. It stretched. Then straightening up he said: "See here, boy, the fust big rain yo' gets ketchted out in dat coat of yourn 's gwine to say 'Good-by, nigger, f'om now on I'se gwine to be yo' vest.'"

**A Seven Day Job**

"I FEEL sorry for the fireman," said the small boy. "They don't have any Sundays off." The fire menace has no holiday. It doesn't stop to sleep or even go fishing. Eternal watchfulness and good construction are the way to prevent fire. Fire is cheaper than insurance.

**"Say It With Flowers"**

SOMETHING new and decidedly effective in advertising was introduced by the Lehon Company, Chicago, in a magnificent floral display at the recent Associated Advertising Clubs of the World convention at Milwaukee.

More than 3,500 carnations—actually 3,600—were used to tell the story of the attractiveness and durability of Mule-Hide roofing. It is said this is the first time that flowers have been used to advertise roofing.

The company had made an immense galvanized iron stand showing the familiar mule-head trade mark. This was filled in with various colored carnations. The effect, of course, was beautiful and impressive. A young woman demonstrator answered the many inquiries of interest which the display caused. And there were many actual sales as well as the general interest created.



More Than 3,500 Flowers Were Used to Make This Unique Advertising Sign.

The venture seems to show that "say it with flowers" may well be changed to "advertise it with flowers."

**Is Your Smile Working?**

"THE only human being that has a good excuse for not smiling is a corpse," says a noted man. "And a corpse would be a failure in business."

**Making Imports Build Workmen's Homes**

THE TARIFF Division of the Department of Commerce states that an additional surtax of about one-fourth of one cent per kilo is hereafter to be levied on all merchandise imported into San Jose, Costa Rica.

The proceeds of this surtax are to be devoted entirely to the paying off of a special loan which the president of Costa Rica has authorized for the improvement of housing conditions, which is to be applied to the building of inexpensive homes in San Jose, to be sold to workmen's families on specially favorable terms. This surtax is to be collected only until the loan has been cancelled.

**Want American Bids for Siam Steel Bridges**

CONSUL DAVIS has transmitted to the Department of Commerce form of tender and specifications to cover steel railway bridges for the Siam-State Railways. These call for 35 spans of a total length of 1,485 meters, comprising plate girder, plate girder deck, lattice girder thru and special plate girder deck spans, all in accordance with the general sketch accompanying the specifications. Tenders must be in the office of the Siam State Railways in Bangkok not later than October 1, 1922. American bridge-building firms are urged to participate in this tender.

Of the two sets of form and specifications received, one is available to interested bidders for inspection in the Iron and Steel Division of the Bureau of Foreign and Domestic Commerce, at Washington, D. C. (refer to File No. 58674), and the other at the Bureau's District. Davis advises that copies of these papers may be obtained from C. P. Sandberg, 143 Liberty Street, New York City.



EDITOR'S NOTE: *The AMERICAN BUILDER does not accept payment in any form for what appears in our reading pages. In order to avoid any appearance of doing so, we omit the name of the maker or seller of any article we describe. This information is, however, kept on file and will be mailed to anyone interested; address AMERICAN BUILDER Information Exchange, 1827 Prairie Ave., Chicago.*

### Pebble Dash Finish in Pleasing Colors

ONE Illinois company reports special success in using the pebble dash finish in stucco work on a brick foundation. Using a special method they secure splendid color effects and lasting construction on expansive walls.

The dash finish is popular and this company says it is bound to grow in popularity when builders realize that it strengthens the finish coat and protects it from weather conditions, serving as a reinforcement and that it can be applied to any building.

In renewing the Swedish Mission church at Princeton, Ill., shown here, pleasing color effects were secured. Pebbles of marble or granite may be used and the color possibilities include white, gray, blue, pink, green, red, buff, yellow brown, black and pearl.

Dash may be applied without special tools. It does not crack or check and practically eliminates future cost for repairs. The company, which has been using a private for-

mula and doing its work at a large cost savings is now making known its formula to the whole building trade.



### "One Man" Tape Pleases Builders

THE ordinary steel tape has been replaced by a practical and more useful steel tape, the "One Man" tape, which as the name suggests, can be easily and accurately operated by a single person.

This type of a tape has many advantages over the old style steel tape for obtaining accuracy in readings on both inside and outside measurements. The grasping cam lock retains the measurements after they are taken and the winding drums inside the casing are improved so as to prevent slack or back-slack in the line. The cases are formed from solid brass, heavily nickered, insuring the tape long wear under hard usage.

The manufacturer reports that the large sales assured them that this type of steel tape is meeting with wide and general approval among the builders.

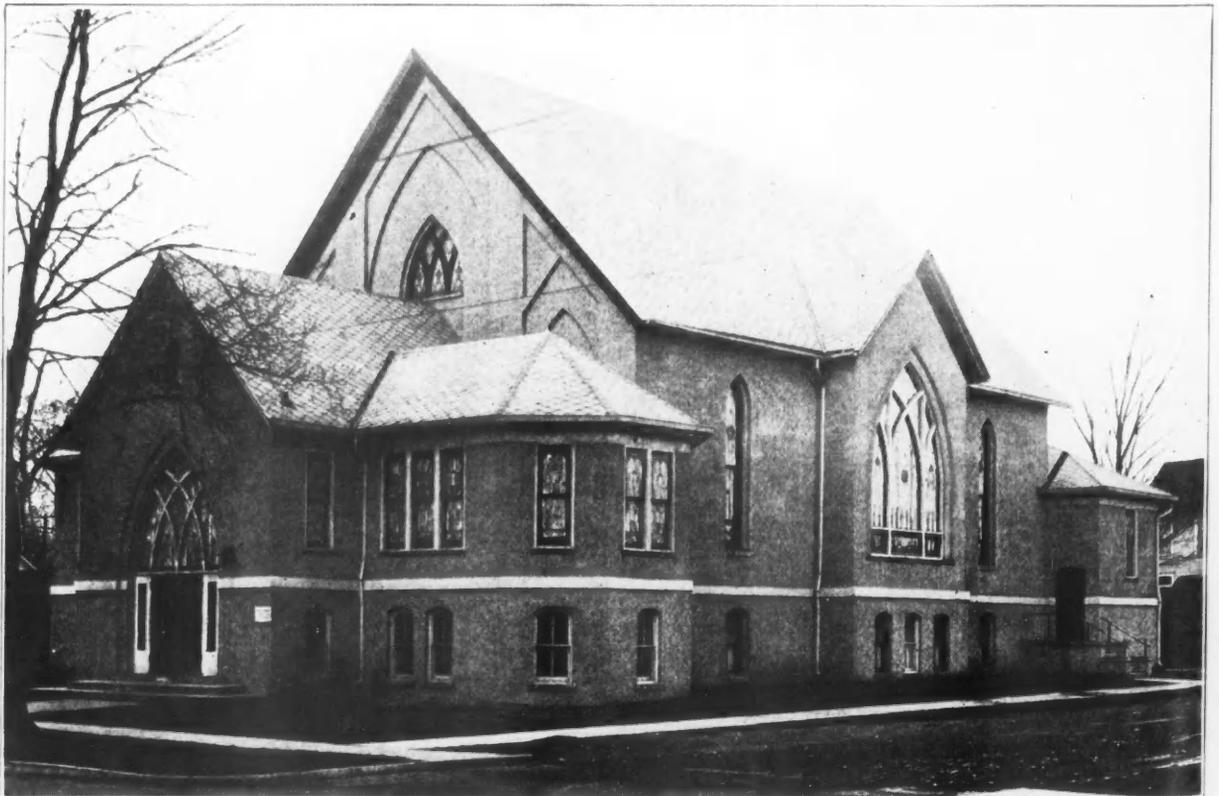


Simple Construction Assures Full Usefulness and Long Life.



### Trouble Saving Scaffold

A STEP toward solving the time and labor problem incident to putting up and taking down scaffolding has been taken by a manufacturer who offers a scaffold that is recommended for simplicity and sturdiness. It has no bolts, screws or nails and is quickly set up and taken down. This scaffold hooks into the studding. It is made of steel. While light in weight it carries heavy loads safely. It may be used on any type of building. It is sold with a money-back guarantee.



Once a Brick Structure, This Church Was Refinished with Pebble Dash in Colors and Under a New Plan That Materially Reduced the Cost.

# FREE—This Book on Wood Finishing



This book is full of practical information on finishing new floors and trim and refinishing old work of this kind. Written by experts—profusely illustrated—contains color charts—gives covering capacities, etc. We will gladly send it free and postpaid to contractors and builders.

**S. C. JOHNSON & SON,**  
Dept. AB8, Racine, Wis.

Please send me, free and postpaid, your book on Wood Finishing.

Name.....

Address.....

City and State.....

**Fill Out and Mail this Coupon**

**I Buy Varnish from.....**



## Make Satisfied Customers and Get More Business

Every good job you do helps to get other jobs for you, besides holding your old customers. Quality workmanship and high class materials insure a perfect job. You furnish the quality workmanship and we will furnish the quality material. That combination makes your future success sure.

The use of Johnson's Artistic Wood Finishes insures satisfaction, both with the appearance and wearing quality of your work. The Johnson Line of interior finishes includes Perfectone Undercoat and Enamel—Wood Dye—Paste Wood Filler—Floor and Finishing Varnish—Prepared Wax—Permacote—Wall Finish—and everything necessary for floors, trim and walls.

# JOHNSON'S ARTISTIC WOOD FINISHES

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

### New and Larger Motor in Excavator and Loader

THE consistent service provided by the four-cylinder gas-line engine used on a well-known paver has led to the adoption of this make of motor on the excavators and loaders

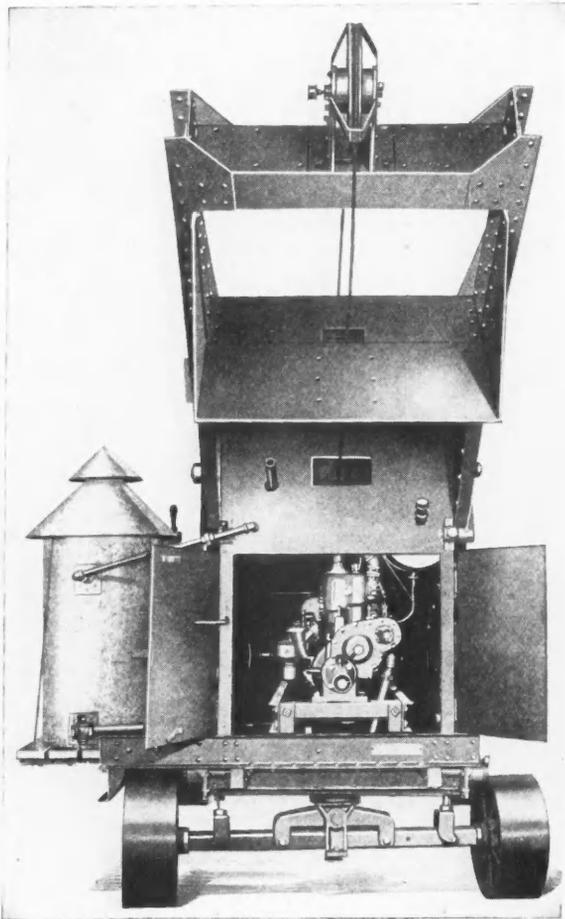


Fig. 1. End View of Excavator and Loader Showing New Motor.

made by the company. The new motor, shown in one of the accompanying illustrations, has 3-inch bore and 5-inch stroke and runs at 1200 r. p. m. It provides about 40 per cent additional power over the previous equipment. A recent installation of this new-motored machine is shown in Fig. 2. Here the excavator and loader is seen excavating and loading gravel from a gravel pit. The loaded scraper is brought to the excavator and dumped directly into the waiting truck.

These excavators and loaders are used for general drag-line excavating, for digging basements and loading directly



Fig. 2. Excavator and Loader on Gravel Pit Work.

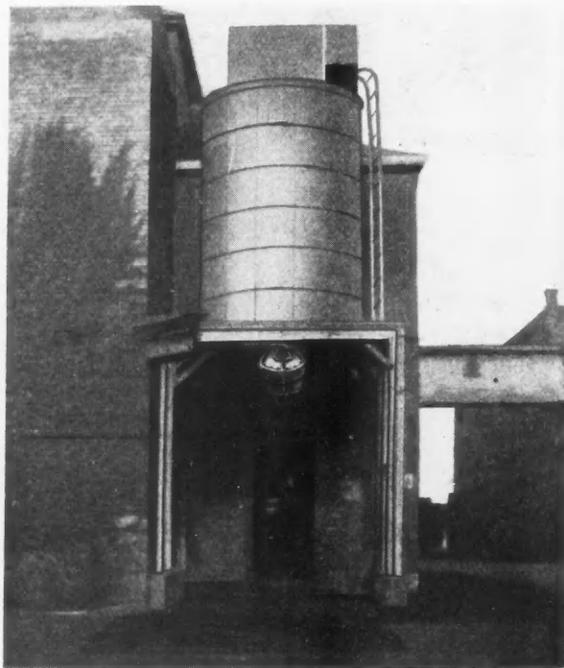
into wagons or trucks on the surface; for grading, stripping and miscellaneous earth-handling and loading.



### Cast Iron Storage Tanks Economical and Durable

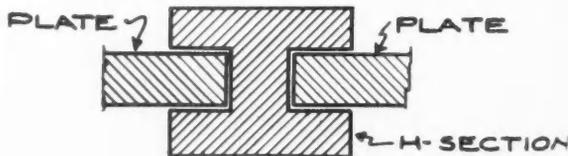
PERMANENCE, long life, low maintenance cost and ease of erection are features of cast-iron storage tanks. A new type on the market is adaptable for all industries where storage and transfer materials are needed. Some of the popular uses for cast-iron storage tanks are:

Ash storage; cold storage; such building materials as crushed rock, sand, gravel and stone; sugar beets; various chemicals and all loose and bulky materials that are ordinarily stored in silos, tanks, hoppers and bins.



Cast Iron Storage Tank for Holding Ashes at Boiler House No. 1 of Horlick's Malted Milk Co., Racine, Wis.

Longer life is claimed for this tank than for those made of wood, steel and concrete. Inexperienced workmen, it is said, can erect such tanks with ease. This new tank is cylindrical in shape, erected on a 5-inch reinforced concrete slab which is supported on a structural steel base or tower, built up of standard fabricated structural shapes. The body of the tank is built up of  $\frac{1}{2}$ -inch cast iron radius plates each 2 by 8



Section Thru Side of Tank Showing H Sections and Radius Plates. All Inside Joints Are Pointed Up with Cement to Make a Tight Joint.

feet in size. The plates are held vertically between the cast iron H sections which are built in 2 and 4-foot lengths.

The cover is of cast iron and the tank is equipped with a steel ladder. All inside joints are sealed with a special cement, assuring tightness.

Prevention of freezing and ability to discharge rapidly are other features of this cast-iron storage tank.



## 12 words that sell

# FLEXSTONE SHINGLES

IT'S the all-mineral asbestos construction of Flexstone Slate Surfaced Shingles that lifts them above the competitive run of ordinary rag and wool felt asphalt shingles.

In the first place, it means fire-safety—a telling argument in selling the “fire-conscious” purchaser of today. Flexstone Shingles are given a class B rating, instead of the usual class C, by the Underwriters.

Again, asbestos means permanence, with a resulting cost-per-year economy that appeals to every

shingle buyer. That's why Flexstone Shingles are selling so rapidly notwithstanding slight price differences. Dealers find that the more roofs they cover, the more shingles they need for other roofs next door, up the street, and all over town.

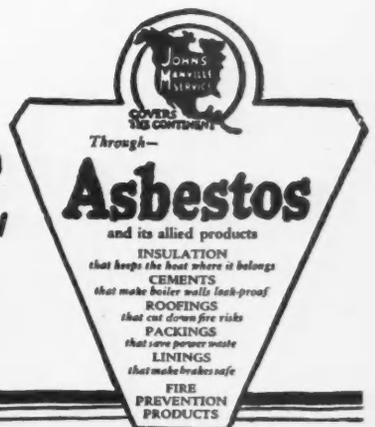
Flexstone single and strip shingles and slate surfaced roofing offer an unusual dealer opportunity. Write your nearest Johns-Manville branch for an interesting proposition.

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

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

# JOHNS-MANVILLE Asbestos Shingles

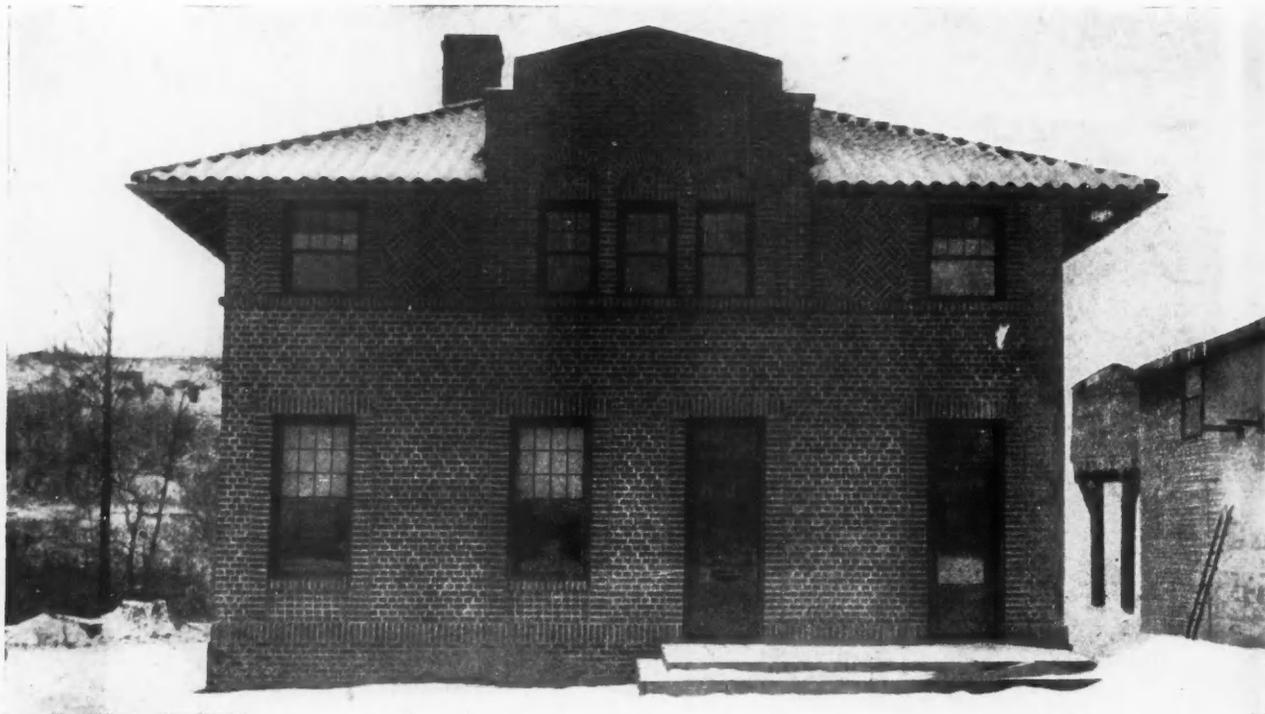
\*Note: This price difference assumes average shipping conditions. In many localities it may be slightly more or slightly less.



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

# Office Shows Variety of Face Brick Finish

BRICK COMPANY BUILDS EFFICIENTLY AND SHOWS TO ADVANTAGE VARIOUS BONDS AND COURSES OF PRODUCT

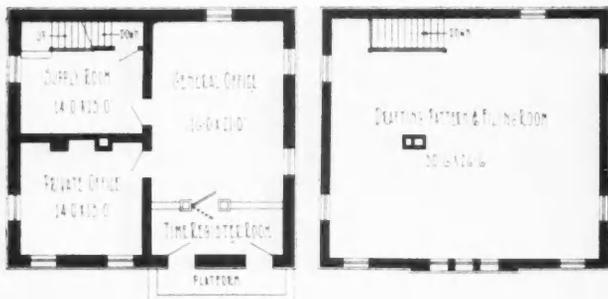


The Reynoldsville Brick & Tile Co. Office Building Shows in Wide Variety Various Courses and Bonds of Product They Make.

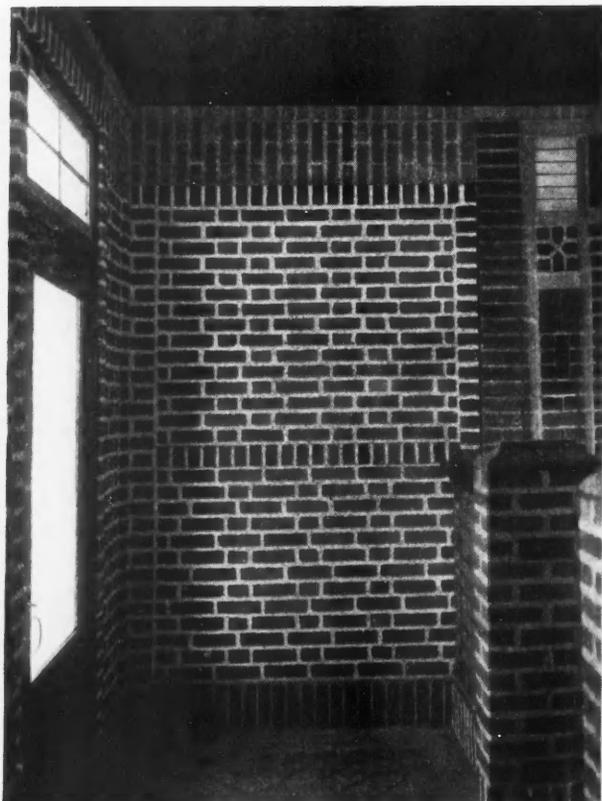
THERE is an old saying about "killing two birds with one stone." That's what the Reynoldsville Brick & Tile Company concluded to do when they planned a new office building at their plant. That decided that they would not only provide sufficient room, but that an effort would be made to show the various effects that can be produced in the use of bricks. In the finished building they have one of the most comprehensive displays of face brick of any plant in the country.

In the general view of the exterior of the office, the foundation is of rough texture red brick, laid in white mortar with American running bond and cut flush joint. Above this is a soldier course laid in buff mortar. The main portion of the building is Dutch bond, yellow mortar with cut flush joints. All windows are surrounded with soldier courses. All soldier courses and trimmings extend one inch beyond the main portion of the wall.

The building is 28 feet by 42 feet 4 inches. The entire basement is used for the storage of mortar colors. The first floor is divided into four rooms.



First Floor Plan at the Left. The Second Floor Is One Large Room Used for Drafting and Filing Purposes.



Glimpse of Office Interior in Manufacturer's Office, Showing Pleasing Display of Different Kinds and Colors of Brick.

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### Working Drawings Available to You

This home was designed for a private owner by one of the best residence architects in America.

Sometime ago we published a view of it in one of our books and it attracted so much favorable attention that we had hundreds of requests from all over the country for details and plans.

At last we have prevailed upon the architect to grant us the right of supplying complete working drawings and specifications. These working drawings are exceptionally complete and contain many full size details which make them unusually valuable and different from the ordinary.

### Hiawatha's Cost Appeals to Buyers

This home can be built of Brick (solid masonry) for as low as from \$9,000 to \$13,000 depending upon location and the character of equipment and finish.

After you see the plans in circular No. 705 you should be able to determine the approximate cost of this popular home in your locality. With the complete plans—working drawings—and specifications, which are yours at a nominal price, you can estimate exactly what it will cost to build this home.

### Costs Even Less With Ideal Wall

When this home was first built the Ideal Brick Hollow Wall was unknown. Its recent development makes possible the building of this Brick home for even less than the above figures. With the Ideal wall you obtain all the advantages of solid masonry construction at a saving of  $\frac{1}{3}$  in cost.

The Ideal Wall is thoroughly described in "Brick, How to Build and Estimate"—a 72-page manual of vital information for contractors and builders. It contains 30 tables, 9 full page detail drawings and other information which proves of wonderful assistance in estimating costs quickly and accurately. Only 25 cents postpaid.

The Hiawatha is one of a wide variety of Brick house designs shown in that fascinating volume, "Brick for the Average Man's Home." Here you will find all kinds of homes illustrated and described, together with much helpful information which will prove of great value in interesting prospective home owners, thus helping you to land jobs. The nominal price of \$1.00 is to cover printing and distribution costs only.

\$1.25 brings both books. Address The Common Brick Industry of America, 2131 Cleveland Discount Building, Cleveland, O.



The Hiawatha

## A House You Can Sell Quickly and Profitably

This home is so good looking, practical and economical that it appeals to every one. It is declared by experts to be the finest of its class in America.

Think what a ready market you'd have for such a home if you built it. Think of its greater sales value—its better profit possibilities.

You can now secure complete plans and specifications for this remarkable brick home. Send for free circular No. 705 showing alternate floor plans and giving complete details.



### This Trade-Mark Stands for—

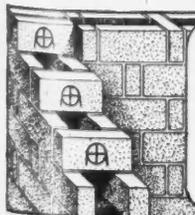
- Quality—*  
An honest product, honestly advertised.
- Responsibility—*  
A reputation for honorable, prompt and efficient business dealings.
- Service—*  
A material of proven integrity with a record of ages of service.

### The Common Brick Industry of America

2131 CLEVELAND DISCOUNT BUILDING

Cleveland, Ohio

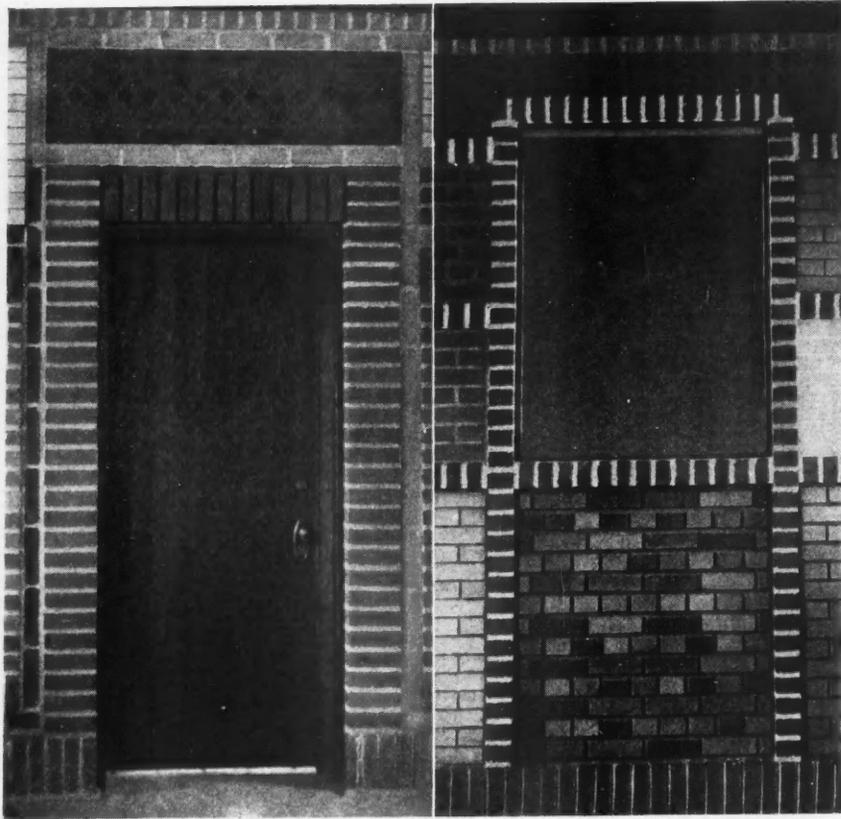
*The Ideal Brick Hollow Wall is made of standard brick obtainable everywhere*



# Ideal Brick Hollow Wall

*"Brick Homes at the Cost of Frame"*





Patrons of the Reynoldsville Brick & Tile Company Are Not Asked to Imagine How the Product Will Look in Use. They Are Permitted to See the Finished Product.

underneath the floor and drawing fresh air from the outside of the building.

The roof is of red tile.



**[Lincoln] Highway Varied Construction**

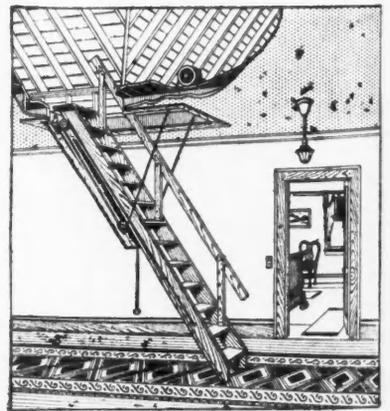
ON FEBRUARY 1, 1922, the mileages of the various types of road construction on the Transcontinental Route of the Lincoln Highway, New York to San Francisco, were as follows:

	Miles
Concrete .....	521
Brick .....	241
Bituminous macadam.....	383
Macadam .....	287
Asphalt .....	78
Creosote block.....	5
Granite block.....	7
Graded gravel.....	1,052
Natural gravel.....	62
Graded earth.....	526
Natural earth.....	136
Sand .....	3



**Disappearing Stairs Save Space**

A DISAPPEARING, sliding stairway revolutionizes the designing of small homes, as it enables the owner to secure access easily, quickly and safely to the attic without using any space in the room below. The tendency of present-day builders is to build smaller homes and make use of every inch of available space. The higher costs of labor and material together with the modern conveniences now necessary in every home have brought this about.



Safe and Easily Handled, This Disappearing Stairway Saves Needed Room.

The old-style, barn-like dwelling with its huge unused attic is a thing of the past. Today the smaller, compactly arranged bungalow or two-story cottage takes its place. To secure this compactness, however, requires some skillful designing on the part of the architects, and has led to the development of such space savers as built-in kitchen cupboards, breakfast and dining nooks, in-a-door beds, folding kitchen tables, ironing boards, etc. And this same desire to economize on space and use the entire dwelling led to the conception and development of the sliding stairs.

This stairway is light and strongly constructed of good lumber, and is so arranged that it slides on pulley wheels up thru a hole in the ceiling into the attic. The weight of the stairs is counterbalanced by two powerful coil springs, so that scarcely any effort is necessary to raise it or lower it.

The time register room is 5 feet by 16 feet. The general business office is 21 by 19 feet. The private office is 13 by 14 feet and the supply room is 13 feet by 14 feet. The second story is all one room, and is used for a drafting room and filing room.

The time register room is entered from the exterior by double doors, the time clock is located between these doors, thereby allowing employes to enter the left hand door, register their time and go out by the right hand door, and the reverse order when retiring from work. There are eleven panels exclusive of the brick used for trimming in this room. This room is separated from the business office by a brick partition four feet high, the top of this partition being finished with a very nice quartered oak cap.

The business office is the general work room. There are a total of forty-one panels in this room. Each panel is separated by a header course of cherry-red brick laid in white mortar with cut flush joints.

The trim over all the windows is two and one-quarter red rough texture cubes, laid in various colors of mortar. The border between the windows is of various shades and textures and is worked out to harmonize very prettily with the beamed ceiling, the beams of which are finished in mission oak, the panels being built of wall board and finished in dark green. The floor in the time register room is of buff tile of their own manufacture. The floor in the main office is of sawed oak. These rooms are both heated by live steam from boilers of the plant, the radiators being concealed

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## Good Roofings to Back Up Good Workmanship

When you lay Barrett Everlastic Roofings you can trust them to back up your good workmanship with years of honest, rugged service.

And whatever the type of building you're figuring on—whatever the demands of your customers in price or style—one of the six Everlastic Roofings described at the right will fill the bill.

Each style is the leader of its class—each style gives the most in wear, fire-resistance and all-around value that can be had for the money.

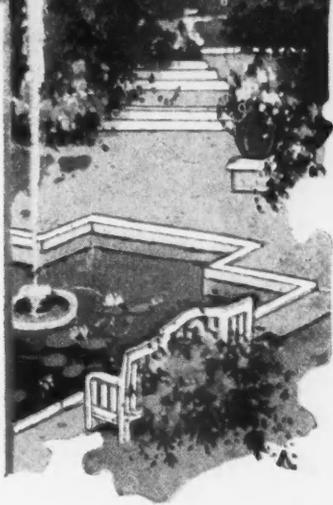
The fact that these roofings are made by the Barrett Company—for sixty years the leader in the roofing field—is an assurance of quality and reliability that cannot be matched.

On every count Barrett Everlastic Roofings are the most satisfactory roofings a builder can lay—or that a customer can have laid.

*Sold by enterprising dealers everywhere.*

### The *Barrett* Company

- |               |           |              |            |                 |                |              |
|---------------|-----------|--------------|------------|-----------------|----------------|--------------|
| New York      | Chicago   | Philadelphia | Boston     | St. Louis       | Cleveland      | Cincinnati   |
| Pittsburgh    | Detroit   | New Orleans  | Birmingham | Kansas City     | Minneapolis    | Dallas       |
| Syracuse      | Peoria    | Atlanta      | Duluth     | Salt Lake City  | Bangor         | Washington   |
| Johnstown     | Lebanon   | Youngstown   | Milwaukee  | Toledo          | Columbus       | Richmond     |
| Lafayette     | Bethlehem | Elizabeth    | Buffalo    | Baltimore       | Omaha          | Houston      |
| San Francisco |           |              |            |                 |                | Denve        |
| Montreal      | Toronto   | Winnipeg     | Vancouver  | St. John, N. B. | Halifax, N. S. | Jacksonville |



### Your Choice of Six Styles

**Everlastic Octo-Strip Shingles.** The latest development in the strip shingle. Beautiful red or green mineral surface. Made in a unique form that offers a variety of designs in laying.

**Everlastic Multi-Shingles.** Made four shingles in one, of high grade waterproofing materials with a red or green mineral surface. When laid they look exactly like individual shingles. Fire-resisting.

**Everlastic Single Shingles.** Same mineral-surfaced material and red or green art finish as Multi-Shingles, but in single form; size 8x12½ inches.

**Everlastic Giant Shingles.** Identical in shape with Everlastic Single Shingles, but heavier and thicker. They are "giants" for strength and durability.

**Everlastic Mineral Surfaced Roofing.** The most beautiful and enduring roll roofing made. Surfaced with everlasting mineral in art shades of red and green. Combines real protection against fire with beauty. Requires no painting.

**Everlastic "Rubber" Roofing.** This is one of our most popular roofings. It is tough, pliable, elastic, durable and very low in price. It is easy to lay; no skilled labor required. Nails and cement included in each roll.

# CORRESPONDENCE

Questions answered—ideas exchanged



Our Readers Are Requested and Urged to Make Free Use of These Columns for the Discussion of all Questions of Interest to Architects and Builders

## Like To See Pictures, So They Send Theirs Along

To the Editor:

Carlisle, Ind.

Some of the other readers of the AMERICAN BUILDER may be interested in seeing this picture of our shop.

We operate a planing mill and are jobbing contractors. There is considerable activity in this section and we are enjoying a nice run of business.



Shop of P. D. Watson & Son Carlisle, Ind.

You will see that we have some power equipment and we feel sure that these labor and money-saving aids are important for every mill, large and small, and are also of value to the contractor out on the job.

The picture shows "the Watsons," who seldom find time to sit down unless it is for the photographer.

We would like to see more pictures of shops and the men that own them in the AMERICAN BUILDER. We are all one big family and we like to see how the rest of the same family look.

P. D. WATSON & SON.

## Who Has Plans for a Sun Dial?

To the Editor:

Ogden, Utah.

I am a subscriber to the AMERICAN BUILDER. I would like to have some one show plans in the BUILDER for sun dials.

JOHN H. FISHER.

## Is Muratic Acid a Suitable Stone Cleaner?

To the Editor:

Toronto, Ont.

We are at present wrecking a large residence in this city which contains a number of excellent stones that we think

could be profitably used were they cleaner. It is upon this problem that we would like a few suggestions. Do you think muriatic acid harmful for this purpose?

S. H. BAKER,  
ROY-BAKER CO.,  
General Contractors.

## How Would You Build Float to Accomodate Fifteen People?

To the Editor:

Pittsburgh, Pa.

We have a "camp" along the Allegheny River front and wish you to advise us at your earliest convenience of the best method for constructing a float that will take care of the rise and fall of the water and carry the weight of from 10 to 15 people.

Thanking you in advance for any information as to the construction of this float, I am,

CHAS. L. MEYER,

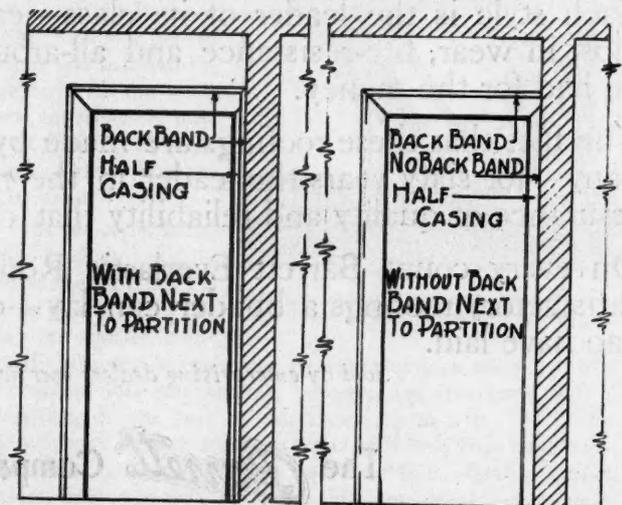
1519 Frick Bldg.

## Come on Readers, Let's Settle This Argument

To the Editor:

Ames, Iowa.

I would like the opinion of other readers about putting back band on half door casings and window casings.



With and Without Back Band. Which Method Is Better?

Is it proper to continue back band around on half casings or is it proper to leave it off?

I have made a drawing of the two methods and would be very glad if you could give me a little advice.

Care Box 482.

B. D. BLOM.



## Why Architects Urge Brass Pipe

**Because it endures**—Anaconda Brass Pipe will not split. Water will not rust it. It will not clog or leak. Money spent in tearing out and replacing inferior, corrodible pipe is saved.

**Because it insures**—rugs and furnishings are safe from stains of leaking water. Ceilings will not fall or be made unsightly. You will be spared the annoyance of dribbling water caused by rust clogged pipes or rusty water in your bathtub. No fear of torn out walls and ripped up floors. None of the confusion and expense that follow in the footsteps of the repair man.

**And the cost is almost negligible.** Less than 1 per cent of your building cost will cover the added cost of Anaconda Brass Pipe. *The difference is only about \$75 for a \$15,000 house.*

Write for our new booklet "Ten Years Hence" which tells how to save on your plumbing. It is free.

THE AMERICAN BRASS COMPANY  
GENERAL OFFICES, WATERBURY, CONN.

MILLS AND FACTORIES

Ansonia, Conn. Torrington, Conn. Waterbury, Conn. Buffalo, N.Y. Kenosha, Wis.

OFFICES AND AGENCIES

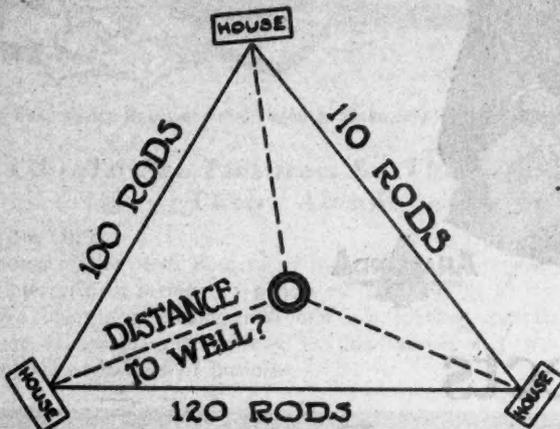
New York Philadelphia Boston Providence Pittsburgh  
Cleveland Cincinnati Detroit Chicago St. Louis San Francisco

# ANACONDA

## BRASS PIPE

**Well! Well! Well! Where Will We Put the Well**

To the Editor: Long Beach, Calif.  
 In the late number of the AMERICAN BUILDER, there was considerable interest taken in the carpet problem. I think it useful to have such a department and would like an answer to this:



At What Point Would a Well Be Equally Distant from the Three Houses?

A triangular field, one side 120 rods long, one side 110 rods long and another side 100 rods long, was owned by three men. Each built a house on a corner and decided to dig a well in the middle of lot that would be equal distance from each house. What is the distance to center of well?

L. D. DAWLEY,



**Ventilation Problem for Store Structure**

To the Editor: Cadillac, Mich.  
 Will you give us a suggestion as to how proper ventilation should be installed in a store, three stories high, first and second floor entire fronts of plate glass, third floor windows, size of each floor 50 by 150 feet?

Our concern its with the second floor, where no transoms or ventilators can be placed in the front wall, as plate glass windows occupy the entire space, the side walls solid.

Any suggestion you have would be greatly appreciated.  
 CADILLAC LUMBER Co.



**Will You Advise Him About Diamond Spouting?**

To the Editor: Sandy, Utah.  
 Have been a subscriber of the AMERICAN BUILDER about three or four years and am well pleased with it and now I am going to ask a favor of you. I would like to get thru the columns of your magazine information concerning diamond spouting as it is used in flour mill construction.

CHAS. M. BECKSTEAD.



**Wants Ice Chest Detail**

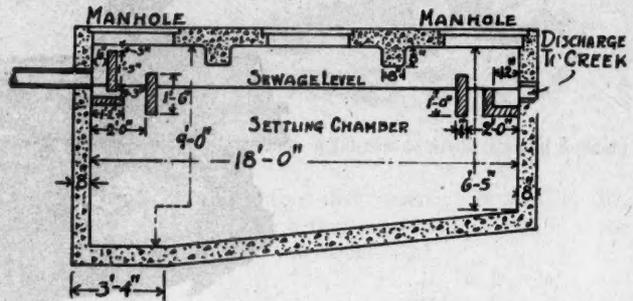
To the Editor: Newton Center, Mass.  
 I would like if you would send me a working full-size detail of an ice chest for family use. I would like to build one with top icing to hold a cake of ice 22 inches square.

Hoping to hear from you at an early date, I am  
 C. F. DANFORTH,

163 Cypress Street.

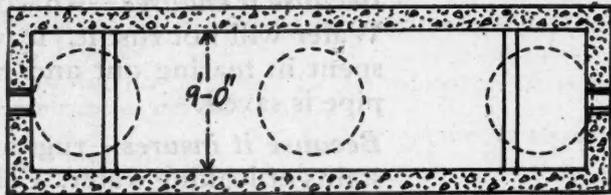
**Thanks Twice, for Compliment and Your Commendable Design**

To the Editor: Pierce, Fla.  
 I have been a reader of the AMERICAN BUILDER for a long time and have always considered it the best publication in the building field.



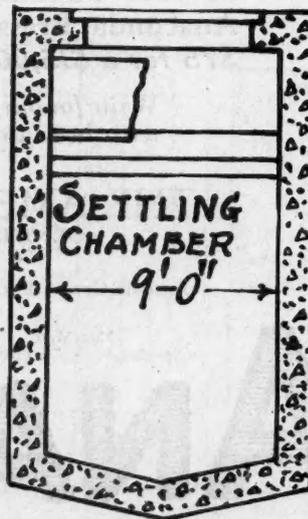
All Sludge Boards in This Sewage Disposal Tank Were Cast Monolithic with Walls. All Reinforcing is 7/16 Round Steel 8 in. O C Except Beams, Each Sludge Board Having 6 Bars 7/16-in. Round Steel. A 1-2-4 Mixture of Concrete Was Used.

I am enclosing a tracing of a sewage disposal tank which I have just completed here to take care of the entire sewage for a village of about 650 people. I believe it will be of interest and benefit to some other reader.



This Shows a Top View of the Well Built Sewage Disposal Tank Made by Mr. Bradley.

This tank was built about five feet below water level. As a waterproofing I used with my 1-2-4 concrete about 10 per cent hydrated lime; that is about 10 per cent of the weight of the cement.



This Shows a Cross Section of the Bradley Sewage Disposal Tank.

Hoping this information is of value to some of the readers,  
 B. B. BRADLEY.



# The Discerning Woman likes AMBLER ASBESTOS Shingles

because they give her home a distinctive, artistic roof that is there to stay—a lifetime satisfaction, free from fire-hazard; trim and tight, never requiring paint but growing stronger with age.

She believes in permanence when it comes to home-building, and she believes in economy of upkeep. Ambler Asbestos Shingles give her both.

The observant designer and builder knows the influence of the modern woman in the details of home-building. He will be prepared to tell her about Ambler Asbestos Shingles for the new or the remodeled home.

Permanent Newport Gray, Blue-black, Indian Red, Moss Green and other colors, in shapes suitable for laying in American, French and Honeycomb styles.

Specimens and valuable data on artistic roofs free of obligation.

## ASBESTOS SHINGLE, SLATE & SHEATHING COMPANY

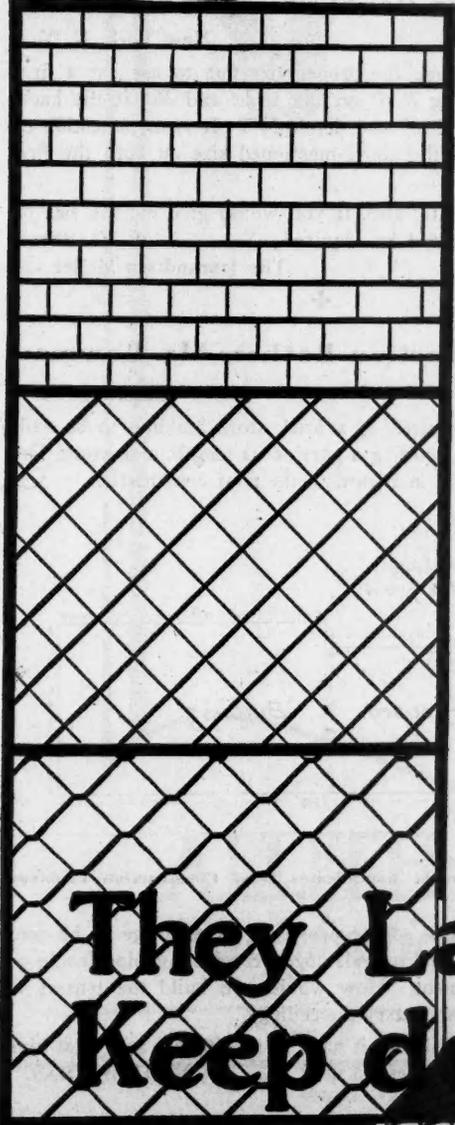
DEPT. A, AMBLER, PENNA.

*Branch Offices: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Detroit, Minneapolis, New York, Philadelphia, Pittsburgh, Washington, Wilkes-Barre, Montreal, Canada; Toronto, Canada*

*Southwestern Distributor: R. V. Aycock Co., Kansas City, St. Louis, Tulsa, Houston*

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*Other distributors throughout the country*

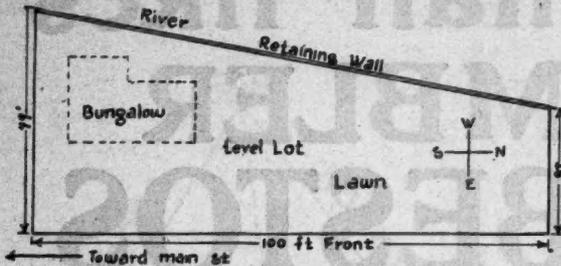


**They Last  
Keep d**



**Wants Roomy House on Odd-Shaped Lot**

To the Editor: Tamaqua, Pa.  
 Would you kindly offer suggestions in the AMERICAN BUILDER for building a bungalow on an irregular shaped lot similar to this sketch, leaving as much ground in front and end as possible,

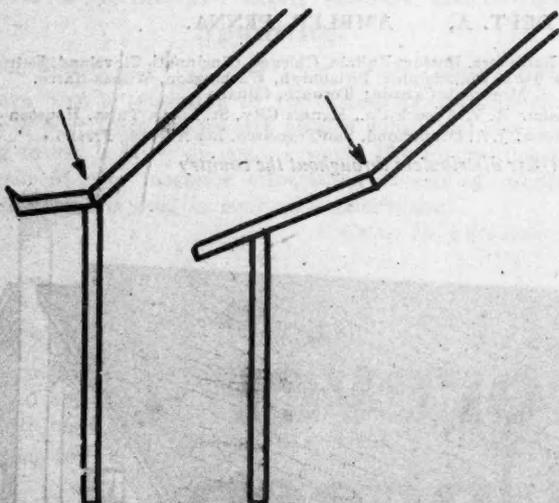
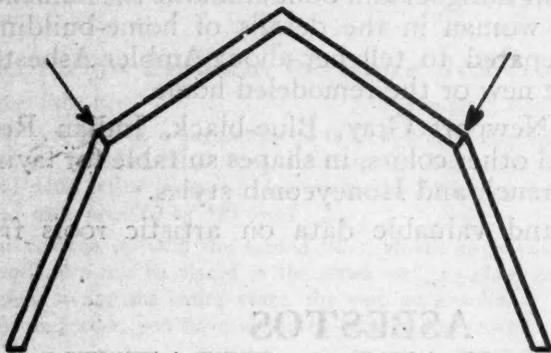


**What Location Is Best for a Bungalow on This Odd-Shaped Lot?**

having fair sized rooms, plenty closet room, with kitchen, pantry, living room, dining room, bath, and two bedrooms? Cobblestone porch columns and chimney on outside. Fireplace in living room. Building to be built of hollow concrete blocks and stuccoed.  
 EDW. E. WEAVER.

**Change in Pitch of Slope Causes a Puzzling Question**

To the Editor: Alton, Ill.  
 We receive your publication regularly and like it very much. I would like to ask thru your Question and Answer department if we have any dependable rule for making cuts at inter-



Should These Rafter Cuts Be Made?

sections where frieze board on gable meets horizontal return? Also where there is change of pitch in slope, as in sketch shown here.

I have a couple of books on carpentry, but do not find anything that meets this case.

W. D. CRAWFORD.

**Tell Mr. Chapman How to Make Good Blue Prints**

To the Editor: Mackinac Island, Mich.  
 Kindly send me instructions how to make blue print copies from tracings. I can't get them to come out plain.

WM. CHAPMAN.

**Who Will Answer These Questions?**

To the Editor: Okla, Okla.

Kindly give me all information on how to mix the materials and what kind of brushes to use to put on first-class stucco work, such as honeycomb dash and fine dash and also tell me what sized pebbles are used when they are put on with hawk and trowel.

A. J. TUFENBRUN.

**What Is Proper Sized Flue For Double Fireplace**

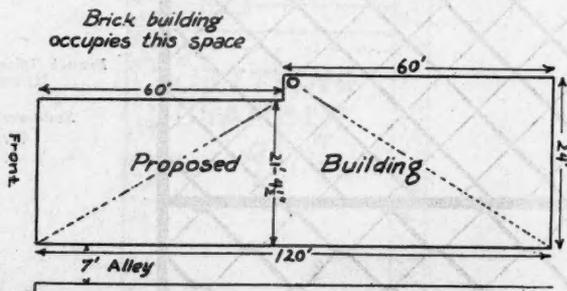
To the Editor: New York, N. Y.  
 Can you advise me the proper size flue to use for a fireplace, opening being 3' 6" on the front and 36" at the back, height of opening 2' 6" and depth 24"? It is my intention to put a fireplace of the above-mentioned size on both the first and second floors.

I would appreciate, also, if you would give me the size of the cheeks that would be required.

A. C. FRANKE.  
 The Isbrandtsen-Moller Co.

**Roof Construction Bothers Mr. Bowman**

To the Editor: Eldora, Iowa.  
 I am enclosing sketch of a brick store building to be built adjoining another building a part of its length, and would like to ask your opinion in regard to the roof construction.



**Drainage Requirement Complicates Roof Construction Problem.**

Dotted lines show course proposed for drainage to be conducted thru soil pipe or galvanized conducting pipe inside of building to basement. How would you build the trusses to support the roof and carry the ceiling?

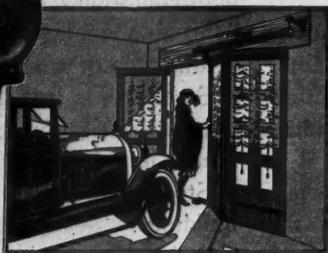
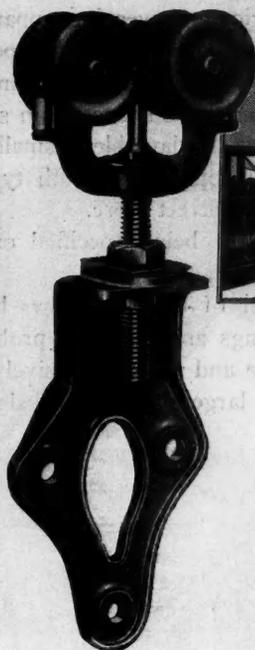
How much fall should it have in the 60 feet and what kind of roofing would be best to use?

W. H. BOWMAN.

# DEMAND

## ALLITH-PROUTY

**GARAGE  
and  
FIREDOOR  
HARDWARE  
and  
BUILDERS'  
HARDWARE  
SPECIALTIES**



**T**HE demand is here. Dealers all over the country are meeting it profitably with this firmly established line of fast repeating goods.

Every A-P Installation sells another. Ease of installation — long life, and easiest operation mark indelibly the superiority of these lines.

1080 Trolley-swivel sets for sliding-folding garage doors are especially in demand at this time when thousands of new garage buildings are being erected the nation over.

### ALLITH-PROUTY COMPANY

*Manufacturers*  
DANVILLE, ILLINOIS

We want you to have our Catalog No. 91 of Special Garage Door Hardware. Write for it today.



**ALLITH-PROUTY**  
*"Satisfaction in Hardware"*



## No Chains or Stay Bars on These Windows

REVERSIBLE VENTILATOR STEEL SASH CONSTRUCTION GIVES  
ADVANTAGES SURE TO ENCOURAGE MORE EXTENSIVE USE

**T**HE new Fifth Street Store in Los Angeles, designed by Architects Aleck E. Curlett and Claud Beelman, is representative of the modern office and store building design, where rolled steel windows of the reversible ventilator type are used in place of the wood or hollow metal windows of the vertical sliding type.

It is only recently that the steel window manufacturers have perfected a window of sufficient refinement to be used in buildings of this kind; their efforts have been previously directed almost entirely to industrial construction.

The new reversible ventilator windows, however, have many advantages, the chief one being that the ventilator opens either entirely outside or entirely inside the plane of the window, being balanced on arms which give them unusually easy operation, without the need of chains or stay bars. Being entirely

reversible, these windows may be washed on the outside without stepping out on the sill.

Good light is a quality which means greater customer satisfaction and increased business for the department store owner. Women want to shop where they can see fabrics and wearing apparel under daylight condition. The use of steel sash permits of more light, an advantage which is bound to increase the use of this type of window construction in store buildings.

Steel sash is just as adaptable to small windows as it is to large window openings. Both types are represented in the Fifth Street store.

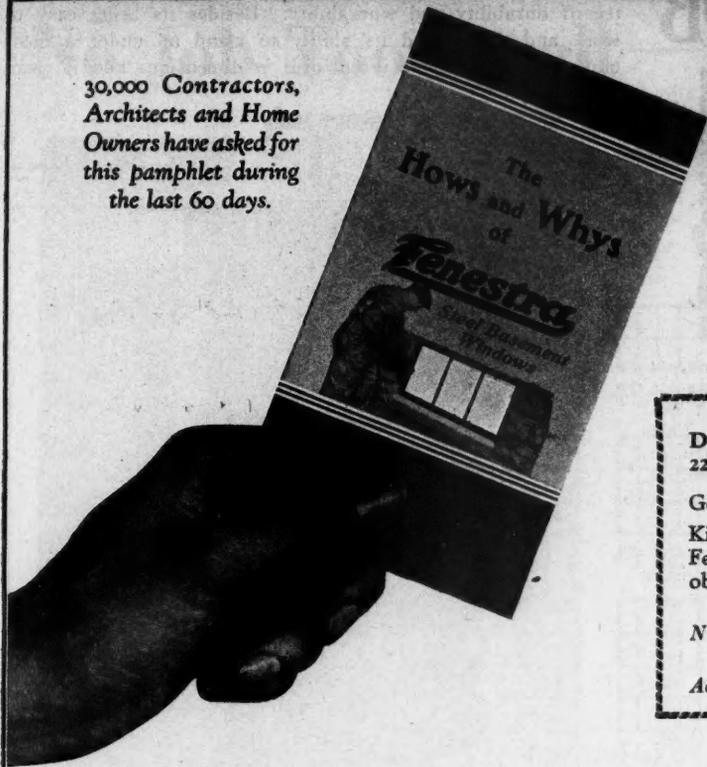
Steel sash is now being specified on all types of buildings.

A large number of these windows have been sold for school buildings and it seems probable that they will be used more and more extensively in metropolitan structures of large and practical design.



The Fifth Street Store is one of the building achievements of which Los Angeles is proud. It is windowed with reversible ventilator windows in steel sash. No chains or stay bars are used.

30,000 Contractors, Architects and Home Owners have asked for this pamphlet during the last 60 days.



## Get this FREE

pamphlet—full of practical information on the most popular home improvement—Fenestra Steel Basement Windows.

Detroit Steel Products Company  
2273 E. Grand Blvd. Detroit, Mich.

Gentleman:

Kindly send me a copy of "The Hows and Whys of Fenestra Steel Basement Windows". This incurs no obligation on my part.

Name.....

Address..... City.....

### For All Types of Basement Construction



Do you know how much easier it is to install a Fenestra Steel Basement Window than an ordinary wood basement window?

Send for a copy of the pamphlet illustrated above, and learn how you can save time, labor, and money on each installation.

Find out how you can use these new steel windows in any type of basement construction—brick, concrete block, brick veneer, poured concrete, tile, or field stone.

See for yourself the advantages of using a window that comes complete—sash fitted and hung, hardware in place, and the priming coat of paint, applied at the factory.

Home owners have been waiting for a steel window. The durability, strength, and trimness of steel is recognized. And when you can install a steel window for no greater cost than an ordinary wood window, there is no question about the choice between the two.

Thousands of these windows have been installed. They are now a standard basement window installation. You will want to use them in the next house you build.

Don't wait until one of your customers asks you to put in Fenestra Steel Basement Windows. Get this pamphlet today and be familiar with the simple methods of installation. This places you under no obligation, whatsoever.

**Detroit Steel Products Company**  
2273 East Grand Boulevard Detroit

*"The Largest Manufacturers of Steel Sash in the World"*

# Fenestra

STEEL WINDOWALS

# OUT ON THE JOB



## What Builders Are Finding Good

EDITOR'S NOTE: *The AMERICAN BUILDER does not accept payment in any form for what appears in our reading pages. In order to avoid any appearance of doing so, we omit the name of the maker or seller of any article we describe. This information is, however, kept on file and will be mailed to anyone interested; address AMERICAN BUILDER Information Exchange, 1827 Prairie Ave., Chicago.*

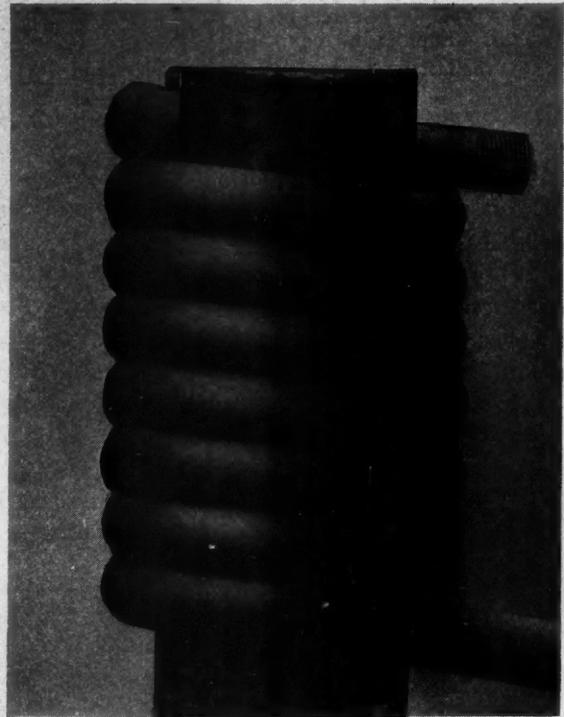
### Pipe Stands Brutal Test

A SPECIAL pipe that can be bent around a three-inch standard without opening the weld or flattening of the material is in use on many construction jobs.

While no pipe in every-day use is expected to meet a test as severe as that illustrated here, the builder can be sure that a pipe which passes such a severe test will give more than adequate service in regular use. This pipe is made from a superior grade of soft, tough steel. It is made especially workable by a special heat treatment. Being soft, it threads with special ease.

The maker puts emphasis on the ability of the weld to hold. Every length is tested under a severe water pressure

test and reaches the builder with the manufacturer's guarantee of durability and workability. Besides its being easy to work and thread and its ability to stand up under a most unusual test, this pipe is uniform in dimensions and is clean and smooth.



Special Pipe Can Be Bent Without Opening at Weld.



## A luxury window feature --- brought down to small house costs!

Ever since the invention of adjusters to control outswung casements from inside of screens, this type of window has been growing rapidly in popularity.

In the past their use has been somewhat limited by cost to the more expensive buildings.

Now, Robert C. Spencer, Jr., noted architect and inventor of our pioneer adjusters, has perfected a new principle and design, so economical that it will soon make casements the universal window; and these new adjusters are even more efficient and attractive than our popular Bulldog.

*Send us the name of your hardware dealer or jobber and we will be glad to mail you full details of the new "WIN-DOR" adjusters*

### The Casement Hardware Company

1307 Tacoma Bldg.

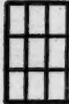
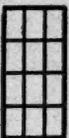
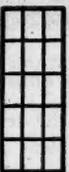
Established 1906

CHICAGO, U. S. A.

No Job Too Small—None Too Large

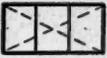
# TRUSCON

STEEL WINDOWS

							2 LIGHTS HIGH 3'-5 <sup>5</sup> / <sub>8</sub> "
	32	32-1-6-0	42	42-1-8-0	52	52-1-6-0	
							3 LIGHTS HIGH 5'-2"
23-1-4-1 2 LIGHTS WIDE 2'-5 <sup>5</sup> / <sub>8</sub> "	33	33-1-6-1	43	43-1-8-1	53	53-1-6-1	
							4 LIGHTS HIGH 6'-10 <sup>3</sup> / <sub>8</sub> "
	34	34-1-6-1	44	44-1-8-1	54	54-1-6-1	
							5 LIGHTS HIGH 8'-6 <sup>3</sup> / <sub>4</sub> "
	35	35-1-6-1	45	45-1-8-1	55	55-1-6-1	
	3 LIGHTS WIDE 3'-8"		4 LIGHTS WIDE 4'-10 <sup>3</sup> / <sub>8</sub> "		5 LIGHTS WIDE 6'-0 <sup>3</sup> / <sub>4</sub> "		

*Ventilators (indicated by crossed dashed lines) are horizontally pivoted 2" above centers*

## TRUSCON STOCK WINDOWS - 14" X 20" GLASS

	10" X 12" GLASS 2'-9 <sup>3</sup> / <sub>4</sub> " WIDE 1'-3" HIGH		10" X 20" GLASS 2'-9 <sup>3</sup> / <sub>4</sub> " WIDE 1'-11" HIGH
---	--	---	---

*(Ventilators are hinged at the top to swing in)*

## TRUSCON STEEL BASEMENT WINDOWS

You can get the Truscon Stock Windows, shown above, from Truscon warehouses located in the principal cities throughout the country, and from Building Supply Dealers practically everywhere.

For small buildings you will find Truscon Stock Windows cost as little as wood. No matter if you order one window or a hundred, you can get prompt delivery.

# TRUSCON STEEL COMPANY

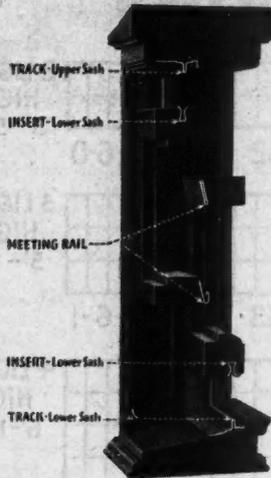
YOUNGSTOWN OHIO

*Largest Manufacturers of Permanent Building Products in the World.*

# HIGGIN

## ALL METAL

### WEATHER STRIPS



## The patent *Insert* strip makes Higgin Weatherstrips best to install and recommend

Higgin Weatherstrips are the only all-metal strips with the self-holding spring flange *Insert* in the sash. This *Insert* is important.

It makes a perfectly draft-tight contact at every point. Swelling or warping cannot prevent accurate fit and closure.

Without the Higgin Metal Insert the wooden groove will wear, swell or shrink, causing sticking or allowing seepage of air through the apertures.

Higgin Strips are "metal against metal all the way round." Higgin-equipped windows and doors always keep cold air out and warm air in, operate smoothly and easily, and never need refitting.

**Builders!** We have some profitable territory open for live contractor-agents. We may need a representative in your locality. Write for details of our proposition and free booklet on Higgin All-Metal Weather Strips.

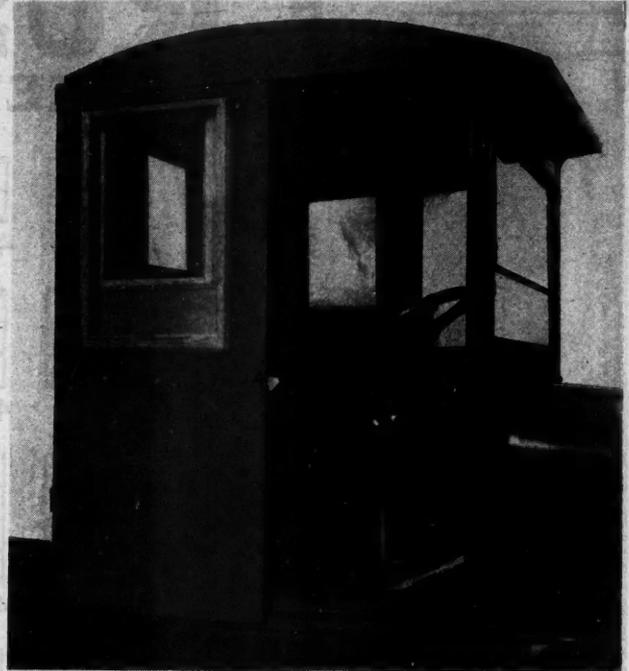
**The HIGGIN Mfg. Co.**  
Newport, Ky.  
Toronto, Canada.

Manufacturers of Higgin All-Metal Weatherstrips and Higgin All-Metal Screens

See our catalog in SWEET'S

## All Season Truck Cab Roomy and Comfortable

A YEAR-AROUND truck cab that avoids the discomforts of cramping and gives ample protection from bad weather is meeting with approval in the truck field. The cab shown



A Truck Cab That's Snug and Warm in Winter and Airy in Summer Weather.

here is four inches wider than the semi-inclosed type, has an unusually wide door, a roomy seat and is designed to give maximum comfort to the driver and his helper.

Provision has been made for a full, clear view of the road. Large front, rear and side windows assure a good view. In warm weather the windows and side doors may be dropped down out of sight and the rear windows thrown open, insuring a free circulation of air. When closed, the windows may be secured with fasteners. The doors are of the sliding type and will remain in a fixed position, whether opened or closed.

The elements of ruggedness, simplicity and economy of design and comfort in all kinds of weather have been well carried out in this cab.



## New Concrete Mixer

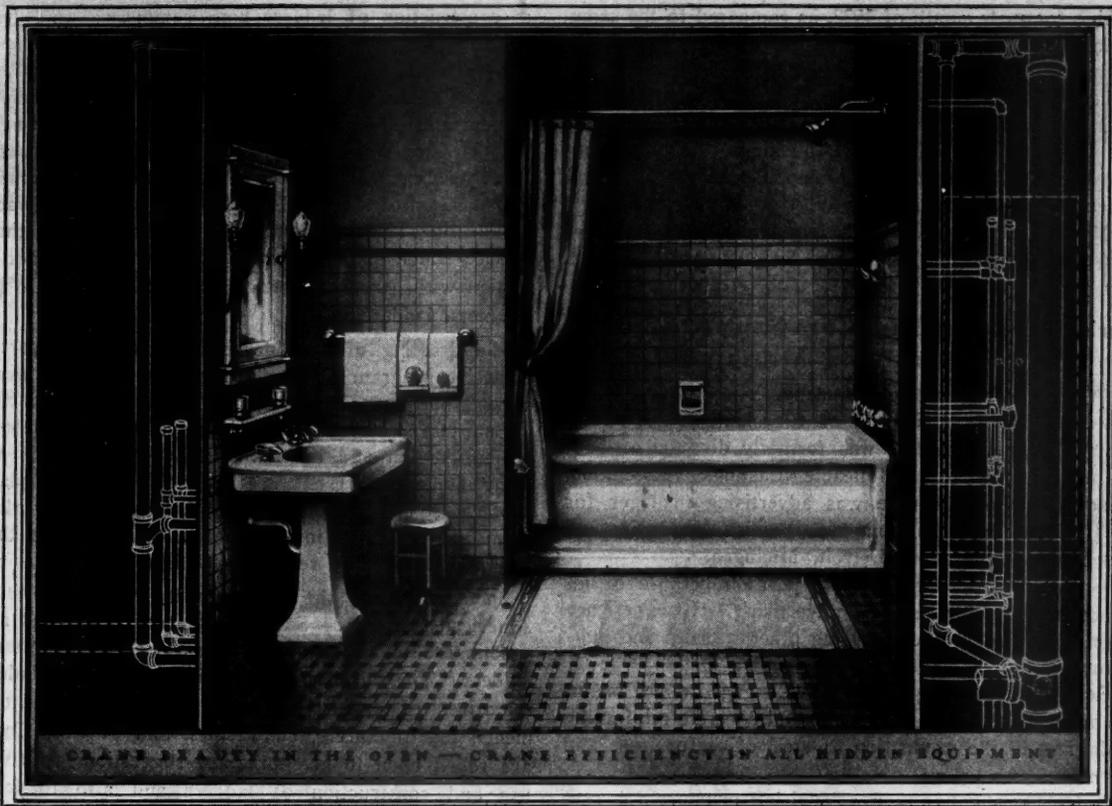
CONTRACTORS will be interested in a new portable turntable mixer, now on the market. This mixer is of truck construction and is mounted on steel truck wheels. The mixing barrel is mounted in a tilted cradle for charging. The cradle is mounted on a revolving turntable and can be loaded and dumped or discharged in almost a complete circle.

It is equipped with a gear drag, which is sufficient to revolve the table slowly to any loading or discharging position when the brake is released. It is also equipped with a two-horsepower gasoline engine which drives thru a shaft beneath the frame and up thru centrally driven bevel gears.

In construction this turntable mixer is strong but light in weight, weighing only 780 pounds—including the engine. It will make good road speed, and can be hooked to the rear of an auto or truck for hauling. It has a capacity of one-half sack or better—3 to 4 cubic feet.



ZINC sales show a steady gain. Demand has been increasing month by month since January 1.



For sixty-seven years, Crane Co. has been a leader in its specialized field. It is producing heating and sanitation equipment that meets the needs of the small dwelling and satisfies the exacting requirements of great town and country houses, towering office buildings, huge hotels, hospitals, schools and clubs.

Since 1855, Crane engineers and designers have striven successfully to create and perfect valves, fittings and specialties used in the piping equipment of industrial power, heating, refrigeration, water, oil and gas installations — in fact, “anything for any pipe line.”

# CRANE

GENERAL OFFICES: CRANE BUILDING, 836 S. MICHIGAN AVE., CHICAGO

*Branches and Sales Offices in One Hundred and Thirty-five Cities*

*National Exhibit Rooms: Chicago, New York, Atlantic City*

*Works: Chicago and Bridgeport*

CRANE, LIMITED, MONTREAL. CRANE-BENNETT, LTD., LONDON

CRANE EXPORT CORPORATION: NEW YORK, SAN FRANCISCO

CIE. CRANE, PARIS



### Not Suffering for Business

**P**RODUCTION, SHIPMENTS AND ORDERS for Southern pine for each month of 1922, as compared to the same months last year, all show substantial gains. May production was the heaviest recorded since in May, 1917. Orders booked by Southern pine mills in May established a new monthly high record, increasing 19.9 per cent over April, 69.3 per cent over January and 64.2 over May, 1921, bookings. Beginning in March, shipments made a decided jump, the May total being the largest reported since August, 1917, or 34 per cent above May, 1921, 19.5 per cent above the previous month and 60.4 per cent over January.



### General Fireproofing Company Appoints New Advertising Manager

**T**HE General Fireproofing Company, Youngstown, Ohio, has appointed R. S. Gildart of Cleveland, Ohio, advertising manager. Mr. Gildart was formerly director of publicity for the American Malleable Castings Association, Cleveland, prior to which he was advertising manager for the P. B. Yates Machine Company, Beloit, Wisconsin, and the Kelvinator Corporation, Detroit, Michigan.

Mr. Gildart was selected for the position because of his experience in the field of technical advertising. His experience combines a knowledge of engineering practice, sales and publicity work.

The General Fireproofing Company is engaged in the manufacture of metal lath, expanded metal and concrete reinforcing materials, and in the production of steel office furniture and equipment.

C. W. Noble, who has been advertising manager for several years, has been advanced by the company and will conduct market investigations and special research work.

### A Safety Code for Ladders

**T**O reduce the number of accidents arising from the faulty construction of ladders both commercial and temporary or field built, the Ladder Code Committee of the American Society of Safety Engineers has drafted a standard code which is about ready for final approval. This code lists in four groups those woods recommended for use in ladders and provides minimum dimensions for side rails and other parts based upon the respective strength of the various groups. Classification of the woods and their significant characteristics as affecting ladder construction was supplied by the Forest Service which made extensive investigation of wood in connection with aeroplane work. Stipulations are also provided for metal ladders.

The drafting of a ladder safety code is a part of the extensive program of standardization and safety work being carried out under the auspices of the American Standards Committee. This committee is surveying the whole field of standardization and attempting to co-ordinate the work of many bodies interested in the subject. Their plan is to appoint "sponsors" for various portions of the work to perform the necessary investigation and co-ordinate the existing material in their respective fields.

Sponsorship for the ladder safety code is vested in the American Society of Safety Engineers which has appointed a committee composed of all persons especially interested in ladders. The membership of this committee includes representatives of engineers, public bodies, government departments, manufacturers, contractors, and others. Contractors are relied upon to give practical suggestions relative to the use and construction of ladders and also to lend their co-operation in reducing the number of accidents arising from the use of field constructed ladders.

# MAGNESTONE

COMPOSITION FLOORING



*Put it on right over  
the old floors!*

**M**AGNESTONE flooring works equally well over an old or new wood or cement base. It is laid one-half inch thick in any of eleven colors and trowel finished like cement. Any competent mechanic can lay it.

MAGNESTONE permanently solves your flooring problem, giving you a durable, beautiful and economical floor for use in Hospitals, Schools, Residences, Stores and Industrial Buildings. You eliminate the upkeep.

#### CONTRACTORS AND BUILDERS:

Hundreds of America's leading architects, firms and individuals are MAGNESTONE users.

Write for our MAGNESTONE flooring proposition today and ask your dealer.

#### AMERICAN MAGNESTONE CORPORATION

Division of Floors

Installations Made Thruout United States and Canada

EXECUTIVE OFFICES SPRINGFIELD, ILLINOIS

Also Manufacturers of Magnestone Quality Stucco

Factories at Ottawa, Ill., Springfield, Ill., Kansas City, Missouri



A Typical Magnestone Installation in Hospitals, Hotels, Clubs, etc.

#### Magnestone Points of Merit

1. SANITARY
2. ATTRACTIVE
3. RESILIENT
4. FIRE PROOF
5. WATER PROOF
6. LIGHT WEIGHT
7. NOISELESS
8. WARM
9. NON SLIPPERY
10. ECONOMICAL



# Mule-Hide Cor-Du-Roy Panel Strip Shingles

PATENT APPLIED FOR

## Character in Roofing

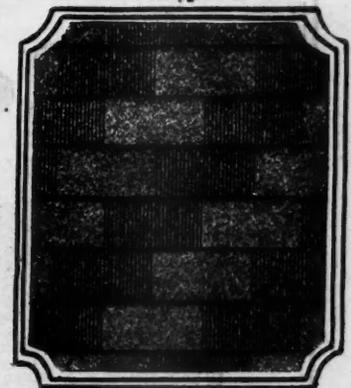
The quiet charm which Mule-Hide lends so effectively to the roof carries out the impression of good taste and refinement that every home owner desires to create.

This, with its honest quality and durability, has given Mule-Hide its enviable service record of

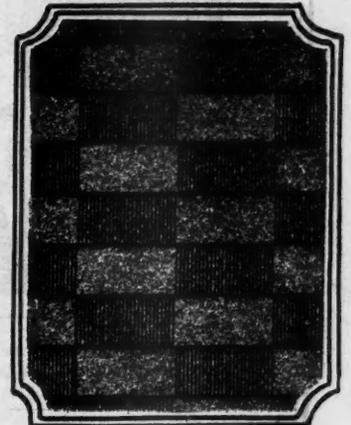
*"Not a Kick in a Million Feet"*

**Cor-Du-Roy Panel Strip Shingles** eliminate the ordinary slot of the Four Unit Shingle and with it all possibility of this shingle blowing up in the wind. The solid block construction prevents curling, and assures a complete two-thickness over the entire roof. The combined advantages of this Panel Strip provide the most attractive, enduring and satisfactory shingle on the market.

A most artistic effect can be made by alternating the plain and Cor-Du-Roy panels, giving a two-tone bonded effect. The diagonal shadow pattern is another attractive way of laying the Panel Strip to give the appearance of tile. From an artistic and practical standpoint, the Cor-Du-Roy Panel Strip is a fast winning favorite with home owners everywhere.



DIAGONAL EFFECT



CHECKERED EFFECT

Mule-Hide Cor-Du-Roy Panel Strip is 10"x32". There are 112 strips to the square which weighs 230 lbs. This will give a double thickness over the entire roof with 4" to the weather. The Super Mule-Hide Cor-Du-Roy Panel Strip is 12 3/4"x32". There are 112 strips to the square which weighs 285 lbs. The super strip assures three thicknesses over the entire roof with 4" to the weather.

In addition to the red and green surfacing we have a blue-black surfacing which is in great demand.

**THE LEHON CO.**  
44th-45th on Oakley, CHICAGO, ILL.

**THE LEHON COMPANY**

Dept. A.B. 44th-45th on Oakley, CHICAGO

Send me literature and sample of Mule-Hide Cor-Du-Roy Panel Strip Shingles.

Check whether—

- Dealer  Contractor  Architect

Name .....

Town.....

State.....

## NEWS OF THE FIELD

### Loss of \$125,000 in Fire

DAMAGE exceeding \$125,000 was done by a fire of unknown origin in the yard of the E. D. Voorhees Lumber Co., Frankfort, Ind. Several buildings were destroyed.



### Open New Yard

A NEW firm has entered the retail lumber field at Louisville, Ky. The concern is organized as the Corey-Scheffel Lumber Co. and has a well-arranged yard on Preston street. Buildings to cost about \$30,000 are being erected.



### Residences and Mill Burn

TWO residences, several box cars and a mill were destroyed by fire in a recent blaze at the plant of the Jackson Lumber & Supply Co., Jackson, Ky. The total loss is estimated at \$125,000.



### Agency for Northern California

SPEARSON-WELLS MACHINERY CO., 241 Twelfth St., Oakland, California, has been appointed an agency for handling in Northern California, of the sales of Smith Concrete Mixers, Pavers, and Excavators and Loaders made by the T. L. Smith Company of Milwaukee.



### Celebrate New Plant Opening

THE general public was permitted to enjoy the opening of the new plant of the Murphy Lumber Co., at Urbana, Ill., recently, an all-day reception and dance attracting large

numbers of people. Each visitor was taken thru the plant and impressed with the large stock of quality goods carried. Each guest was given a souvenir. The concrete drive-ways thru the yards were used as dance floors.



### Hill Succeeds Father

AT a recent organization meeting of the Speedway Lumber Co., Indianapolis, Herbert E. Hill was elected president to succeed his father, Forest A. Hill, who died recently. O. R. Mann was made sales manager and Phillip Mann remains as foreman. Charles Quick, formerly of the Brannum-Keene Lumber Co., has become identified with the Speedway Co.



### Market for American Hardwoods in Scandinavia Improving

ASSISTANT Trade Commissioner Sorensen, Copenhagen, reports to the department of commerce that the demand for American hardwoods in the Scandinavian markets has increased considerably during the past couple of months, and when compared with the generally depressed market conditions which prevailed in 1921 and the early part of 1922, it might even be characterized as brisk.

Complete exhaustion of high-priced pre-boom stocks, general improvement in the industries consuming this type of lumber, and decreased competition from German exporters are some of the principal factors causing the larger demand for American hardwoods. American prices are now almost at a level with German quotations, and as the quality of German hardwoods received in Scandinavia is of a decidedly inferior grade, the competition from Germany and Austria (especially German oak) is no longer so keenly felt as before.

# A Real Opportunity



Building costs are still high. And those who want to build are tempted to "cut corners" with cheap construction.

Here is a way to keep costs down, at no sacrifice of quality. Install CLOW GASTEAM heating—thus doing away with cellar, chimney, boiler and expensive piping.

The owner will have clean, dependable, convenient and economical heating—which cannot be said of the old fashioned methods.

Investigate GASTEAM heating—individual gas-fired radiators, generating steam heat.

**JAMES B. CLOW & SONS**

General Offices: 534-546 S. Franklin St., Chicago  
Sales offices in the principal cities

# CLOW

James B. Clow & Sons  
534-546 S. Franklin Street, Chicago  
Send me details of CLOW GASTEAM.

Name \_\_\_\_\_

Address \_\_\_\_\_



## Every architect will find this book of considerable value

NOT simply because of its helpful suggestions regarding the designing of private garage doors, but because of the time it saves in specifying the hardware to be used in hanging the doors.

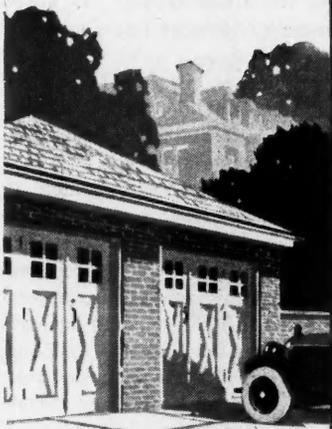
After you have determined the kind of door necessary for the particular garage you are designing, you merely turn to the page in the McKinney Garage Door Hardware Book devoted to that type of door. On that page you find a picture of the set of hardware necessary and the number of the set which can be used in your specifications. There are also simple working drawings to show just how the door should be hung for perfect operation.

Then the specifying of "McKinney Garage Door Set, Number 9025," or whatever the number may be, is all you need do to insure that you will include every article of hardware needed for that door and that the hardware will be of the highest grade—McKinney-made throughout.

The builder will appreciate the quality of this hardware and also the fact that it comes completely packed in a single box. There is absolutely no danger of it becoming mixed up with other hardware.

We will be glad to send you a copy of this book. And when it comes you'll be mighty glad you sent for it.

McKINNEY MANUFACTURING COMPANY, Pittsburgh  
 Western Office, Wrigley Bldg., Chicago      Export Representation



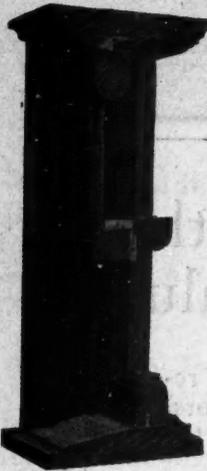
**McKINNEY**  
 Hinges and Butts  
 and Hardware

Also door hangers and tracks, door bolts and latches, shelf brackets, window and screen hardware, cabinet hardware, steel door mats and wrought specialties.

# McKINNEY

## Complete Garage Door Sets

## Allmetal Weatherstrip Contractors Make \$5,000 or More Yearly



Many of our agents are making big money acting as weatherstrip contractor-agents. Homes, office buildings, public institutions—all need this fuel saving equipment. Selling and installing weatherstrip is a big business.

### We Set You Up in Business

We furnish advertising literature, sales letters, estimate blanks, etc.,—in fact everything to set you up in business.

### The Big Fall Boom is Here

Buildings started all over the country in the Spring and Summer will be ready soon. There's a wonderful opportunity for the Weatherstrip Contractor-Agent who is equipped to handle this work. Present indications point to a coal shortage this winter. Building owners will want to conserve heat. Weatherstrip will be easy to sell.

### Equip Old Buildings Also

There are hundreds of older homes and office buildings in every locality—many being remodeled now, that need weatherstrip. Fuel saving in the face of a shortage makes a good selling wedge for the weatherstrip man. Conserving heat will be the first consideration of every building owners.

### Allmetal Weatherstrip, the Architect's and Contractor's Choice

Allmetal has been on the market for so many years and has rendered such satisfaction that it has become the favorite weatherstrip among contractors and architects. The building world knows Allmetal is the one weatherstrip that can be depended upon to give everlasting satisfaction.

### Weatherstrip Contractors Make Big Money

Besides having a fine income, the man who comes with us is getting into a business of his own. He will be his own boss. Work as hard as he pleases and earn as much money as he pleases. The sky is his limit.

Don't pass up this opportunity. Have a business of your own.

*Write for agent's plan today*

## Allmetal Weatherstrip Company

124 West Kinzie Street Chicago, Ill.

*Use the Coupon*

### Allmetal Weatherstrip Company

124 West Kinzie Street, Chicago, Ill.

Gentlemen:

Please send to me without obligation, complete literature and selling plan of your proposition.

Name.....

Street.....

City..... State.....

### Kelly Island Selects Officers

THE Kelley Island Lime & Transport Co., large producers of lime, at their recent directors' meeting, elected the following officials:

Chairman of the board, John A. Kling; president, George R. Johnson; first vice-president, E. W. Oglebay; second vice-president, F. A. Beckwith; third vice-president and general manager, G. J. Whelan; fourth vice-president, F. W. Ohlemacher; secretary and treasurer, C. A. McMorris; assistant general manager, A. B. Mack; assistant secretary and assistant treasurer, F. W. Kuhl; auditor, J. W. Longdon.

Other officers are: Sales Manager, Henry Angel, assistant sales manager, F. M. Pinnegar; purchasing agent, Victor Price; traffic manager, J. F. Potts.



### Wisconsin to Build More Roads at Less Cost

WHILE available funds for road construction in Wisconsin during the present construction season will be \$4,000,000 less than in 1921, more mileage is expected to be built than last year, according to A. A. Hirst, state highway engineer.

Final reports compiled by the highway department show that a total of \$26,300,000 is available for use on state roads, compared to slightly over \$30,000,000 expended last year. Of this amount \$6,000,000 is federal aid, \$13,800,000 state and largely county bond issue and \$2,000,000 county aid with \$4,500,000 for maintenance issue. Lower labor and material costs will make possible the increased construction which is expected to result in the building of 400 miles of concrete road from a smaller fund than was required in 1921 to build 350 miles, in addition to 1,500 miles of gravel highway and several hundred miles of grading.



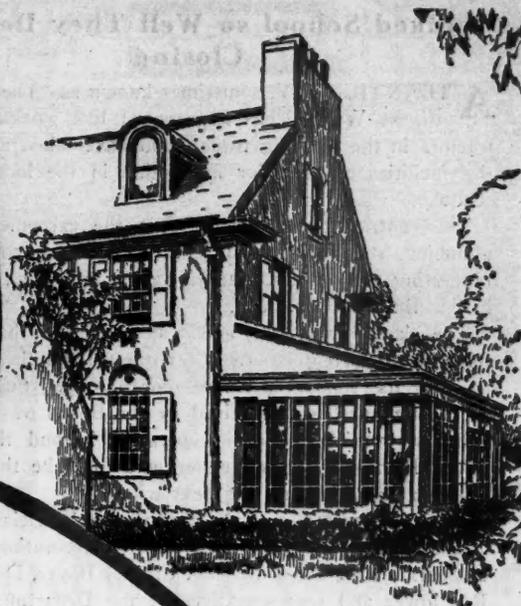
### Freight Rates Lowered for Southern Pine

FREIGHT rates on Southern pine lumber on July 1 were lowered from one to six cents per hundred pounds lower from previous charges. These reductions include the lower tariffs ordered in its recent decision by the Interstate Commerce Commission; effective July 1.

Generally speaking, Southern pine is reduced 1 cent per hundred pounds to points in Illinois, Ohio and Michigan; 2 cents per hundred to Indiana, 2½ cents to Buffalo-Pittsburgh, 5½ cents to New York and 6 cents to Boston and New England points. Rates effective July 1 are approximately 10 per cent under rates as of August 26, 1920.

Effective June 12, Southern pine rates to points in Missouri, Kansas and Nebraska on all principal lines were reduced generally 2 cents per hundred and that this applies also to certain Arkansas points and Council Bluffs, Ia., and includes such points as Kansas City, Topeka, Leavenworth, Wichita, Omaha, Lincoln, Nebraska City, etc. Effective on the same date rates to other points in Missouri and Iowa and certain points in Minnesota were reduced from one-half to 3½ cents. It is stated that possibly additional minor reductions will be made in this territory.

Reductions of 2 cents per hundred also became effective June 12 in the Oklahoma common point rate, this applying to all principal roads, and effective July 1, additional reductions of 10 per cent were published applying generally to Oklahoma points west of the Rock Island north and south main line thru El Reno. All pine lumber rates to Texas, with very few exceptions, are reduced 10 per cent starting July 1.



## Makes all the difference in the world

**H**OUSES of the better kind use plate glass in the windows as a matter of course. From inside or outside, plate glass windows impress the observer with a fine sense of perfect architectural finish.

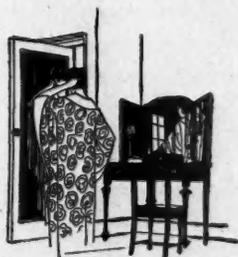
Plate glass makes all the difference in the world. Ordinary glass cannot compare with it in artistic effect. The true surface of plate glass, with its perfect reflections, is inviting and restful-looking, and a promise of an elegant interior. There are no humps and hollows, no wavy lines or accidental swirls, no distorted shadows that wave

and wiggle and annoy the eye.

Plate glass is the proper glass for a well-planned home, office building or hotel. It lifts a house out of the ordinary.

Inside of the house, too, there are dozens of uses for plate glass to make the home more livable, rentable or salable—plate glass shelves in the bathroom and kitchen, full-length plate glass mirrors in closet doors, plate glass doors for vestibules, plate glass push-plates for swinging doors. All these details can be installed at little cost, and in some cases the cost is less than other materials.

### PLATE GLASS MANUFACTURERS of AMERICA



#### Use Plate Glass for:

- Table Tops
- Mirrors
- Windshields
- Closed Car Windows
- Desk Tops
- Ventilators



### Liked School so Well They Delayed Closing

ATLANTIC CITY, sometimes known as "The Playground of the World," has a group of live workers and contractors in the building trades who have taken advantage of the facilities existing for instruction in the local vocational school.

The contractors and workers in the carpenter, electrical, plumbing, steamfitting and sheet metal work co-operated in requesting the organization of classes in these trades and in having the workers attend.

The classes were so popular and practical that the Board of Education complied with a request from these mechanics to keep the school open one month longer than scheduled, the first request ever received by the Board of Education to keep an evening school in operation beyond the scheduled time. Plans are already under way to make the instruction more extensive during the next winter.

The representatives of the carpenters, electricians, plumbers, steamfitters, sheet metal and interior decorating crafts will co-operate with Superintendent Charles Boyer, Director Frank R. Flower and representatives of the Department of Public Instruction of the State of New Jersey to determine the type of instruction best suited to meet local conditions.



### Slate Interests Join Hands to Save Declining Business

INDUSTRIES, like human beings, get seriously ill and, if their troubles are not diagnosed and the proper remedies applied, they droop and some of them die. Of late various doctors of industry have been in consultation at the Engineers' Club in New York on a very complicated case. It

is that of the slate business of America. To the average citizen the slate business does not mean much, but normally it runs into millions of dollars a year. In Vermont, New York and Pennsylvania the slate business bulks big. Many men depend upon it for a livelihood. But for years it has been going into a decline.

There was a time when slate was in big demand. It was used largely in roofing, in flooring, in electrical switchboards, in blackboards, billiard tables, etc.

In the last ten years, owing to bad business methods, slate has slumped dreadfully in many lines of employment. In roofing the decline has been 75 per cent. In only one large department has there been strength. That has been in exports.

There used to be 200 or more producers working slate quarries. Now there are only 100.

Governmental authorities have taken cognizance of the situation because there are valuable by-products of slate that will be lost if the industry does not flourish.

The new plan on which the producers are to work has not been formulated, but it is pretty well understood there will be a national campaign of education thru advertising to acquaint the public with the worth of slate and promote its use. Today less than 2 per cent of the roofs of structures in America are of slate. By co-operative effort and sound development they believe this easily can be increased to 5 per cent.

The slate people have been slow to awake. The cement manufacturers and distributors, the paint and varnish manufacturers and scores and scores of others have formed co-operative organizations for promoting their industry by working together for better products and better service to the public.

There are other industries that are sick and need the same medicine the slate people are taking. It's good medicine. It means better material, less of waste, and more ultimate good to all.

# SAGER METAL WEATHER STRIPS

THE TEST of actual service month after month, year after year, by thousands of users everywhere, is a selling argument that's as sound as the Rock of Gibraltar. Products are like men—their value can be proved only by service.

SAGER equipment has stood the test where others failed and is growing more popular every day.

REPUTATION is worth everything in the product you buy because it is the equivalent of an insurance policy protecting your investment.

THE ACTUAL REASON behind popularity is nothing more or less than the concrete proof the product has delivered the goods.

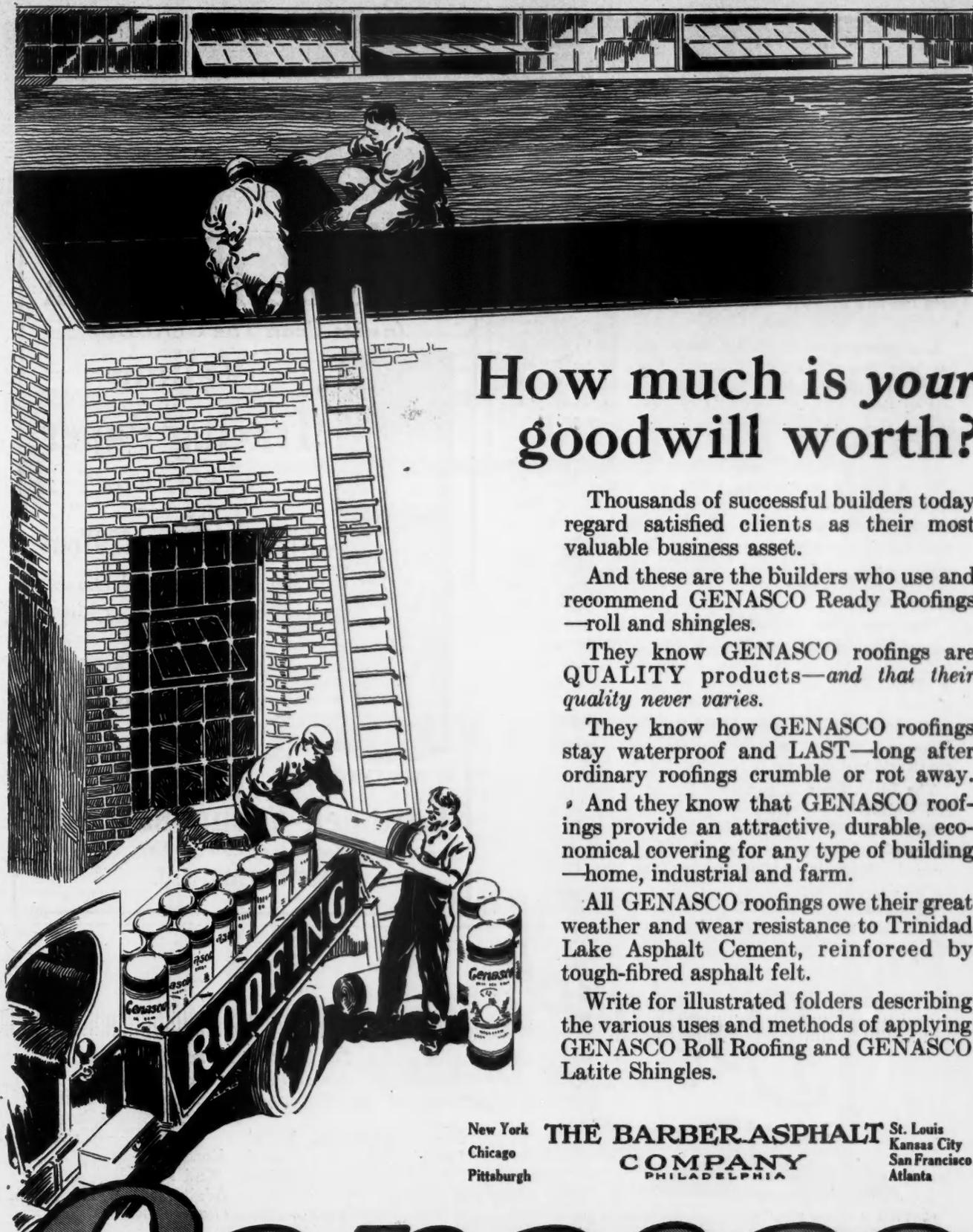
Popularity is the public's PERSONAL RECOMMENDATION

*Some good territory open for live agents*

**SAGER METAL WEATHERSTRIP CO.**

162 West Austin Avenue

CHICAGO, ILLINOIS



## How much is *your* goodwill worth?

Thousands of successful builders today regard satisfied clients as their most valuable business asset.

And these are the builders who use and recommend GENASCO Ready Roofings—roll and shingles.

They know GENASCO roofings are **QUALITY** products—and that their quality never varies.

They know how GENASCO roofings stay waterproof and **LAST**—long after ordinary roofings crumble or rot away.

And they know that GENASCO roofings provide an attractive, durable, economical covering for any type of building—home, industrial and farm.

All GENASCO roofings owe their great weather and wear resistance to Trinidad Lake Asphalt Cement, reinforced by tough-fibred asphalt felt.

Write for illustrated folders describing the various uses and methods of applying GENASCO Roll Roofing and GENASCO Latite Shingles.

New York  
Chicago  
Pittsburgh

**THE BARBER ASPHALT**  
**COMPANY**  
PHILADELPHIA

St. Louis  
Kansas City  
San Francisco  
Atlanta

# Genasco

*Asphaltic Roofing, Flooring, Paints and Allied Protective Products*

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

### Books, Booklets and Catalogs Received

"Save the Surface News" has just made its first appearance. It is a monthly publication devoted to the paint field and promises to be useful. Any person desiring to be put on the mailing list should address "Save the Surface" Campaign, 507 The Bourse, Philadelphia.

**Architectural Specifications** is a well illustrated informative twenty-five page booklet issued by J. B. Cornish & Co., Chicago. It contains authoritative facts concerning varnishes, enamels, stains, cement coaters and wall and woodwork paint.

"**Modern Homes**" published by the Southern Pine Association, New Orleans, proved so popular the edition was exhausted. A special revised edition of 100,000 copies has been run and is now being distributed. The book contains a number of home plans.

A supplement to "**Brick for the Average Man's Home**" has been prepared by the Common Brick Manufacturers' Association, 1300 Schofield Building, Cleveland, O., and will be given, without extra cost to every purchaser of the book. The supplement contains many excellent designs of brick homes.

"**The Lien Law of Illinois**" written by Charles E. Davidson, Greenville, Ill., is now ready for distribution. The book was written with the approval of the Illinois Lumber Merchants Association. The lien law is reviewed by sections. The work points out the different relationships between owner, contractor and sub-contractor and also contains chapters on chattels and personal property. Price \$5.50.

"**Protection for Buyers of Pine**" reviews the seventh annual meeting of the Southern Pine Association and contains other valuable information concerning pine lumber. It is published from the office of the secretary of the association, J. E. Rhodes, New Orleans.

"**Compo-Board**" is published by the Compo-Board Co., Minneapolis, Minn., and gives important information and construction directions concerning the product.

**The Idaho Forester** published by the Associated Foresters, University of Idaho, Moscow, Idaho, is not only an example of high grade printing but is rich in facts about the work of the forestry school and forestry matters in general. Many interesting articles have been contributed by leading authorities.

The Truscon Laboratories, Detroit, Mich., have issued

a handsomely dressed and detailed book under the name **The Architects Specification Hand Book**. It is intended to give architects and engineers the information they require for specifying waterproofings, damp-proofings, oil-proofings, floor hardeners and protective finishes. The book is clear and concise and thoro.

**Cornell Bulletin Board**, the monthly publication of the Cornell Woods Product Co., 190 N. State St., Chicago, is a bright and helpful little magazine which will be read with interest by every builder. It gives practical ideas on building, advertising and selling.

## The Wise Draftsman

Insists Upon The GENUINE

# Vellum Tracing Paper

"In Red Tubes"



A Proven Success of 20 Years

Vellum is Strong and Durable and Saves  $\frac{2}{3}$  the Cost of Linen.

The Sooner the Better.

Start Now. Samples Free.

Your Dealer or We The Makers

IN RED TUBES

## Cardinell-Vellum Mfg. Co.

Imitators Flatter Us.

MONTCLAIR, N. J.

# Bostwick

"TRUSS LOOP"



BOSTWICK "Truss Loop" effects an actual saving of money for the Contractor and Builder in five distinct ways, viz.: In Time, Labor, Studding, Lath and Waste Plaster. While more expensive in first cost, Bostwick "Truss-Loop" is the cheapest in finished wall cost per square yard, and it endures.

The Bostwick Steel Lath Co., Niles, Ohio

### The Complete Bostwick Line

"Truss-Loop" Metal Lath	Channel Iron
"Diamond A" Expanded Metal	Corner Bead—Rail
"Niles" Expanded Metal	—Standard
"Lock" Expanded Metal	—Truss-Wing
"Truss-V-Rib" Re-enforcement	Base Bead
	Wall Plug
	Wall Ties—Y, No. 1, No. 2

Write for prices and full information

# Bostwick

BUILDING MATERIALS

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

**Like the  
Pyramids**



**Brasco**  
COPPER  
STORE FRONTS

**ARE BUILT TO ENDURE**

Brasco fronts embody not only strength and long life, but have a magnetism for greater business due to the many advantages in display. Where unattractive display windows turn away trade, Brasco draws it like a magnet, increasing the merchants profits and consequently promoting more installations of Brasco fronts for the Builder.

**BUILDERS**

There's a good profit for you installing Brasco fronts. Take an inventory of your town. You will find many old fashioned and unattractive stores that are live prospects for Brasco Copper Store Fronts.

Brasco Fronts are quickly and easily installed at a low cost to the merchant and a good profit to the builder.

SEND FOR OUR PROPOSITION

**BRASCO MFG. CO.**

5025-35 SOUTH WABASH AVENUE

CHICAGO

**MAIL THIS COUPON**

BRASCO MFG. CO., 5035 South Wabash Avenue, CHICAGO

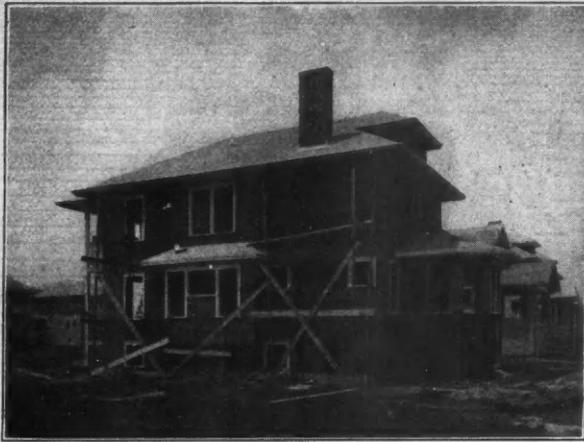
Please send catalogue No. 26.

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**"Will Outlast Them All"**

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



Ready for Stucco—One of the Houses in a large development at La Grange, Ill., for R. G. Hancock & Co., Chicago, Owners and Builders. In all these Houses E-COD FABRIC "the Ideal Plastering Base" is giving better walls at a lower cost.

## BUILD BETTER FOR LESS COST

You can cut the cost on every job, and give better walls, just as these big operators are doing, by using as a base for all exterior stucco and interior plaster

### E-COD FABRIC

The Ideal Plastering Base  
For Outside and Inside

Every Builder who knows E-COD FABRIC is an enthusiastic booster. You will be, too, when you look into it. It saves you money in every operation.

**Fire Retardant**

**Sound Deadening**

**Insulating**

**Rust Proof**

*It saves 40% to 60% of plaster on the scratch coat, and saves time in application.*

*Prevents checking and staining of plaster on interior walls.*

*You can decorate at once.*

Don't wait longer. Investigate by writing our office today. Ask us for proofs.

**M. J. MacAdams Corporation**

Conway Building  
Chicago

101 Park Avenue  
New York



"A Job That Took a Million Years" is the title of an interesting and elaborate booklet issued by The Ohio Hydrate & Supply Co., Woodville, Ohio. With its many pictures and interesting text it gives a graphic story of the refining of basic materials into lime, an important commodity for the building trade.

Wolff's Plumbing News is a newcomer in the field of private business papers, but it has the appearance of a well seasoned and thoroly established publication. It is filled with interesting news about the Wolff Manufacturing Co., 255 N. Hoyne Ave., Chicago, and the plumbing field in general.

Modern Plumbing Illustrated is one of the largest and most complete works ever issued about plumbing problems. Its author, R. M. Starbuck, is an authority and the book is notable for the generous amount of detailed drawings which explain the text. Various types of buildings and boilers are discussed and there is helpful instruction for the plumber who handles small buildings as well as the city worker. Modern Plumbing Illustrated is issued by Norman W. Henly Pub. Co., 2 West 45th Street, New York. Price \$5.

"Door-Ways," the monthly publication of the Richards-Wilcox Co., Aurora, Ill., is always a bright and helpful source of information about door hangers, window hardware, etc. The July number has among other features an interesting, well illustrated article on summer porch window hardware.

Syphon Heating Specialties is the name of catalog No. 100 published by The Fulton Co., Knoxville, Tenn. Between the covers of this pocket sized book the company has crowded a world of useful information on temperature and pressure controlling instruments, valves, radiator shields, regulators, etc.

The Lehon Co., 44th Street and Oakley Avenue, Chicago, have ready for distribution a number of new folders and booklets pertaining to Mule-Hide roofing. Their dealer co-operation, advertising helps and other interesting phases of the company's merchandising plan as well as information about the product are contained in this new and especially well prepared series of printed helps.

Catalog No. 35 showing the vises and hardware specialties of the Athol Machine & Foundry Co., Athol, Mass., is now ready for distribution. The various products are illustrated and described in detail.

Southern Pine tells the story of pine as a work of nature and a commodity of commerce in a manner that engages the attention and keeps the interest. The booklet is well illustrated and shows the many forms of construction in which pine can be successfully used. It is published by the Southern Pine Association, New Orleans.

"World's Metric Standardization, An Urgent Issue," by Aubrey Dury, has just been received from the World's Metric Standardization Council, 681 Market Street, San Francisco. The book deals with the "master standards" of the world, these being the three metric units, the meter, liter and gram. The book regards the lack of world metric standardization a grave question for the American business man and urges that the book should be read by every commercial organization staff, manufacturer, world trader and grower. Price \$5.

## STEEL AND WOOD SASH FOR SALE

50% Below Cost

### STEEL SASH

36 only, 3'3-1/4" x 3'1-1/4", 10 lights, 12" x 18"

60 only, 4'10-1/4" x 3'6-1/4", 8 lights, 14" x 20"

### WOOD SASH AND FRAMES

1800 Single Sash 3'6" x 3'6" x 1-1/4", 12 lights, 9" x 12"

200 Double Hung 3'6" x 6'7" x 1-1/4", 24 lights, 9" x 12"

Write for prices.

THE RYTHER-PURDY LUMBER CO.

Grand Central Terminal

NEW YORK, N. Y.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



# Carey

## MICA-KOTE ROOFING

### Unusual satisfaction for builder and owner

The extra toughness of Carey Mica-Kote means that it will not tear when applied, nor be ripped up by the wind, nor pull off the nails like an inferior piece of goods.

The felt is *ALL RAG* felt (contains no paper shoddy), and consequently absorbs more water-proofing oils and weather-resisting asphalt. It is surfaced with fine scales of crushed mica (isinglass). They shed water and make the roofing stronger.

There is no roofing of similar weight and price that will give so much wear per dollar, and reflect so much credit on the man who puts it on. Write for samples to

**THE PHILIP CAREY COMPANY, 510-530 Wayne Ave., Lockland, Cincinnati, O.**

### Borrow to Build

MORE than seventy-five per cent of the \$600,000 which the government has loaned farmers in Canada was borrowed to build new buildings.

### Michigan Pays the Piper for Loss of Lumber

MICHIGAN'S wood-using industries are now paying the economic piper for the State's quarter century timber debauch, according to a statement just issued by the Forest Service of the United States Department of Agriculture, whose experts are engaged in a study to determine the effects of forest devastation on population, agriculture, industry, and economic life in that State.

The forests of Michigan, the statement continues, as a result of devastating fires and reckless cutting are now so greatly depleted that they produce chiefly fuel-wood and other minor forest products instead of high-grade lumber on which the State's main industries depend. The building trades and the automobile and furniture industries of Michigan must largely import their supply of high-grade lumber from other States instead of growing it at home.

For the most costly classes of woods, such as those used for automobiles, furniture, and building, Michigan goes as far south as the Gulf and as far west as the Pacific; it imports all told a little more than a billion board feet of lumber and timber annually, of which 400,000,000 came from the Gulf Coast region and nearly 180,000,000 feet from the Pacific Northwest. For these amounts the State pays not only an enormous freight bill but also the high prices incident to constantly dwindling forests.

The reforestation of Michigan's denuded lands would after a few decades, say forest experts, not merely stop these costly

importations but go far toward re-establishing the State's lost leadership in her once greatest industry, lumbering, and put it upon a permanent basis.

### Building Boom Still Booms

PARTIAL reports for June and July indicate a healthy situation in the building field. Complete reports for May show a sharp gain over the previous month.

Building contracts awarded in the twenty-seven northeastern states totaled \$362,590,000, or nearly \$10,000,000 greater in May than in April. The square feet of floor space reported amounted to 59,639,000. This established new high records for the industry, both in value and in volume. Residential buildings were valued at \$140,933,000, compared with \$132,478,000 in April. Business buildings accounted for \$57,515,000 and industrial buildings another \$23,893,000. Public works and public utilities were valued at \$63,817,000, a decrease of nearly \$12,000,000, compared to April, but far higher than any other month in the past year and a half. There was a large increase in the contracts awarded for social and recreational buildings in May.

In general, the total value of contracts awarded in May increased much more than the amount of floor space. This emphasizes the facts brought out by other data, indicating a substantial increase in the cost of construction. All index numbers of construction costs increased during May. A. B. Thaw's index for concrete construction rose from 157 on May 1 to 169 on June 1. This was due to the rise in both material and labor costs. Other indices showed similar trends.

The production of most building materials, so far as reported, also increased in May. This was particularly true of cement, the May output amounted to 11,176,000 barrels and shipments totaled 12,897,000 barrels, thus establishing new high records in this industry.

# BOMMER

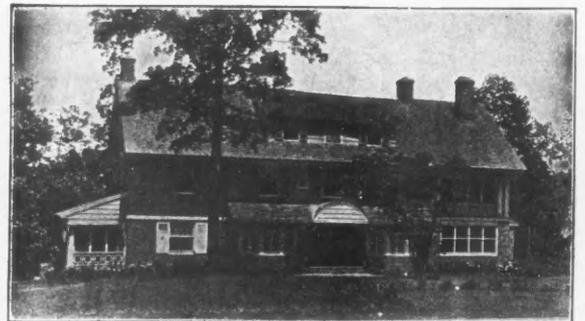
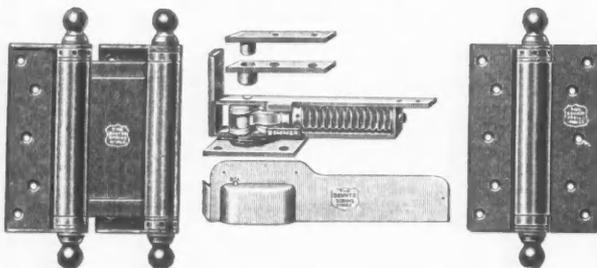
Is the "synonym" the world over for all that is best in Spring Hinges

It arouses the sense of "Quality" in every expert on building construction



**BOMMER SPRING HINGE CO., Brooklyn, N. Y.**

ESTABLISHED 1876



Stained with Cabot's Creosote Stain.  
B. V. White, Architect, New York

## Save Half Your Painting Bill

You can actually save more than half the cost on both material and labor, and get better results in beauty of coloring, wearing qualities and wood preservation, by using

### Cabot's Creosote Stains

instead of paint, on shingles, siding and all similar outside wood-work. The colors are rich and handsome, not "painty." They wear as long as the best paint and wear better, and they are made of creosote, which penetrates the wood and thoroughly preserves it

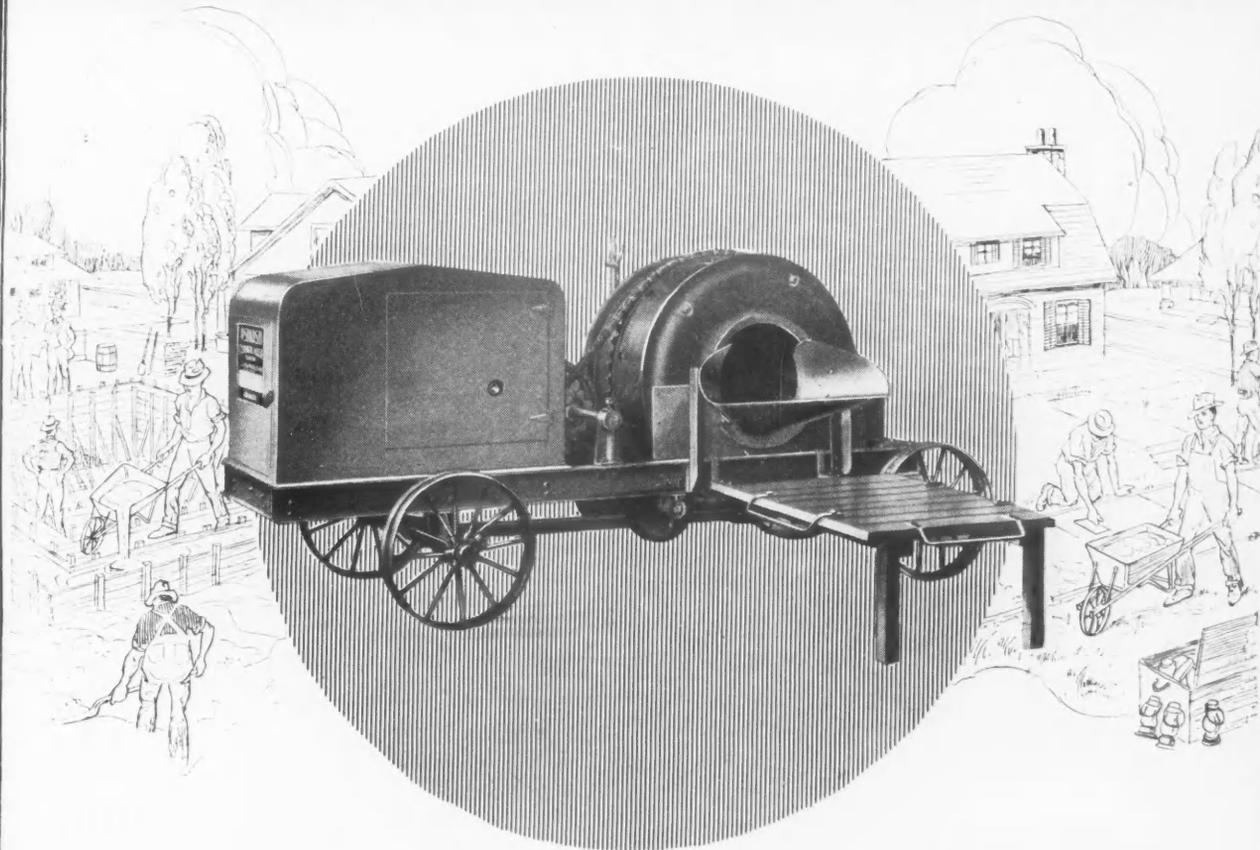
### Cabot's Quilt

A genuine house-warmer. It's a cushion of dead-air spaces and is 30 times warmer than building paper. Quilt will pay for itself in a short time in saving coal, to say nothing of making the house comfortable for all time. Also a complete sound-deadener.

You can get Cabot's Stains and Quilt all over the country. Send for samples and names of nearest agents.

**SAMUEL CABOT, Inc., Mfg. Chemists**  
BOSTON, MASS.

342 Madison Ave., New York 24 W. Kinzie St., Chicago  
Cabot's Conserve Wood Preservative, Stucco Stains, Brick Stains, Damp-Proofing



## Why Do You Buy a Concrete Mixer?

Your answer is the reason why you ought to be sure that the outfit is an **"Oshkosh"**. You buy a concrete mixer to save time and labor—to speed up your work and to get it done with less help, at a lower cost, and do a better job than would be possible by the old "hoe and strong arm" method. The **Oshkosh** low-charging mixer fills the bill in every respect.

Simplified, centralized one-man control; rapid charging, mixing, and discharging, are features that save labor and time, and the Oshkosh five-motion mixing action assures a better job of mixing. Large drum rollers, extra wide bearings, and silent chain drive reduce wear and power to a minimum, thereby cutting operating costs. Rugged construction throughout, and a liberal margin of surplus power from engine or motor assures continuous-service dependability, regardless of constant, heavy-duty operation.

An **Oshkosh Concrete Mixer** will save you time and money on every job where there is concrete or mortar to be mixed. Let us help you determine the size that will best suit your particular needs. Write today.

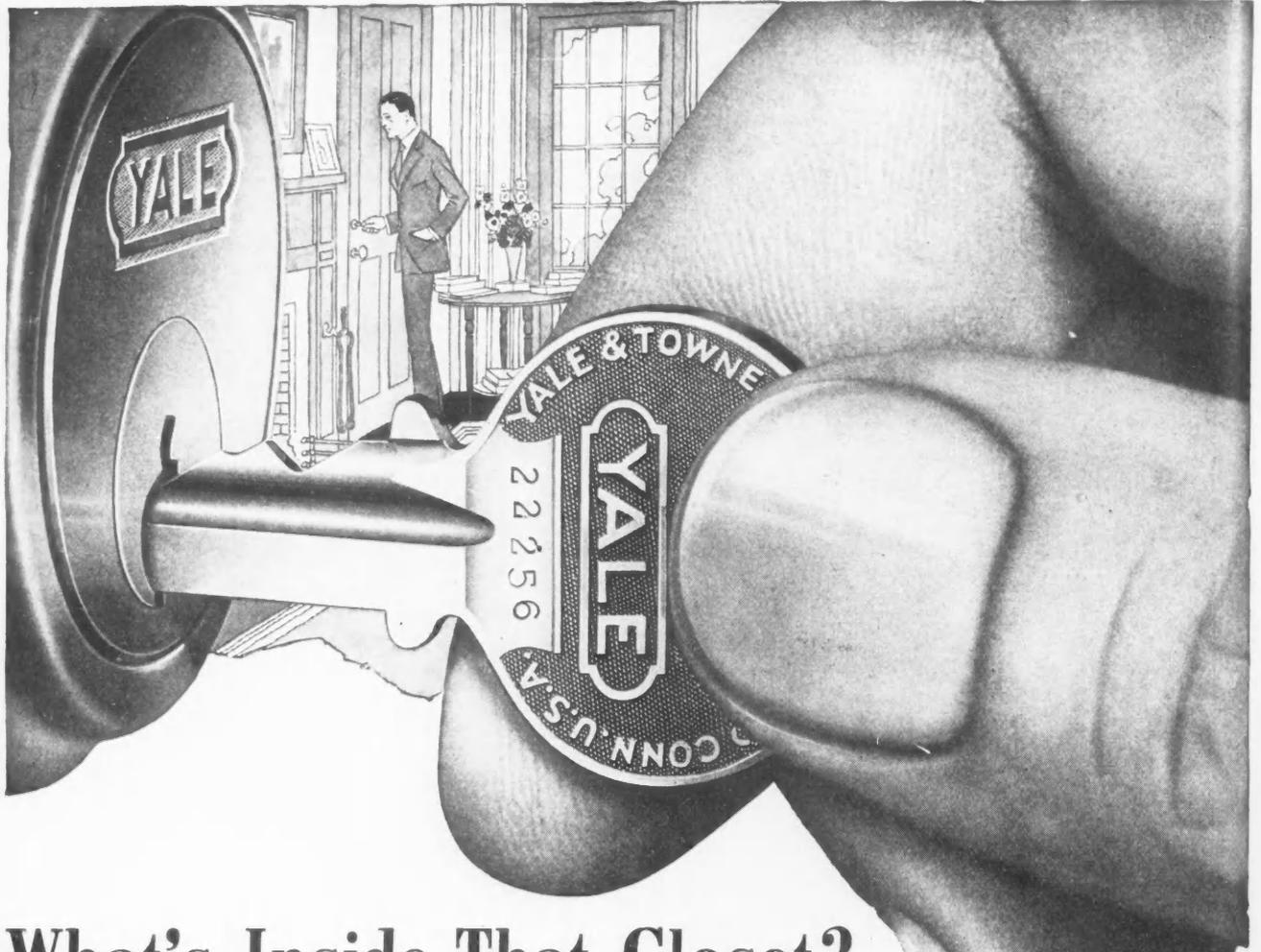
**Oshkosh Manufacturing Company**

112 Amber St.

Oshkosh, Wis.

# OshKosh

## CONCRETE MIXERS



## What's Inside That Closet?

**I**N every home there should be at least one closet or storeroom equipped with a sturdy lock. That should be the place to store your out-of-season clothing, your silverware, your guns and fishing tackle—and other precious belongings. And you ought to be very sure that no one but yourself can open that closet door. For when you *do* lock a closet door, or any other door, you want it to stay locked; securely buttressed against attack.

Keep your belongings safe from prying eyes and fingers—from the curious servant, or the too inquisitive child, as well as the thief who climbs in through the window.

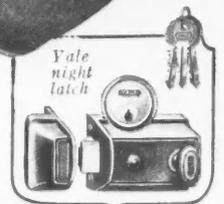
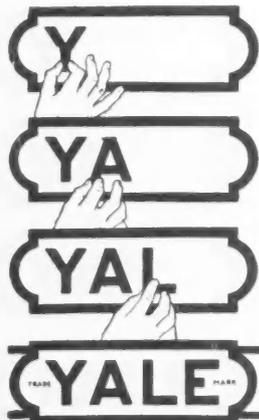
Put a Yale Cylinder Lock on your wardrobe door. Your wearing apparel will then be wholly yours. And other highly valuable property you are keeping in some closet about the house should be Yale protected also.

You buy a Yale lock *once*—that lock, so marked, remains in service for a lifetime. A Yale-locked door steadfastly protects the property committed to its care. Yale security is written in the name YALE on every Yale made lock.

For sale by hardware dealers everywhere.

The Yale & Towne Manufacturing Co.  
Stamford, Conn., U. S. A.

Canadian works at St. Catharines, Ont.



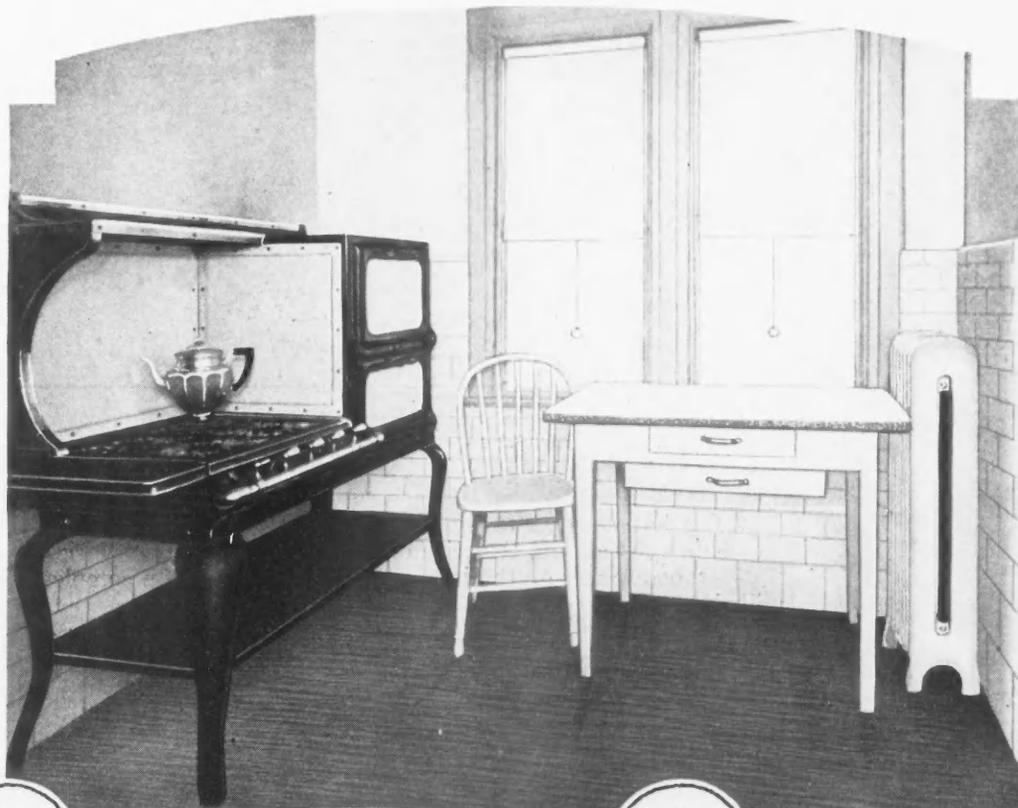
### YALE MADE IS YALE MARKED

Padlocks, Night Latches, Dead Locks, Builders' Locks and Trim, Cabinet Locks, Trunk Locks, Automobile Locks, Bank Locks, Prison Locks, Door Closers, Electric Industrial Trucks, Chain Blocks, Electric Hoists, Trolleys

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

# Armstrong's Linoleum

## for Every Floor in the House



Look for the  
CIRCLE "A"  
trademark on  
the burlap back



### Builder Installs Linoleum Floors In 58 Long Island Residences

**W**HEN the Stewart Willey Company were building this block of fifty-eight residences in Incens, Borough of Queens, Long Island, they had floors of Armstrong's A gauge Jaspe Linoleum installed in all the kitchens and breakfast rooms.

Linoleum floors were specified and installed in these new homes, not only because they are the best floors for the purpose, but also because they help *to sell* the houses.

Here are a few reasons why a linoleum floor appeals to home builders:

1. Its smooth, crackless surface is sanitary and easy to clean.
2. The pleasing colorings and designs in Armstrong's Linoleum make cheerful, good-looking floors.
3. Linoleum is resilient—hence quiet, comfortable and non-slippery.
4. Linoleum can be readily installed over either wood or concrete underfloors.

The people for whom you are building homes are learning of the new uses of permanent floors of Armstrong's Linoleum in the pages of the leading magazines. Why not be prepared to answer their questions intelligently, by writing for samples and the 16-page illustrated portfolio, "Decorative Floors"?

**Armstrong Cork Company, Linoleum Division Lancaster, Pa.**



**Kitchen in Incens, Queens, L. I.** 58 houses built by Stewart Willey Company. All Kitchens and Breakfast Rooms floored with Armstrong's A Gauge Jaspe Linoleum, laid on concrete underflooring over felt lining by Conradson & Hill, New York City.

#### To Lay a Permanent Linoleum Floor

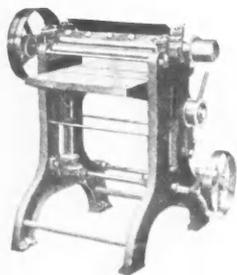
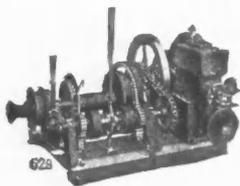
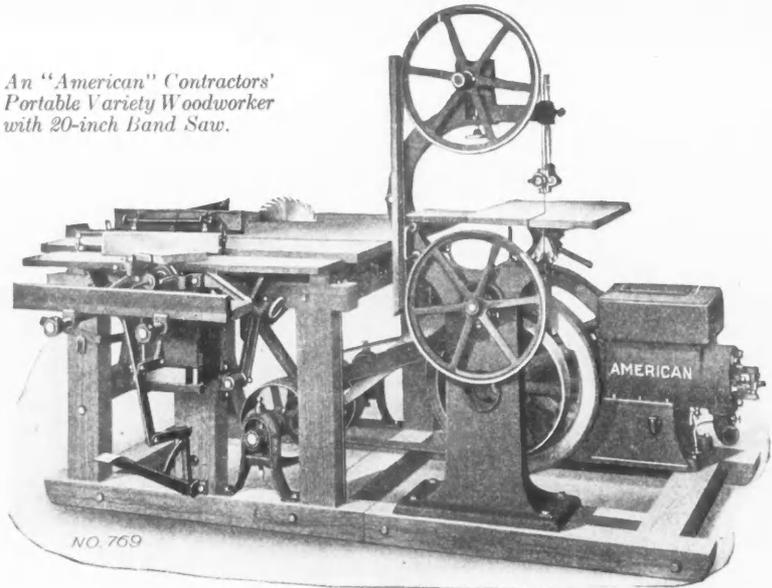
Sealing the seams with waterproof cement is one of the important steps in laying a permanent linoleum floor. This makes the floor watertight and insures a smooth, unbroken floor surface, easy to clean and handsome to look at.



The laying of a permanent linoleum floor is completely illustrated and described in "Detailed Directions for Laying and Caring for Linoleum." Copies free upon request. Use your letterhead.



An "American" Contractors' Portable Variety Woodworker with 20-inch Band Saw.



## Take Your Shop Right on the Job

DO what a great many other carpenters and builders are doing—take an American Contractors' Portable Variety Woodworker on the job and have the equal of a complete mill right at your elbow.

Those vexing delays and the costs of running back to the shop to do this or that are eliminated when there's an "American" on the job. Each one of its fourteen machines (all in one unit) are high grade woodworking machines—the equal of any simple machine. You will actually save money on every building contract that has an "American" on the job.

Write for Catalog No. 77 that illustrates and describes our full line of woodworking machinery

### American Saw Mill Machinery Co.

Hackettstown, N. J.  
60 Main St.

New York City  
1360 Hudson Terminal Bldg.

# "AMERICAN"

## Woodworking Machinery



# LOOK!

Here is a New Universal Woodworker at a price which beats everything else on the market.

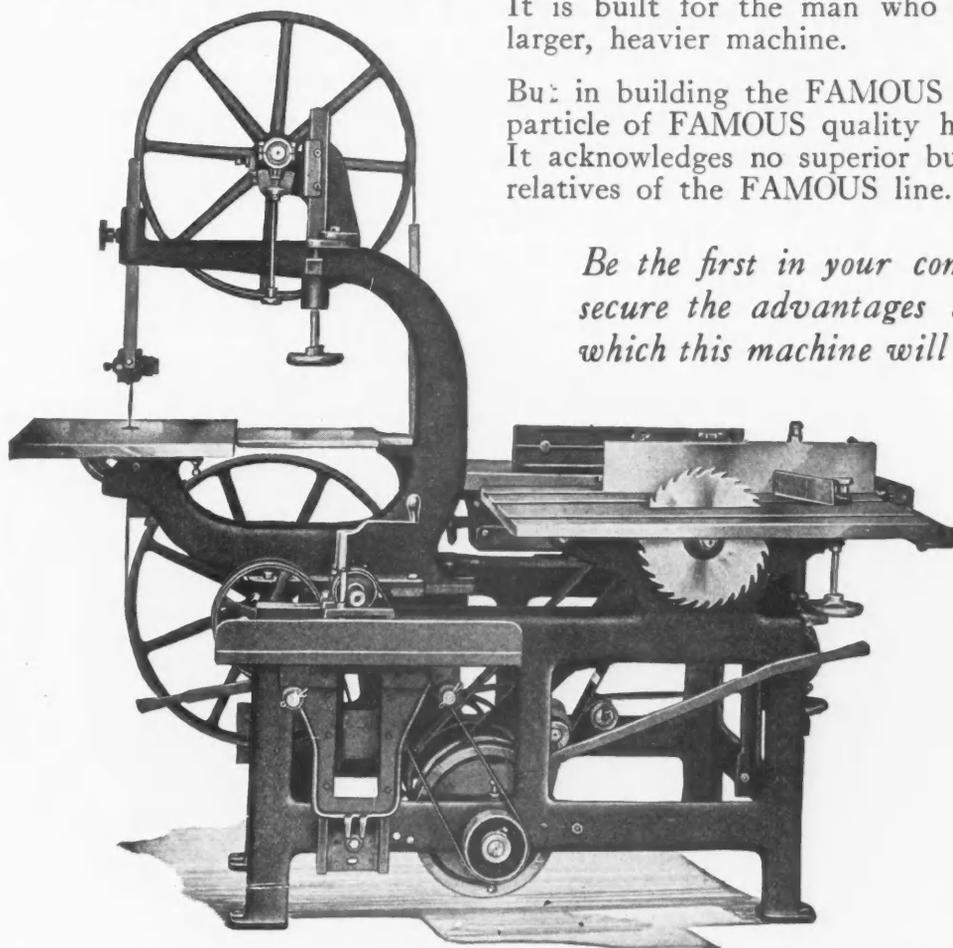
## FAMOUS No. 30 JUNIOR

The FAMOUS line of woodworking machinery has always been the first to incorporate into itself the needs of the trade.

Hence the introduction of the New FAMOUS No. 30 Junior Universal Woodworker. It is built for the man who does not need a larger, heavier machine.

But in building the FAMOUS No. 30 Junior no particle of FAMOUS quality has been omitted. It acknowledges no superior but its own larger relatives of the FAMOUS line.

*Be the first in your community to secure the advantages and profits which this machine will bring you!*



Write for  
Descriptive  
Bulletin

The No. 30 Junior carries 27 inch Band Saw, 12 inch Jointer, Reversible Shaper, a Rip and Cut-off Saw Table of ample size and capacity and a boring attachment.

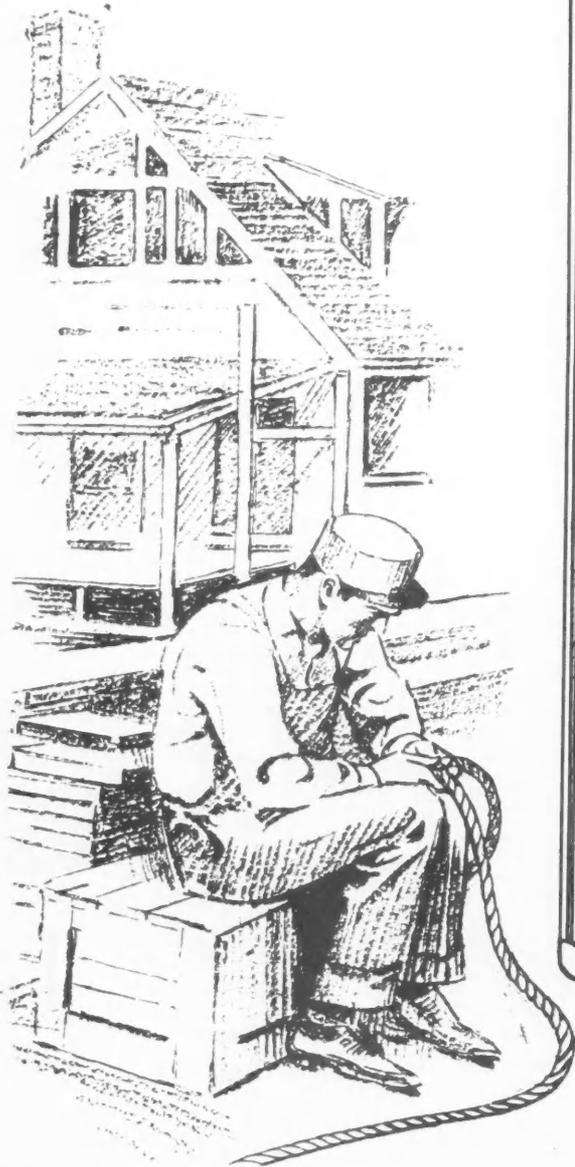
Attachments can be added to make it capable of doing every form of work ordinarily required in the modern shop.

Every unit is self-contained—built right into the main frame. It is free from vibration.

The purchase price is within the reach of every user of woodworking machinery, and the EARNING POWER OF THIS MACHINE CANNOT BE EQUALLED.

**THE SIDNEY MACHINE TOOL CO.**  
SIDNEY, OHIO, U. S. A.

# Splicing a Rope



It is not very difficult to splice a rope and to splice it well—yet, many ropes are ruined by improper splicing.

It is all in knowing how—how to start the splice and how to end it. In the booklet “Useful Knots and How to Tie Them” several very satisfactory splices are made simple by illustration and instructions.

The book is free. Ask your Plymouth Rope dealer for it. You will find it interesting.

And remember this: it is easier to splice good rope than it is to splice poor rope. Plymouth Manila Rope is easily handled. It is so flexible, so perfectly made that it is much easier to make a strong, flexible splice.

Made of absolutely pure Manila Fiber of just the proper grades, Plymouth Rope contains the qualities of wear, strength and flexibility to unusual extent.

Since 1916, all Plymouth Rope  $\frac{1}{4}$ " in diameter and larger has contained a twisted paper marker identifying it as Plymouth Rope.

**Plymouth Cordage Co.**  
NORTH PLYMOUTH, MASS.  
WELLAND, CANADA



**PLYMOUTH** *The Rope You Can Trust*

# CH&E.

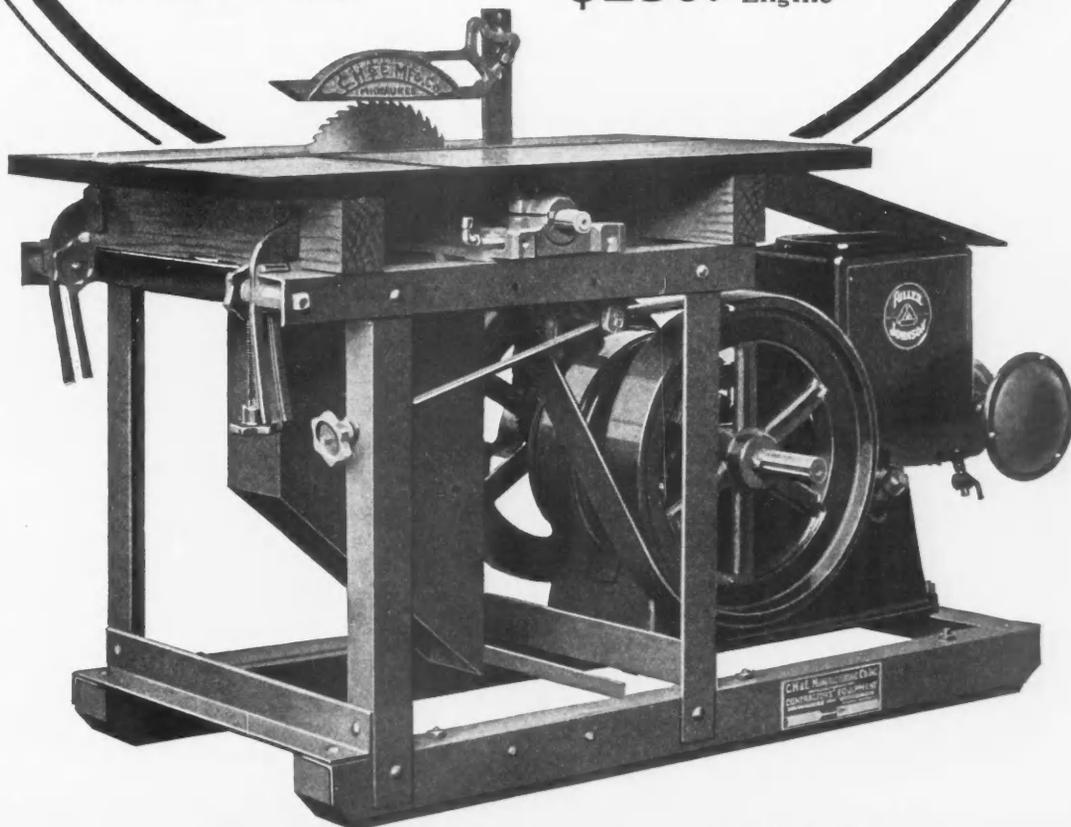
## *The NEW* "HOME BUILDER'S" SAW RIG

This is just the outfit you have been looking for. We have been building Saw Rigs for many years, and you will find the same high quality in this small rig as we put in our larger outfits. You can afford to buy this rig which you can put right on your small home building jobs. A hot riveted steel frame makes it a very rigid outfit. Will rip three inch lumber with three horse-power engine. Total weight 700 pounds. We also manufacture Hoists, Pumps, Engines.

**C. H. & E. Manufacturing Co., Inc.**  
322 Mineral St., MILWAUKEE, WIS.

*Send for Folder*

**\$250.** Complete with  
Engine



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

**WAR DEPARTMENT****SEPTEMBER**

Sept. 6—**ORDNANCE SUPPLIES**—Rochester, N. Y., Auction. For catalog write Chairman, Phila. Dist. Ord. Salvage Board, Phila., Pa.

Sept. 12—**Q. M. SUPPLIES**—Camp McClellan, Ala., Auction. For catalog write Q. M. S. O., Candler Warehouse, Atlanta, Ga.

Sept. 15—**Q. M. SUPPLIES**—Camp Meade, Md., Auction. For catalog write Q. M. S. O., 1st Ave. and 59th St., Brooklyn, N. Y.

Sept. 19—**Q. M. SUPPLIES**—Camp Lewis, Wash., Auction. For catalog write Q. M. S. O., Ft. Mason, San Francisco, Calif.

Sept. 19—**ORDNANCE SUPPLIES**—Erie, Pa., Auction. For catalog write Chairman, Phila. Dist. Ord. Salvage Board, Phila., Pa.

Sept. 21—**Q. M. SUPPLIES**—Omaha, Neb., Auction. For catalog write Q. M. S. O., 1819 W. Pershing Rd., Chicago, Ill.

Sept. 22—**AIR SERVICE SUPPLIES**—Houston, Tex., Auction. For catalog write C. O., Aviation Gen'l Supply Depot, Houston, Tex.

Sept. 26—**Q. M. SUPPLIES**—New Orleans, La., Auction. For catalog write Q. M. S. O., Candler Warehouse, Atlanta, Ga.

Sept. 28—**Q. M. SUPPLIES**—Camp Devens, Mass., Auction. For catalog write C. O., Boston Gen'l Intermed. Depot, Boston, Mass.

Sept. 29—**Q. M. SUPPLIES**—Norfolk, Va., Auction. For catalog write Q. M. S. O., 1st Ave. and 59th St., Brooklyn, N. Y.

**SEND FOR CATALOG****SELLING PROGRAM****OCTOBER**

\*Oct. 5—**ORDNANCE SUPPLIES**—Chicago, Ill., Auction. For catalog write Chairman, Chicago Dist. Ord. Salvage Board, Chicago, Ill.

\*Oct. 10—**AIR SERVICE SUPPLIES**—Dorr Field, Fla., Auction. For catalog write Commanding Officer, Dorr Field, Fla.

\*Oct. 10—**AIR SERVICE SUPPLIES**—Carlstrom Field, Fla., Auction. For catalog write Commanding Officer, Carlstrom Field, Fla.

Oct. 17—**Q. M. SUPPLIES**—Camp Dix, N. J., Auction. For catalog write Q. M. S. O., 1st Ave. and 59th St., Brooklyn, N. Y.

**NOVEMBER**

\*Nov. 1—**AIR SERVICE SUPPLIES**—Long Island, N. Y., Auction. For catalog write Commanding Officer, Long Island Air Service Depot, Long Island, N. Y.

\*Nov. 3—**AIR SERVICE SUPPLIES**—Richmond, Va., Auction. For catalog write Commanding Officer, Air Service Depot, Richmond, Va.

\*Nov. 10—**Q. M. SUPPLIES**—Camp Knox, Ky., Auction. For catalog write Q. M. S. O., 1819 W. Pershing Rd., Chicago, Ill.

\*Sales dates indicated by the asterisk are as yet only tentative.

**SEND FOR CATALOG**

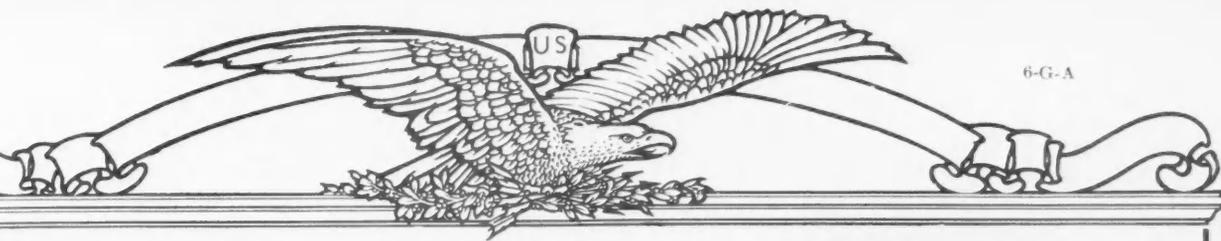
# USE Route



After you have notified the War Department advertising agent, see that your messenger puts them on the desks where they will do the most good. Instruct him to watch for the route sheet and give publications bearing it "Rush" delivery.

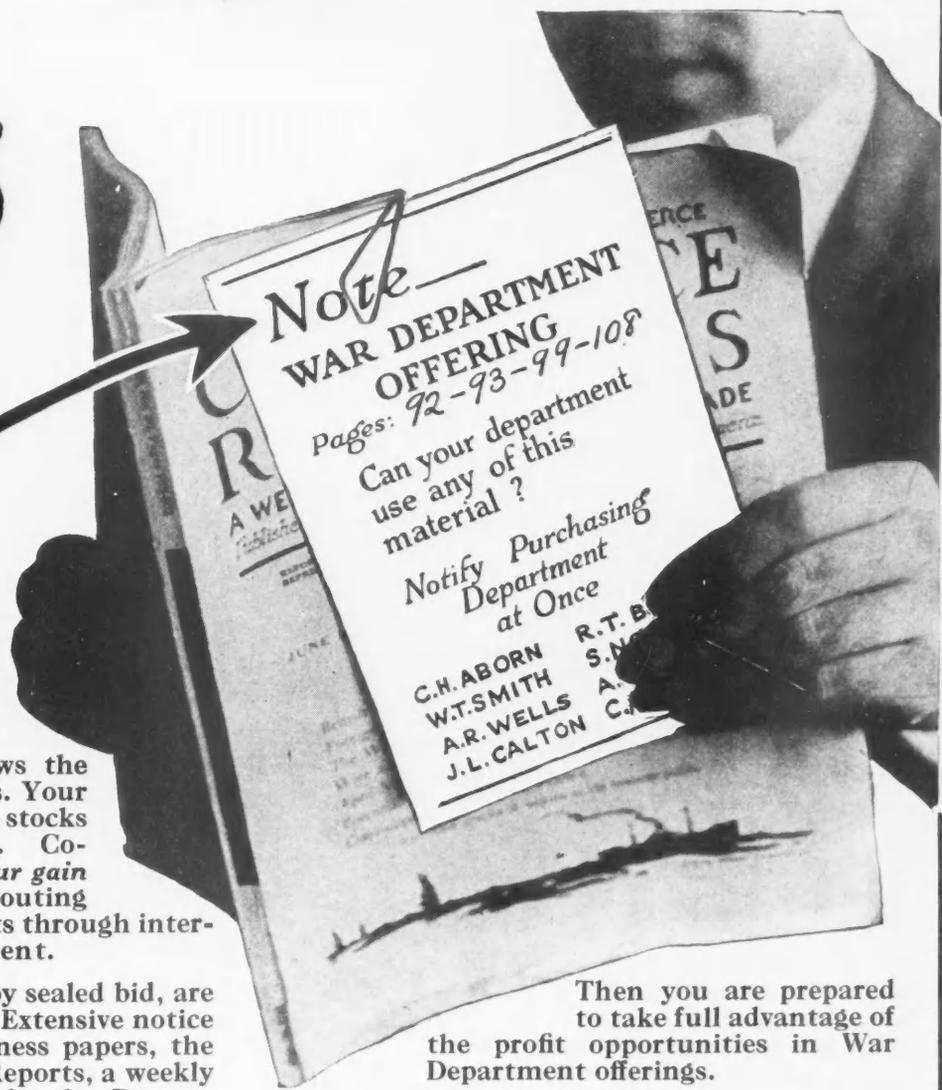
The Government reserves the right to reject any or all bids

# WAR DEPT



6-G-A

# THIS sheet



**Note**  
**WAR DEPARTMENT OFFERING**  
 Pages: 92-93-99-108  
 Can your department use any of this material?  
 Notify Purchasing Department at Once  
 C.H. ABORN R.T. B...  
 W.T. SMITH S.M...  
 A.R. WELLS A...  
 J.L. CALTON C...

THAT little piece of paper under the clip is a message for you. It shows a simple double-check on profit opportunities.

Your purchasing agent knows the values in War Department sales. Your men in charge of shops and stocks know their needs in supplies. Coordinate that knowledge to your gain by the simple expedient of routing War Department advertisements through interested hands in your establishment.

Sales, either at auction or by sealed bid, are conducted virtually every day. Extensive notice of those sales is given in business papers, the daily press, and in Commerce Reports, a weekly survey of foreign trade issued by the Department of Commerce.

Check the publications in which the advertisements appear, and make sure they reach the eyes employed to look out for your interests.

Then you are prepared to take full advantage of the profit opportunities in War Department offerings.

The final step is easy—participate in the sales. Then the benefits are yours.

Be represented at the next War Department sale.

For detailed information regarding all offerings, write:

**Chief, Sales Promotion Section,**  
 Room 2515, Munitions Bldg., Washington, D. C.

# DEPARTMENT



*Each bundle of Essco Heart Flooring is identified with the heart-shaped symbol as indicated in this illustration. The label is pasted on the under side of the flooring. Architects, Contractors, Builders and Home Owners can accept it as the mark on flooring of the very highest quality.*

# Heart Flooring

*"From the HEART  
of the PINE"*

1. Essco Heart Edge-grain Flooring is made only of the heart-wood of the pine; therefore, it is remarkably durable.
2. It comes through our mills under the personal direction of the mill manager himself.
3. It is finished so smoothly that almost no sanding or scraping is necessary after it is laid—an economy in labor.
4. It can be finished in a wide variety of ways, thus insuring perfect harmony with the woodwork, decoration and furnishings of your home.
5. It compares favorably in beauty and durability with the more expensive woods commonly used for flooring.
6. It comes in long lengths, thus making it easy to lay—another economy in labor.
7. In our process of manufacture, it is graded and regraded and graded again.
8. It is closely inspected for regularity of grain and uniformity of color.
9. It is protected from the weather from the moment it is made.
10. It is tied carefully into neat bundles and loaded for shipment in clean cars.
11. It is obtainable either in Edge-grain or flat grain, 3 and 4 inches wide.

*ESSCO Flooring and other ESSCO Lumber Products are obtainable through retail lumber dealers. If not available in your community, write us.*

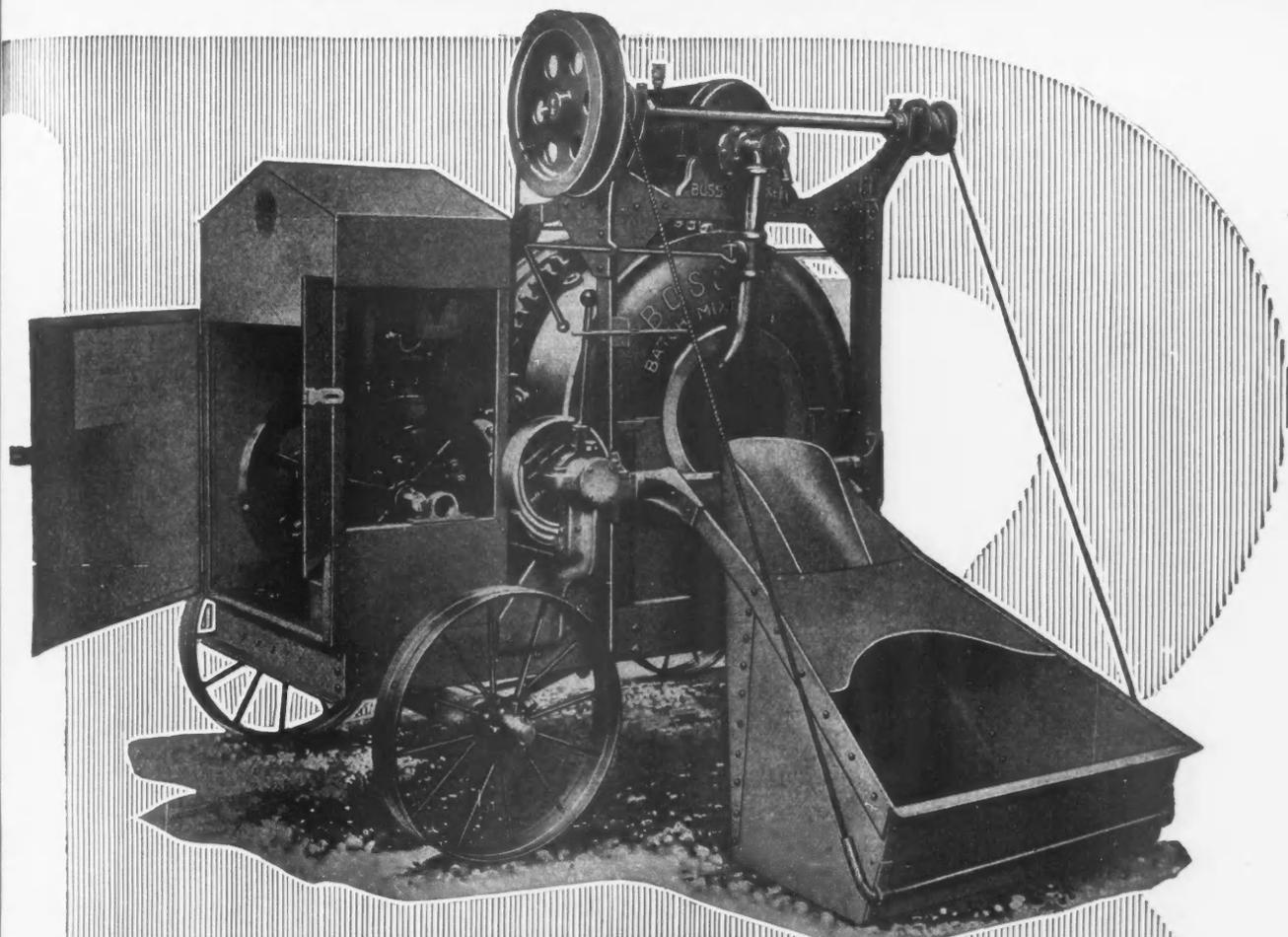
## **EXCHANGE SAWMILLS SALES Co.**

Long Building, Kansas City, Mo.

R. B. WHITE, President and General Manager

F. R. WATKINS, Sec'y and Mgr. Yard Sales

R. S. PRICE, Mgr. Railroad and Timber Sales



# FASTER DISCHARGING CONCRETE MIXERS

EQUIPPED WITH HYATT ROLLER BEARINGS (Saves 17% Power--70% of Oil)

1-2, 1, 2, 3, 4, 5 BAG SIZES-GAS, STEAM, ELECTRIC

HOISTS **BOSS** MIXERS

COST NO MORE THAN ORDINARY OUTFITS

USED BY OVER 7,000 CONTRACTORS

WRITE FOR NEW PRICES AND TERMS

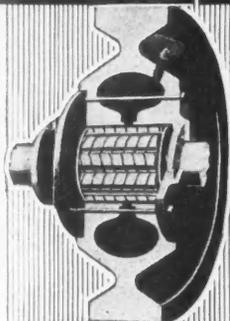
**The American Cement Machine Co., Inc.**

**Keokuk Iowa**  
THE 300,000 H.P. ELECTRIC CITY

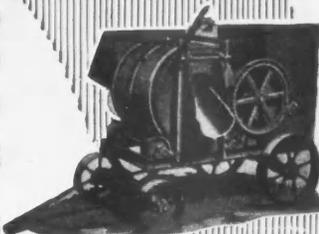
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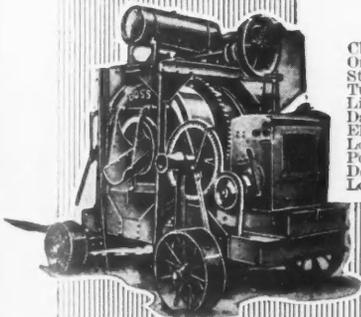
*Get in Touch With Our Nearest Office*



Deep Chilled Rollers With Hyatt Bearings



**\$285 Buys This Half Bag Mixer**



**BOSS MIXERS**



**Combination Paving And BUILDING MIXER**  
-LIGHTER and FASTER-



**BOSS HOISTS**

# Your "Minute Men" for Concrete Work

You may be thinking of building a bird bath or an office building, a home or a silo, and you may be wondering whether Concrete is the material to use. No need to wonder long. By return mail from our nearest office, you can get the facts about that special use of Concrete in a free every-day-language booklet on the subject.

Booklets of this sort have been prepared by the Portland Cement Association on all the common uses of Concrete. They give not only counsel on the conditions under which each use is advisable, but specific instructions for carrying out the work.

And if any question is left unanswered in your mind after reading the booklet on the subject that interests you, one of our specialists in that particular class of Concrete work will gladly answer it.

The information in the booklets is based partly on the findings of our research laboratory and partly on the field experiences and investigations of our engineers. It is accepted as a basis of practice by well-informed engineers, architects and builders throughout the world.

The publication of these booklets, and their circulation without charge, is one of the numerous activities carried on by the Portland Cement Association for the service of users of Concrete.

The Association is the joint research and educational foundation of 85 independent manufacturers of cement in the United States, Canada, Mexico and Cuba.

Suggestions as to how our work may be made more useful to you are invited.

## PORTLAND CEMENT ASSOCIATION

*A National Organization  
to Improve and Extend the Uses of Concrete*

Atlanta  
Boston  
Chicago  
Dallas  
Denver

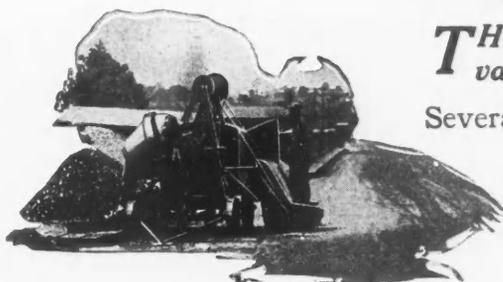
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Washington, D. C.

# OHIO Repeats on Jaegers



**THOROUGH** satisfaction with a product invariably brings repeat orders.

Several years ago Ohio standardized on Jaeger Mixers for her road work. After careful tests she found that this sturdy outfit handled her highway concrete work **quicker, better and at less cost than any other make of mixer.** And since that time, each year—in open compe-

tition with other mixers—Jaegers have always been chosen in Ohio.

This year, as before, competing with practically every standard make of mixer, Jaeger again was selected by the Buckeye Commissioners as the mixer for Ohio. They placed an initial order for 14 Jaeger Mixers.

## “JAEGER” Means Tilting Drum

There's coming to be a country-wide preference for the Jaeger “Mix a Minute” Mixer for road work. Especially for cold patching work is it admirably adapted. Its tilting drum discharges the sticky material as easily as it does the wettest concrete. In fact, a tilting drum mixer is **the only practical mixer for cold patch work. It saves labor, saves material—does**

**a better job.** For quick, low-cost work on culverts, abutments and the like, it is unexcelled.

And this same tilting drum feature is one of the big reasons why more than 13,500 building contractors prefer the Jaeger to any other mixer. On the largest skyscraper or the smallest sidewalk job this sturdy tilting-drum outfit will **turn out the concrete faster and at lower cost** than any other mixer in its class.

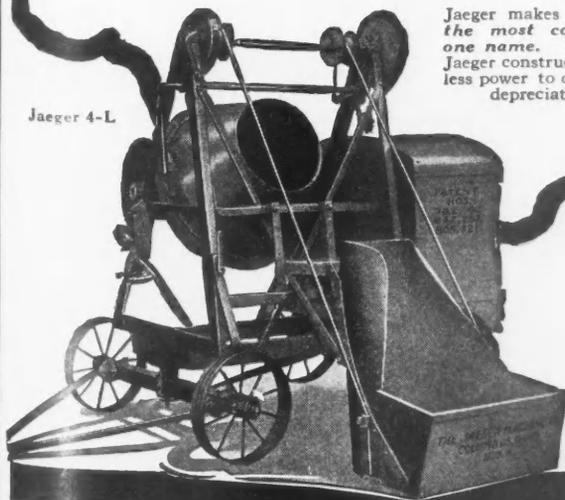
If you want a mixer that will work its way to profit on every concrete job you do—you want a Jaeger

### The Jaeger Machine Company

318 Dublin Ave., COLUMBUS, OHIO

Jaeger makes 18 different mixer outfits—the most complete line offered under one name. Simplicity is the keynote of Jaeger construction. Such simplicity means less power to operate, small upkeep, low depreciation and long life.

Jaeger 4-L



Jaeger 4-E

The coupon will bring you the profit story of the Jaeger line of mixers. You'll be interested in the new low prices. Mail the coupon today.

The Jaeger Machine Co.  
318 Dublin Ave., Columbus, Ohio  
Please send me more facts on the Jaeger line of Mixers.

Name.....

Address.....

**FOR HOMES LIKE THESE**  
**CON-SER-TEX**  
*for* **PORCH**  
**FLOORS & ROOFS**

### The Ideal Covering

For all outside porch floors and roofs. Unequalled for valleys, hips, gutter linings and durable flashings.

CON-SER-TEX is a tough, weatherproof, specially prepared cotton fabric.

CON-SER-TEX will not crack, stretch, peel, leak or rot because it is scientifically treated.

The great demand for such a covering at a reasonable cost combined with the ease of handling and laying CON-SER-TEX make it a great favorite with both owner and builder.

See page 98 of this issue.

George Victor Harvey  
Architect  
Palisade Avenue,  
Englewood, N. J.



*Write for our Book*  
*"Roofing Facts and Figures"*

**WM. L. BARRELL CO. of N. Y., Inc.**

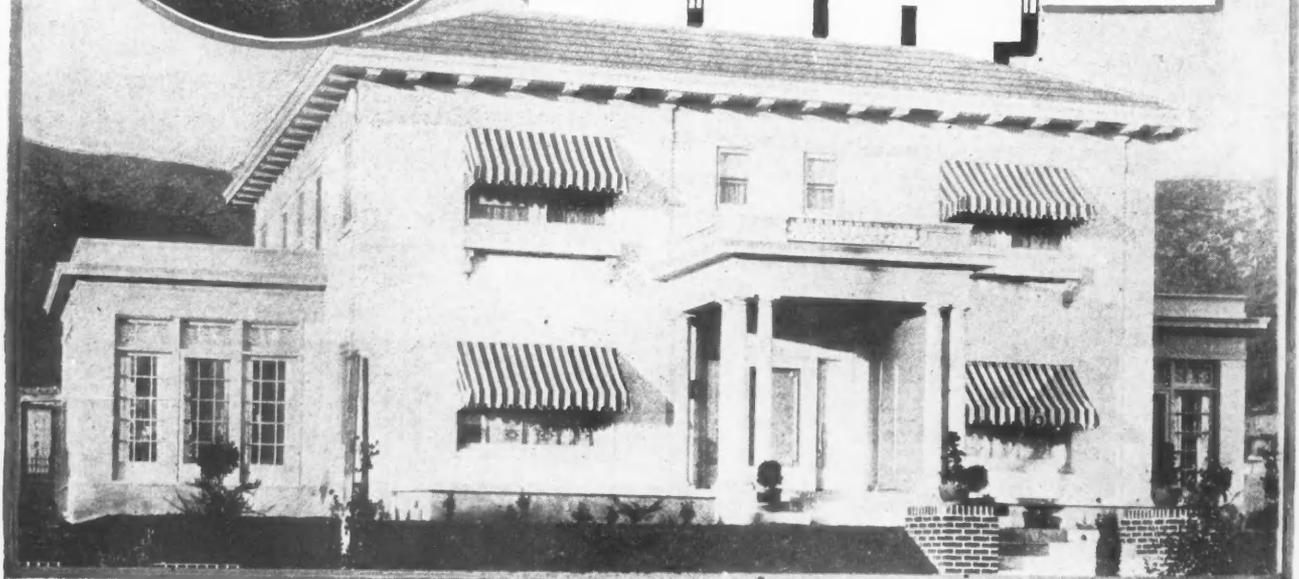
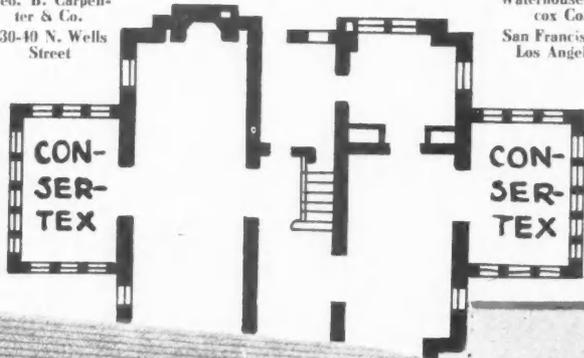
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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



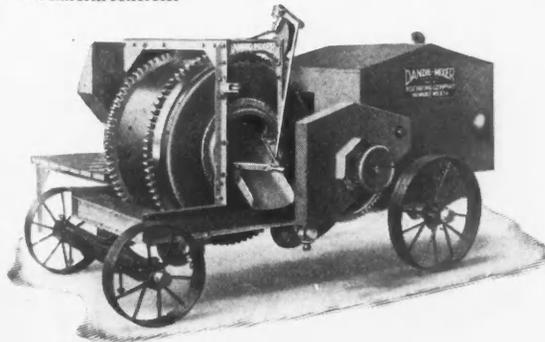
## Get Extra Yardage Service from a Light Mixer Investment

### KOEHRING DANDIE CAPACITIES

4 and 7 cubic feet mixed concrete. Steam and Gasoline. Power charging skip or low charging platform — automatic water-measuring tank. Discharge control from both sides. May be equipped with light duty hoist. Mixes mortar as well as uniform concrete.

**N**O, not the cheapest mixer! Yet the DANDIE is within the price range for light mixers. It is the *remarkable value* in the light mixer field.

Koehring safety-margin construction puts trouble-free, dependable, profitable service in the light DANDIE; fortifies you against costly delays and repairs. Big production and standardization of every part keeps the price down.



### Get the Dandie Catalog

Inform yourself on how to judge mixer values and dependability. Get the full details of what Koehring safety-margin construction means in service and profits. You will buy better if you send back the coupon. Of course, that obligates you in no way.

KOEHRING COMPANY  
MILWAUKEE WISCONSIN

# DANDIE

**KOEHRING COMPANY MILWAUKEE WISCONSIN**

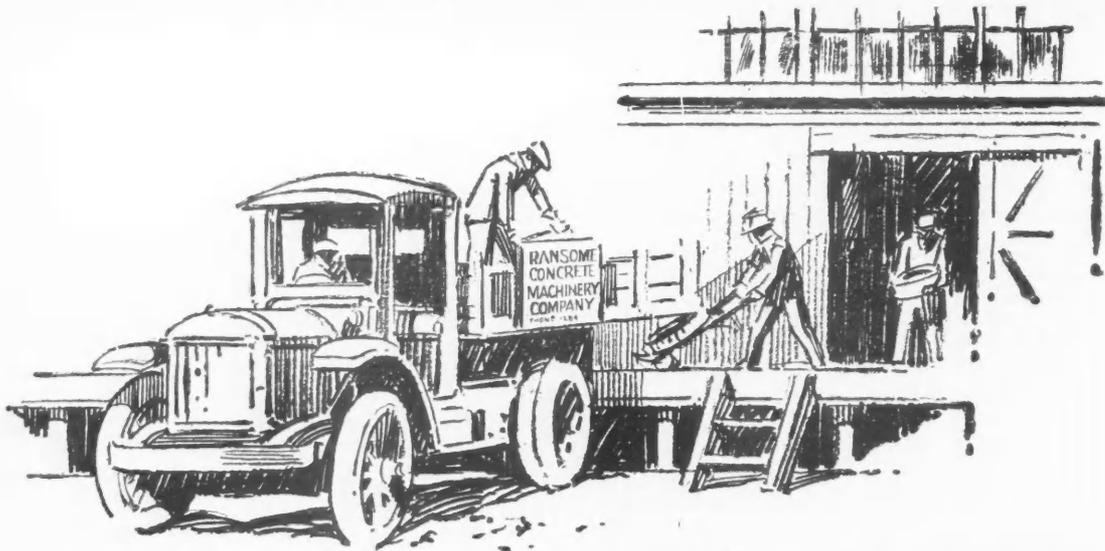
Please send me Dandie Catalog D.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_



## HERE'S SERVICE

On the 25th of April a contractor in Norfolk, Va. wired an order for repair parts to be shipped that day if possible.

His order covered countershaft complete with bushings, roller shafts with roller and bushings, discharge chute and complete set of blades for a No. 67 mixer originally shipped on Sept. 14, 1912.

60% of this material had to be fabricated. Yet the order was filled, delivered in Newark and loaded on a through car for Norfolk on the afternoon of the same day that the telegram was delivered.

That's the Service that stands behind every bit of Ransome Concrete Machinery.



31 239

Without obligation on my part, please send me information on:—

Ransome Concrete Mixers, sizes, 4-S[ ]; 7-S[ ]; 10-S[ ]; larger sizes[ ]. Steam Drive[ ]; Gasoline Drive[ ]; Electric Drive[ ]. Concrete Chuting Plant for Building \_\_\_\_\_ ft. long by \_\_\_\_\_ ft. wide by \_\_\_\_\_ ft. high. Portable Woodworking Mill[ ].

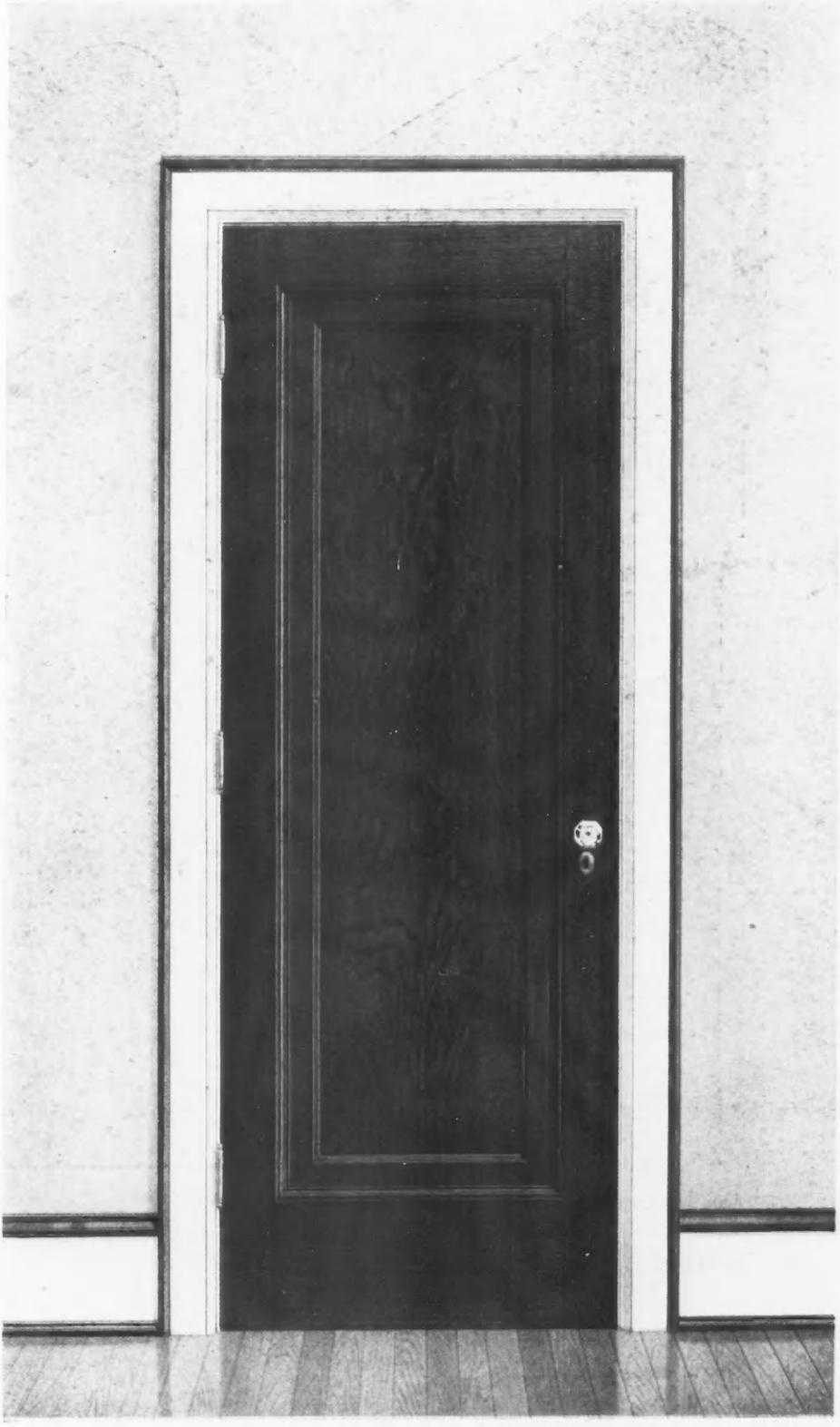
Name \_\_\_\_\_ Address \_\_\_\_\_



# Ransome CONCRETE MIXERS

RANSOME CONCRETE MACHINERY CO.  
1764 Second Street, Dunellen, N. J.

# The **Miracle** Door



Color—Walnut and Old Ivory

Costs only one dollar more than an ordinary door

Paine Lumber Company, Ltd.

Oshkosh, Wisconsin, U. S. A.

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# The **Miracle** Door

TRADE MARK REG. PATENTS PENDING

PANAMA PACIFIC  
INTERNATIONAL EXPOSITION



1915

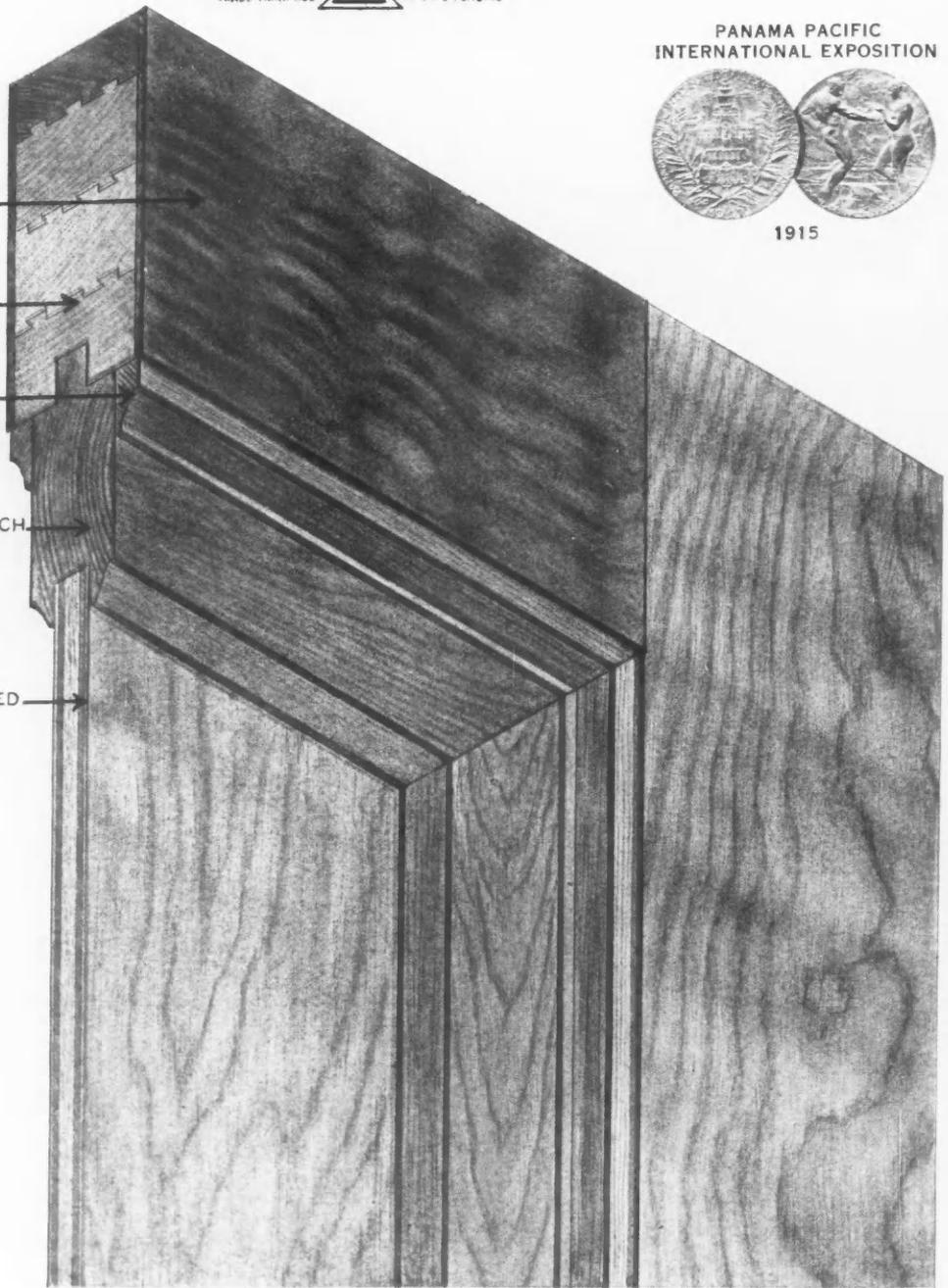
VENEERED BIRCH

KORELOCK CORE

MOULDING

INSERT FRAME BIRCH

FIVE PLY VENEERED  
BIRCH PANEL



Trade Mark Registered. Design and Construction Patents Pending.

The Miracle Door costs only one dollar more than an ordinary door

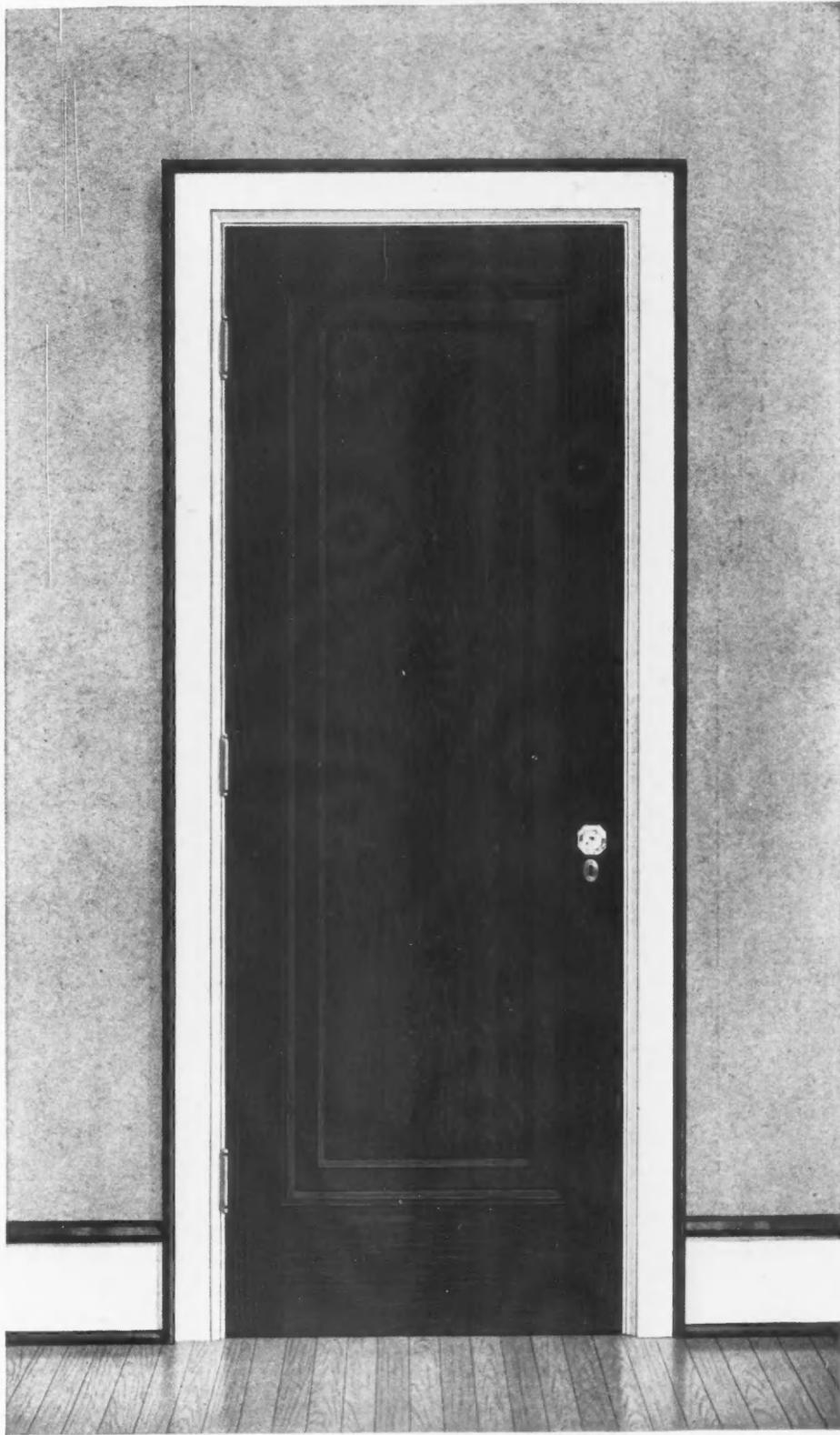
The Miracle Door is everything its name implies in quality, construction and price. It combines the simplicity of a one panel door with the richness of a moulded door. It is a cabinet shop product at the price of a stock door. It harmonizes with all styles of trim and all colors of finish. Like all Paine products it is fully guaranteed.

Wholesale stocks of Miracle Doors carried in thirty-five cities. For sale by all dealers or write us direct. Catalogs are ready for distribution.

Paine Lumber Company, Ltd.

Oshkosh, Wisconsin, U. S. A.

The **Miracle** Door



Color—Brown Mahogany and Old Ivory

Costs only one dollar more than an ordinary door

Paine Lumber Company, Ltd.

Oshkosh, Wisconsin, U. S. A.

# The **Miracle** Door

PANAMA PACIFIC  
INTERNATIONAL EXPOSITION



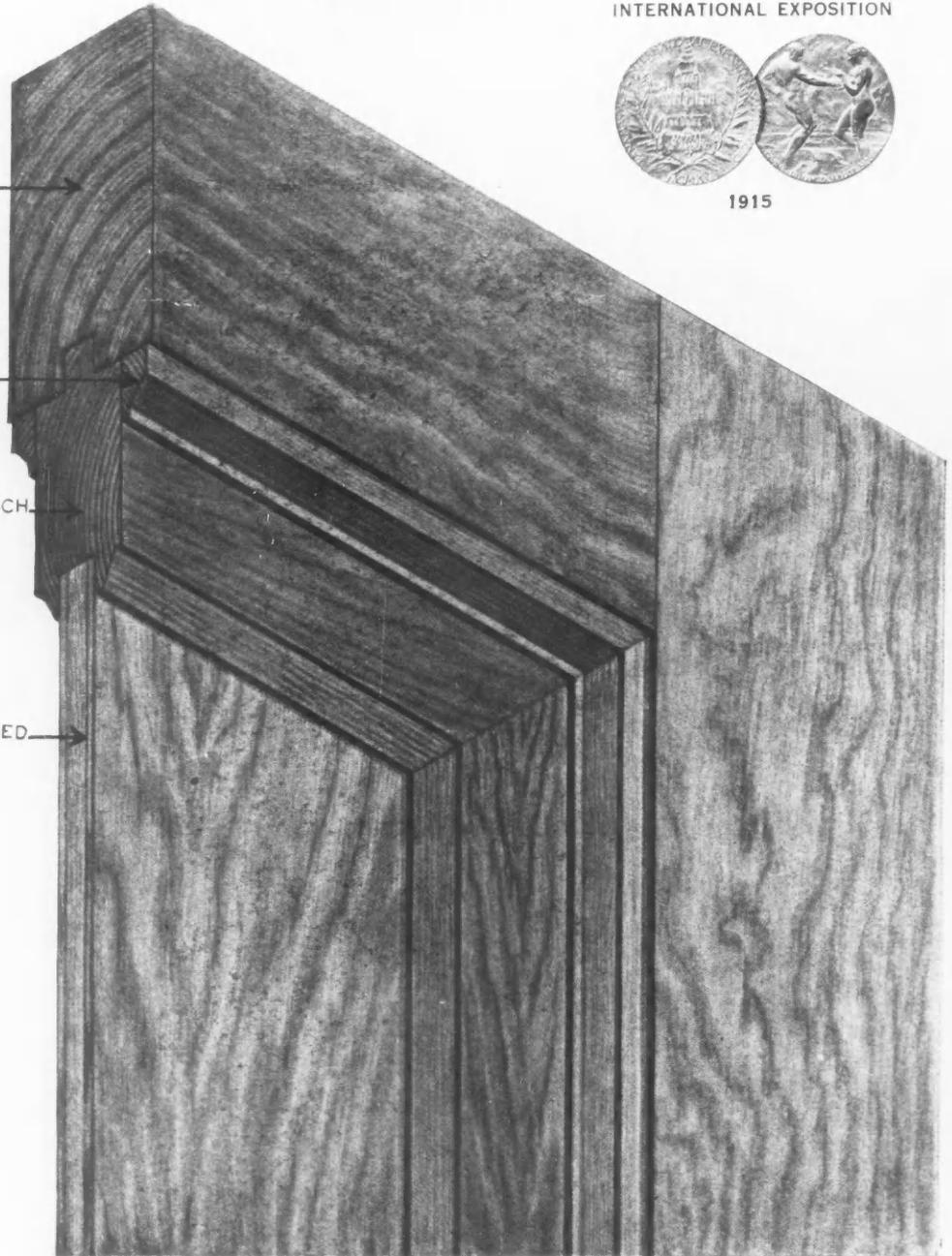
1915

SOLID SOFT WOOD  
RAIL

MOULDING

INSERT FRAME BIRCH

THREE PLY VENEERED  
BIRCH PANEL



Trade Mark Registered - Design and Construction Patents Pending

The Miracle Door costs only one dollar more than an ordinary door

The Miracle door marks an epoch in the door industry. It is the greatest value ever offered in doors. It is built and guaranteed by an organization that holds all the gold medals ever awarded the door industry. We operate from the forest to the finished product thru the largest woodworking plants in the world.

Wholesale stocks of Miracle Doors carried in thirty-five cities. For sale by all dealers or write us direct. Catalogs are ready for distribution

Paine Lumber Company, Ltd.

Oshkosh, Wisconsin, U. S. A.



# KNOW the lumber you buy

FEW PERSONS take time to give *personal* attention to selecting the lumber to be used in their homes. Yet they insist on their favorite brand of shirts or shoes because they know that brand means dependability and maximum quality for the amount spent.

They buy shirts and shoes many times in a lifetime, but a home only once. It is their most valued possession. How important, then, to be sure the lumber is *right*, because they will live with it always and upon its quality may depend the permanence and beauty of the house.

By *identifying* all its lumber and lumber products with a trade-marked brand, THE LONG-BELL LUMBER COMPANY believes it has helped immeasurably to make lumber buying easier, more conven-

ient and *safer* for the home builder—to assure him that he is getting full value for the money he pays.

To those who say “all lumber looks alike to me,” we point to these facts:

LONG-BELL Lumber has back of it 47 years of honorable enterprise.

LONG-BELL Lumber comes from exceptional stands of virgin timber; manufactured in modern mills.

LONG-BELL Lumber is made by skilled workmen—men who take a personal pride in a product bearing their company’s name.

Each process of manufacture and each step in the grading is under the supervision of experts who work to a standard. Each log is cut for purposes for which it is best adapted. LONG-BELL Lumber is of uniform quality.

LONG-BELL lumber is *trade-marked*. This means *unmistakable identification*—the same kind of a buying guide you demand on other merchandise.

*Ask Your Lumberman*

**The Long-Bell Lumber Company**  
R.A. LONG BUILDING Lumbermen since 1875 KANSAS CITY, MO.

Southern Pine Lumber and Timbers; Creosoted Lumber, Timbers, Posts, Poles, Ties, Piling and Wood Blocks; California White Pine Lumber, Sash and Doors, Standardized Woodwork; Southern Hardwoods, Oak Flooring.

# LONG-BELL

*Trade  
Marked*

# L U M B E R

# DUNTILE

## Builds Better Buildings Cheaper



DUNTILE embody the advantages which builders have long wanted in a building unit—quality, utility and economy. Made of concrete, packed by centrifugal force, they have unequaled strength. Made in small sizes, they fit in with all standard dimensions of building materials. Light in weight, they enable a mason to lay up the equivalent of 7,000 bricks in a day's time.

DUNTILE have the density which makes them the driest of all building units. They resist fire and keep out frost and dampness. Their horizontal air channel keeps out heat and cold just like a thermos bottle. Lath and furring are not needed. They have a full mortar bed which saves 30% on mortar.

There are many reasons why DUNTILE builds **better** buildings **cheaper**. Get our literature and find out why.

# DUNTILE

## Builds a Permanent Prosperous Business

DUNTILE must be manufactured locally to supply its extensive market. Dunn Standardized Tile Plants have been perfected to enable men like yourself, with a small investment, to earn as high as \$40,000 a year in supplying this market. Find out if the opportunity is still open for you to operate one of these plants.

The production machine in a Dunn Plant makes drain and silo tile in addition to Duntile, all without pallets. Ask for our Automatic Tile Machine Bulletin.

Dunn Plants are standardized in three sizes, ranging in daily output from 1,500 to 3,000 products. They are established under our supervision and assistance is rendered in an engineering, sales and advertising capacity, insuring success.

We can establish fifty more plants this winter; if you are interested, the time to investigate is now.

Write for our interesting literature. There are numerous bulletins and a series of surveys which give valuable information. They're free.



One of the Many Standardized Plants established by us.

## W. E. DUNN MANUFACTURING Co.

415 W. 23RD STREET

HOLLAND, MICHIGAN

DUNN STANDARDIZED TILE PLANTS  
COMPLETELY EQUIPPED FOR MANUFACTURING  
BUILDING, DRAIN AND SILO TILE.

DUNN TILE MACHINES  
DUNN SHOVEL MIXERS FOR PRODUCTS PLANTS  
DUNN CONCRETE, MORTAR AND PLASTER MIXERS.



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

# 2666 ft. of Curb in 8 Hours with a **WONDER MIXER**

To speed up his work was Mr. Amerman's problem and after a careful investigation of the different types of Mixers, decided the WONDER "7" best adapted for this purpose.

Again WONDER simplicity, fast, thorough mixing and rapidity of pouring discharge turned the trick.

This is a typical performance of WONDER Mixers and whatever the nature or size of your work may be, there is a WONDER to give you continuous operation, big daily capacity and low upkeep costs.

This is one of the reasons why more WONDER Mixers are being built and sold than any other Mixer on the market. It's the original of its type and is backed by twelve years of actual satisfying performance in the hands of thousands of users.

Ask for the new WONDER catalog. It thoroughly describes WONDER design and construction, which are only approximately imitated by manufacturers of Mixers of the same general type.

Just a line will bring this interesting catalog without obligations.

WONDER Mixers are always rated at their mixed capacity

## Construction Machinery Company

Formerly Waterloo Cement Machinery Corporation

103 Vinton St. Waterloo, Iowa

**M. R. AMERMAN**  
**PAVING CONTRACTOR**  
 MAIN OFFICE  
 WICHITA, KANSAS  
 248 NORTH MARKET  
 Norman, Oklahoma,  
 May 29th, 1922.

Victor L. Phillips Company,  
 Oklahoma City, Oklahoma.

Attention Mr. W. R. Wilson.

Dear Sir:-

We believe that we have established a record in pouring Curb, on our Norman Oklahoma Job, with a Wonder 7 Mixer.

On May 17th, we poured and finished 2,666 feet of curb in 8 hours with your machine, using 36 men. We also have poured over 60,000 feet of curb on this job to date, with an average of 1,800 feet per day and have experienced no delay on account of Mixer trouble.

Being especially pleased in the way this Mixer handles both our base material, which is dry, and the top coat, which is wet, with no loss of time, we take this opportunity to state that we are glad to say a most kindly word at any time for the Wonder 7 Mixer.

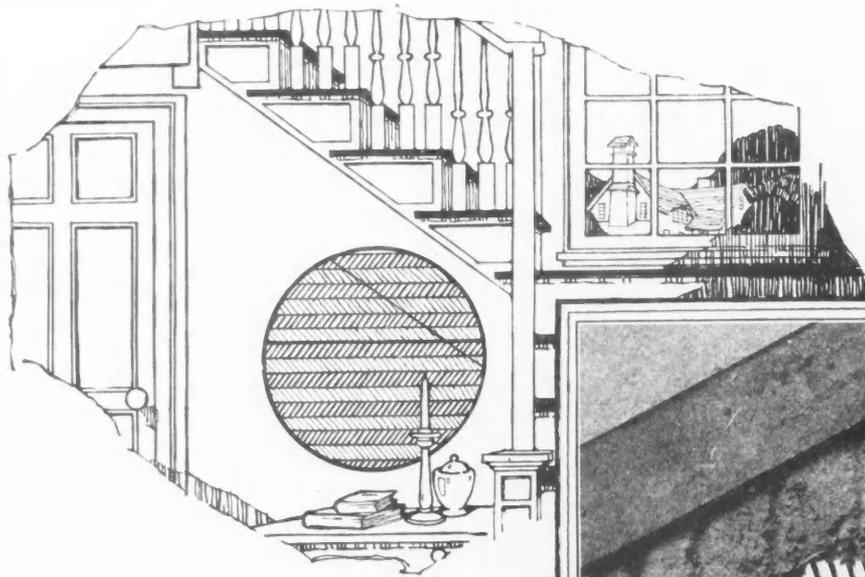
Yours very truly,

M. R. Amerman, Paving Contractor.

oa/aa

By *C. P. Barrington Supt.*





## Protect the Stairs from Fire

The only fire escape in a house is the stairs. They must be protected. Fire comes upward. Protect the under side of the stairs and you protect all. Use metal lath and plaster.

For a dependable, fire-resisting lath use Herringbone. It spans sixteen inches. The increase in cost is but a small fraction of the increase in value.

*Send for illustrated literature*

*Herringbone — strong, rigid, easily handled — has met the demand for an economical, practical, fire-retardant lath*



# Herringbone RIGID METAL LATH

THE GENERAL FIREPROOFING COMPANY, Youngstown, Ohio

BRANCHES:

SYRACUSE CHICAGO BOSTON MILWAUKEE KANSAS CITY MINNEAPOLIS SAN FRANCISCO  
PHILADELPHIA OMAHA NEW YORK BALTIMORE CLEVELAND ATLANTA LOS ANGELES BUFFALO

# Make More Money - Be a Bigger Builder

The Good Things—the Big Things—of Life are for those who will reach out for them. You can have them for the grasping—just an energetic thought—saying "I Will" and they are yours. Are you content to make a small profit slowly on hand labor or—will you make a large profit quickly by means of a modern machine? Which?



## Let The Magic Mixer - & Mix Your Concrete



Does it faster—better—cheaper

This Mixer will put you in position to do all kinds and classes of concrete work. It will enable you to work faster, do more work, do bigger work, do better work—and will help you build up a permanent and substantial business.

# \$ 25

## BRINGS IT TO YOU

Balance on Aloe's Easy Rental Purchase Plan—you have TEN MONTHS TO PAY—and the mixer will be making money for you faster than the easy payments come due. Certainly this is a rare opportunity for you to get away from the old shovel method and get into the class of the big men who are doing the big jobs in the modern way.

### Your Big Opportunity For Greater Prosperity

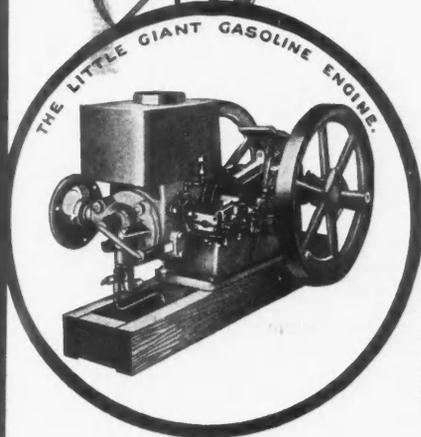
With this wonderful machine and two men you can do as much work as you formerly did with six men. And you can do it easier, quicker and better, producing an absolutely uniform batch every time. It will mix 4½ to 5½ cubic feet per batch—can be speeded up to a batch every minute—over 2,000 cubic feet per day. It is the most practical and efficient mixer made—scientifically constructed of the best materials—light in weight, portable, simple and durable. Backed by the Aloe Iron-clad guarantee to give the utmost service and satisfaction.

#### The Engine

Fitted with 2½ horse-power four cycle, horizontal gasoline engine with high-grade Webster magneto. Simple, powerful, reliable, economical—requires only two gallons gasoline a day. Protected by all-steel housing. Two doors at rear make it easy to get at.

#### Anyone Can Run It

Nothing complicated—nothing to get out of order. Can be operated by anyone who will read and follow the simple directions which are furnished with each mixer. It comes complete—ready for work the day you get it.



# FREE



### Get This Free Book "The Concrete Road to Success"

You ought to have this booklet of invaluable facts about the wonderful opportunities the Magic Mixer offers you. Sent FREE together with full particulars of our Easy Rental Purchase Plan by which the Magic Mixer will pay for itself and put you on the road to greater success at the same time. Get this remarkable offer.

### Free Trial Offer

So confident are we the Magic Mixer will please you in every way we will gladly send it to you for 10 DAYS FREE TRIAL on payment of only \$25.00. Take it out on your jobs—put it to the most severe tests. Then, if you can be induced to part with it again ship it back at our expense—and we will promptly return your money without a word.

### Mail The Coupon Today—NOW

The road to success is open to you. The opportunity to make yourself a big man is before you. The simple act of signing and mailing this coupon may be the turning point of your career. Don't sit idly by while other men are forging to the front. Start the coupon on its way. Get the facts. The time to act is NOW.

**A. S. ALOE CO.**  
621 Olive St., St. Louis, Mo.

### MAIL COUPON TODAY

A. S. ALOE CO.  
621 Olive St., St. Louis, Mo.

Send me FREE booklet, "The Concrete Road to Success", full description of the Magic Concrete Mixer and particulars of your Easy Rental Purchase Plan.

Name \_\_\_\_\_

Address \_\_\_\_\_



### Window Glass Grading Depends on Standards

FIRST, second and third quality are relative terms which depend on the standards used in grading.

The American Window Glass Co. grades its product to the highest standards in use in the United States. Its "A" (second) quality lights are hardly distinguishable from "AA." Its "B" (third) quality lights are practically as clear as ordinary seconds.

In using "A" or "B" quality single or double strength be sure the grade marking on the box has not been altered—high grading invites substitution.

### *The Friendly Hearth*

Hospitality and good cheer pervade the home that is protected by storm sash. The double panes form an effective shield against the searching winds of fall and winter, assuring a comfortable interior in any weather.

The installation of storm sash enables a saving in fuel equal to many times their first cost and upkeep.

Insist on plenty of windows equipped with storm sash. Specify the grade of glass and make sure it is the finest obtainable in that grade

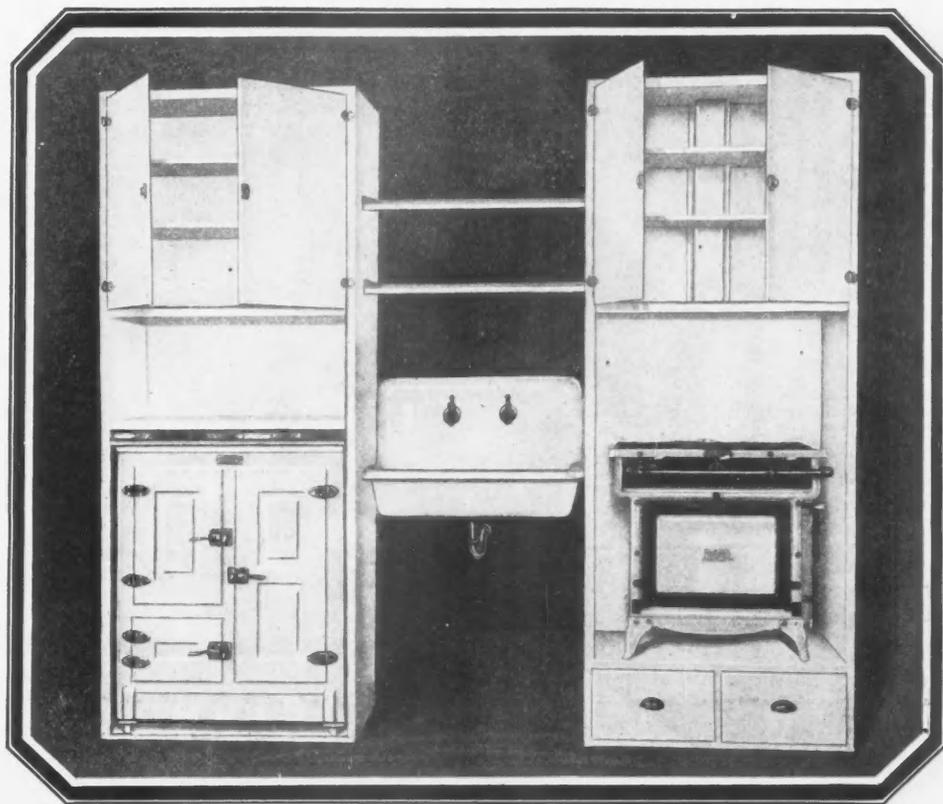
*"Let in the Sunlight"*

# AMERICAN WINDOW GLASS CO.

GENERAL OFFICES: PITTSBURGH, PA.

BRANCHES IN PRINCIPAL CITIES

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



## Why "Kitchunits" Should be Specified

**M**ODERN living conditions demand economy and compactness. The natural outcome is the kitchenette apartment or bungalow. From ordinary wood cupboards developed the more efficient and durable steel kitchenettes, which, in turn, were improved and modified until the Betzco Kitchunits were designed, representing the final word in modern sanitary kitchenette equipment.

Kitchunits are made in definite units, which can be combined in convenient arrangement

or installed singly. The unit idea not only adds materially to economy in manufacture, but also greatly simplifies the work of the architect and cuts the cost of installation.

The satisfaction of the user is the ultimate test of every device. Thousands of owners have found that Kitchunits satisfy and please their tenants and make their apartments easier to lease. Such endorsement combined with the moderate cost and superior construction make Kitchunits the logical choice of discriminating architects, builders and owners.

*The fact that Betzco Kitchunits are made in four different styles of units, each identical in over-all dimensions, makes them readily interchangeable and permits the combination of any number of units, according to the available space and the requirements of the building.*

*Write for booklet "AB" describing "Kitchunits"*

**FRANK S. BETZ CO.  
HAMMOND, INDIANA**

## The Strongest Board-form Insulation on Earth



Studio Building, Cass and Superior Sts., Chicago  
CELOTEX used for Roof insulation

**CELOTEX**  
INSULATING LUMBER

## CELOTEX For Roof Insulation

**T**EMPERATURE insulation is now recognized as an essential factor in all modern construction. CELOTEX Insulating Lumber is *board-form* insulation which is applied directly to roofs, walls and ceilings. Thus used, CELOTEX reduces the amount of fuel consumed for heating purposes approximately one-third.

CELOTEX Insulating Lumber is made from cane fibre. It is firmly matted, interlaced and felted into a tough, rigid insulating board. It is *not* built up of layers, but is of uniform structure throughout. CELOTEX shuts out winter cold and summer heat.

The DuPont Engineering Company recently subjected CELOTEX to the most rigid tests to determine its value as a roof insulation against heat and cold and in positively eliminating atmospheric condensation. As a result they are using eight carloads of CELOTEX to insulate the roof of their silk mill at Buffalo, New York.

Complete tests, conducted by other leaders of industry, have converted them to the use of CELOTEX in various forms of building construction.

Write for complete information including engineers' tests, specifications, samples, testimonial letters and other literature.

Use CELOTEX for sheathing, plaster base, sound deadener, exterior and interior finish.

THE CELOTEX COMPANY

CONWAY BLDG. - CHICAGO

Plant - New Orleans

**CELOTEX**  
INSULATING LUMBER

# sheathing THERMOSEAL



## A Powerful Aid in Stucco Construction

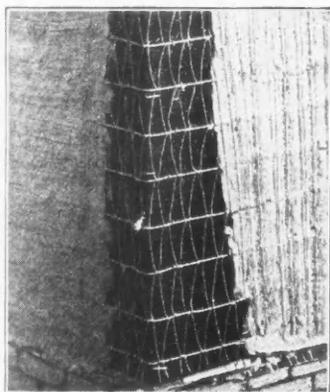
**B**UILDERS can now be assured that the detrimental action of heat and cold, moisture and other factors affecting stucco construction, through contraction, expansion and other common faults in base material, is now effectively minimized by THERMOSEAL.

THERMOSEAL is a heavily galvanized wire mesh, combining sheathing, lath and insulating properties into a powerful, rustless binder, securely mounted on a rigid, waterproof base having the same good qualities as a 100 per cent back plastering job.

Makes stucco wall and base material one solid reinforced slab. Joints and corners are made doubly strong by overlapping. The completely embedded, rustproof wire mesh adds greatly to the tremendous toughness and strength a stucco wall requires to last for years—intact.

Comes in sheets 48 by 48 inches, easily applied. Once on, stays put. Minimizes cracking. An ideal base for inside plaster. These are arguments which appeal to home builders and help to give you prestige.

Write for interesting facts today. Use THERMOSEAL. Let us help you "put it over." No obligation at all.



Showing stucco base coat partially applied and how Thermoseal extends around corners, affording a continuous reinforcement of the stucco from all angles.

*Building Materials Division*

# MID-WEST BOX COMPANY

CONWAY  
BUILDING

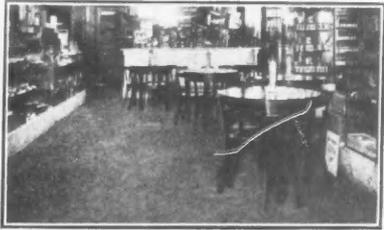


CHICAGO  
ILLINOIS

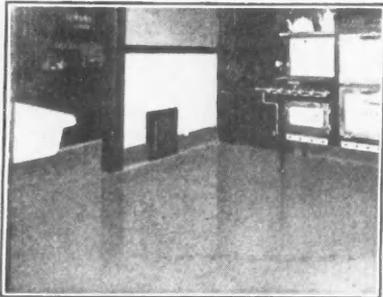
Factories in

Four States

# Every Floor Means Many More Everlasbestos Floors



Everlasbestos Floor in Drug Store



Kitchen Floor of Everlasbestos

**E**VERLASBESTOS FLOORS are so attractive and sanitary that every Everlasbestos Floor laid means many more floors to lay and many more customers for you.

Everlasbestos Flooring is rapidly being adopted in old homes and new for bathrooms, kitchens, pantries and vestibules. Also for schools, churches, public buildings, stores, restaurants and offices.

Laying Everlasbestos Flooring is profitable and is easily accomplished by following our especially illustrated instructions for mixing and laying. Can be put down over old wood or concrete floors or in new buildings.

This sanitary, seamless, dustless, fireproof flooring is making profits for energetic masons all over the country.

Write at once for our illustrated catalog showing the variety of practical uses. Free sample troweled on wood included.

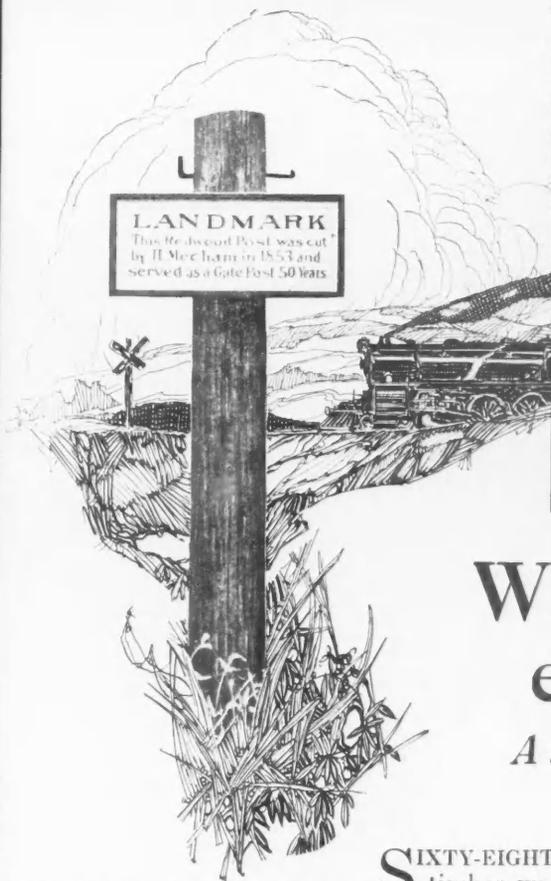
**Everlasbestos Flooring Co.**

North and Amity Sts.

ROCHESTER, N. Y.



# Everlasbestos Flooring



When this Redwood post was dug up after fifty years, it was still free from decay, proving that worms, insects and moisture, earth acids and salts do not destroy Redwood.



Residence—Highland Park, Illinois. Robert Seyfarth, Architect, Chicago. Exterior of Redwood Sawn Shingles.

# What other wood can equal this record?

*A striking example of Redwood's special fitness for Residential Building*

**S**IXTY-EIGHT years ago a Redwood timber was installed as a gate post on a western ranch. It gave fifty years of service before it was dug up to let a railway through. Now it is a landmark which perpetuates the name of a pioneer ranchman. Sound below ground and above ground, this post offers convincing testimony of Redwood's remarkable resistance to rot and decay.

### *Why Redwood resists rot*

A natural, odorless preservative permeates every Redwood fibre during the growth of the tree. This prevents the propagation of fungus spores which cause rapid decay in most woods. It also protects Redwood against wood-boring insects and worms. No artificial preservatives are needed.

### *Where Redwood should be used*

For siding and porch work on which climbing vines retain moisture and foster the development of mould and decay, for shingle roofs shaded by trees

so that they dry out very slowly, for eaves and gutters—wherever moisture lodges—Redwood can be specified with perfect assurance that decay-producing fungus will not make early replacement of these parts necessary.

The same natural preservative that protects growing Redwood against wood-destroying agencies during centuries of growth protects Redwood lumber and lumber products.

### *Why Redwood should be used*

In addition to its rot-resisting properties Redwood is free from pitch and other highly inflammable resinous substances, therefore reduces the fire hazard wherever used. Being unusually free from knots, splits, checks and other defects, there is little waste in Redwood lumber. The builder's time is saved in working with Redwood. Having a close grain and smooth texture, Redwood takes and holds paint well. In a Redwood house, repair and up-keep expenses are reduced to a minimum.

*For the convenience of architects and builders we have recently issued our "Construction Digest" and our "Engineering Digest." Our New York or Chicago office will gladly send these publications on request.*

CHICAGO 2066 McCormick Bldg. NEW YORK 833 No. 40 Rector St. Bldg. THE PACIFIC LUMBER CO. of Illinois

SAN FRANCISCO 311 California St. LOS ANGELES Central Bldg., 6th and Main Sts. PACIFIC LUMBER CO.

### Redwood should be specified for

#### *Exterior Construction*

including—Colonial siding, clapboards, shingles, door and window frames—gutters, eaves, water tables and mudsills—porch rail, balusters and columns—mouldings and lattice—pickets and fencing—pergolas and greenhouses.

#### *Interior Finish*

Natural, stained or painted. Wood block floors.

#### *Industrial Uses*

Tanks and vats for water, chemicals and oil—Factory roofs and gutters—Wood block flooring.

#### *Wood Specialties*

such as—Caskets and burial boxes—Incubators and ice cream cabinets—Cigar and candy boxes—Furniture manufacturing, etc.

#### *Railroad Uses*

such as—Railroad ties and tunnel timbers—Signal wire conduits and water tanks—Car siding and roofing.

#### *Farm and Dairy Uses*

such as—Silos, tanks and troughs—Hog feeders and implement sheds—Wood block floors, etc.

*"The Western Wood for Eastern Homes"*

**The Pacific Lumber Co.**  
**Redwood**

*The Largest Manufacturers and Distributors of California Redwood*

# 21 Years without Repairs Plumrite Record at the St Regis



Piece of pipe referred to in the accompanying letter. Note full threads and full thickness of the wall throughout the length. Also the softness of the pipe as evidenced by the crushing of the sides with the pipe tongs when removing it. The roughness on the inner surface is a slight scale formation and not corrosion.



When you specify Plumrite, it means more than calling for so many pounds of brass pipe. It means that you have provided for a constant water supply as long as the building stands—that a system has been installed which can be forgotten insofar as repairs are concerned.

One of the many cases substantiating this point is that of the St. Regis hotel in which Plumrite Brass

Pipe was installed for all water lines. That was 21 years ago and, as indicated by the manager's letter, "No repairs have been made."

The picture of the pipe shown is part of the one referred to in the letter. There is no evidence of corrosion; pipe threads are sharp and clean and the pipe body, tough but yielding—that is Plumrite even after 21 years of service.

BRIDGEPORT BRASS COMPANY, Bridgeport, Conn.

## Bridgeport Plumrite *The Improved* Brass Pipe

**if** you are at all interested in the subject of water service piping, we shall be glad to send you, when issued, a copy of our book, "Brass Pipe and Piping." It deals with corrosion, its theory and prevention; discusses

the advantages and disadvantages of the various pipe metals; and gives instructions for handling brass pipe, laying out installations and figuring costs. Copies will be supplied gratis on request—use this coupon.

Name .....  
Firm .....  
Position .....  
Street No. ....  
City.....State.....

# Fittingly Crowned with Copper

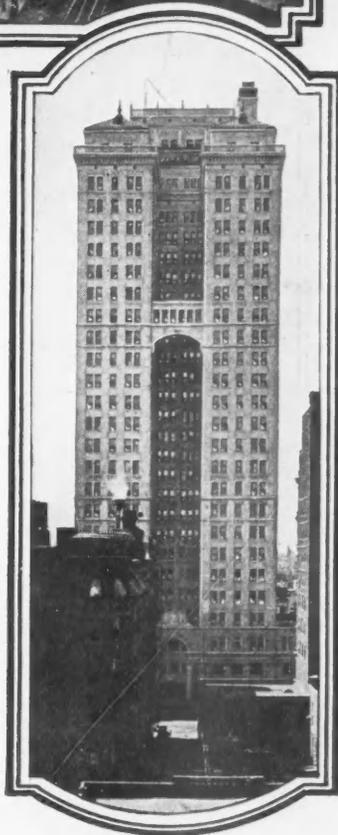
Architectural monuments in New York and elsewhere are roofed for the greatest permanence and economy.



Woolworth Building, New York  
Architect, Cass Gilbert,  
New York



L. C. Smith Building, Seattle, Wash., Architects, Gaggin & Gaggin, Syracuse, N. Y.



Magnolia Petroleum Building, Dallas, Tex. Architect, Alfred C. Bossom New York.

A PLEASING sight on thousands of buildings in New York, the old-green tone of Copper also is a satisfying part of the architectural vista in other cities.

For illustration of the use of Copper as a roofing material we have taken three tall buildings—the Woolworth, the highest building in the world, and the L. C. Smith Building at Seattle and the Magnolia Petroleum Building at Dallas, the tallest buildings outside of New York.

These buildings were of course erected with durability as the main thought.

Brass pipe is another repair-saving item where full consideration is given to lessening depreciation and upkeep.

*“Copper and Brass are cheaper because you pay for them only ONCE”*

*“Copper Roofing,” a manual for architects, is out in a second edition and will be mailed upon request.*

## COPPER & BRASS RESEARCH ASSOCIATION

25 Broadway - New York

## Smith: His Roof

Smith is that kind of a man about everything. When he gets through doing something, he wants it to be a monument to his good taste, good sense, open-mindedness, shrewd purchasing ability.

He isn't one of those know-it-all gents, exactly, but he has enough mental restlessness to make him a poor pal for people whose first objection always is "It's never been done." Smith once told a man that said that to him, "You'd be one of those that sent Daguerre to the insane asylum for saying he could print people's faces on tin."

When Smith was talking roofs with the architect he had selected to build his new house, the architect wanted to use colored slate or stained split shingles. Smith wanted zinc.

The architect couldn't see it at first. He never had used zinc shingles. He'd heard about them. Thought they were good for some things—unequalled wear, favorable first cost, absolutely no up-keep, fire, water, and lightning proof, wouldn't warp, rot, crack, split, etc., but—

"Well," said Smith, "but—in the name of But—but what?"

"They," said the architect, "they are not artistic."

And then Smith said something no owner

should say to his architect, (but who doesn't?): "How do you know? Let's see. I like all I know about zinc, and all you've said about it simply confirms my opinion."

So they looked, and when they saw how, through ingenious designing, this perfect material had been made into a shingle with a butt end just like a heavy slate, and how all the peculiarities of zinc's qualities had been provided for and capitalized, Smith had his way and got an Illinois Zinc Shingle Roof that he is proud of.

And fifty or a hundred years from now, if you are still around and the rest of Smith's house is still standing, there you'll see sure enough, Smith's roof as good as the day it was laid, and as good looking too.

Good architects and builders keep ahead of the Smiths of the world. Do you *know* all you should about Illinois Zinc Shingles. . . or are you waiting for Smith?

Since this shingle was introduced two years ago, thousands of inquiries have come to us from architects, builders, metal workers and others who are always on the lookout for ways of enhancing their reputation and giving their patrons more value for their money. May we send you details?



**ZINC SHINGLES**

"THE ROOF THAT'S ALWAYS NEW"

**ILLINOIS ZINC COMPANY**

332 So. Michigan Ave., Chicago, Ill.

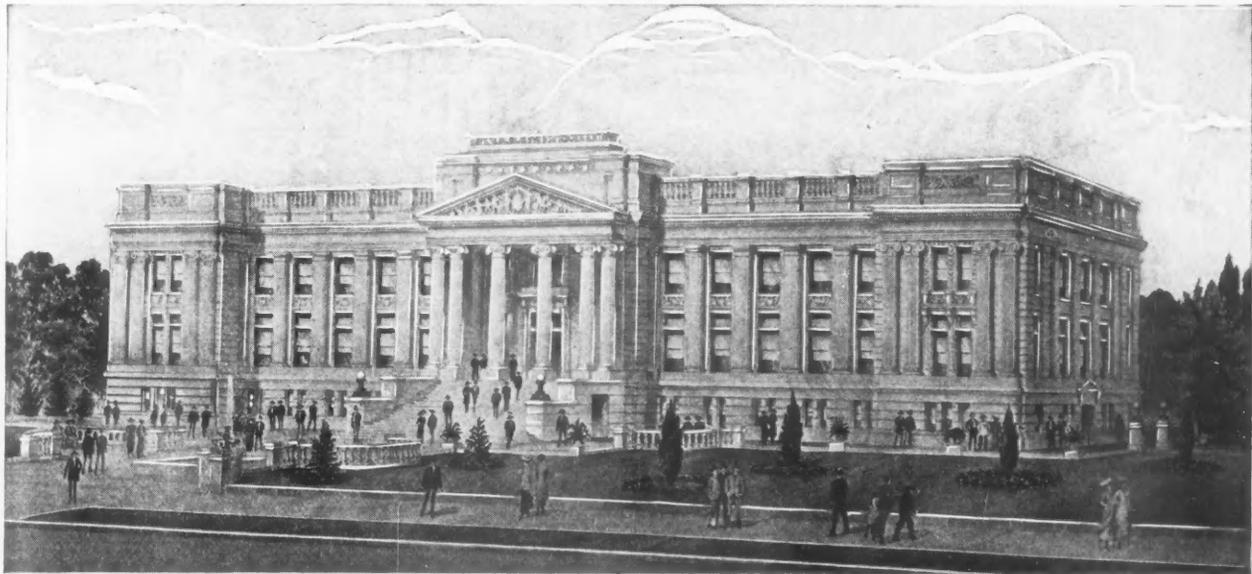
280 Broadway, New York City

1331 Filbert St., Philadelphia, Pa.

Smelters and Rolling Mills, Peru, Ill.

Established 1870

*Corrugated Zinc Sheets for Roofing and Siding—Illinois Zinc Shingles—Strip or Ribbon Zinc—Slab Zinc (Spelter)—Wide Zinc Sheets  
Producers of Electrolytic Slab Zinc guaranteed 99.99% pure zinc. The highest grade of Slab Zinc produced in the world.*



City and County Building, Provo, Utah.  
Joseph Nelson, Architect.

Keystone Copper Steel used for sheet metal work.

**S**HOULDERING the burden of your sheet metal problems is part of our daily work. More than that—we are prepared to furnish products that will help keep them solved. This is evidenced by our development of Keystone Copper Steel—the alloy which has established a new measure of service for building construction, and sheet metal work.



*Keystone Copper Steel is an alloy made by the addition of a certain percentage of Copper to well made Steel, thereby greatly increasing its lasting and rust-resisting qualities under actual service conditions. It has been scientifically developed and tested—and its use is strictest economy.*

The high reputation of our products is recognized wherever sheet metal is used. Each brand of our manufacture has behind it a service—the scope of which has a tangible value to every architect, contractor and builder. This service begins with the planned care and skill in the making, which is carried through to the thorough system of distribution which keeps these products obtainable in every part of the country.

For roofing, siding, gutters, spouting, eaves trough, sheet metal and tin work, use Keystone Copper Steel Galvanized Sheets and Roofing Tin Plates—best for both builder and property owner. Sold by leading metal merchants, and used by leading roofers and contractors.

# American Sheet and Tin Plate Company

General Offices: Frick Building, Pittsburgh, Pa.

DISTRICT SALES OFFICES:

Chicago Cincinnati Denver Detroit New Orleans New York Philadelphia Pittsburgh St. Louis  
Export Representatives: UNITED STATES STEEL PRODUCTS COMPANY, New York City  
Pacific Coast Representatives: UNITED STATES STEEL PRODUCTS COMPANY, San Francisco, Los Angeles, Portland, Seattle



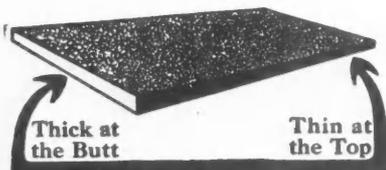
## "I'm putting Winthrops on my new house"

The man who said that is a Winthrop Tapered Asphalt Shingle Dealer. He has been selling these tapered asphalt shingles for years and he has never had a complaint from any of his customers.

He knows that Winthrops lie flat on the roof, that they make a perfect seal against the weather and are beautiful to look at. He knows they will last for years because the first few squares he sold are still giving absolute satisfaction and show no signs of age or wear.

There is still time to get a lot of re-roofing jobs done before winter and Winthrops are the shingles to use. Because of their shape, tapered, they can be laid right over the old shingles and will stay as flat and smooth as though laid on new roof boards.

There is some valuable Winthrop territory open. Full information on the enviable Winthrop Dealership will be sent on request. Don't let your competitor get this valuable business. Write now. Address the nearest factory.



#### Chicago, Ill.

Beckman-Dawson Roofing Co.  
Dept. B-23, 19 South La Salle St.

#### Detroit, Mich.

Peck Asphalt Shingle Co.  
Dept. B-23, 135 Jefferson Ave. West

#### Lockport, N. Y.

Lockport Paper Co., Dept B-23.

#### Brantford, Ont.

Brantford Roofing Co., Limited  
Dept. B-23.

#### Windsor, Ont.

Canadian Roofing Mfg. Co., Limited  
Dept. B-23.

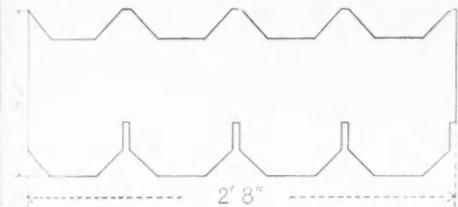
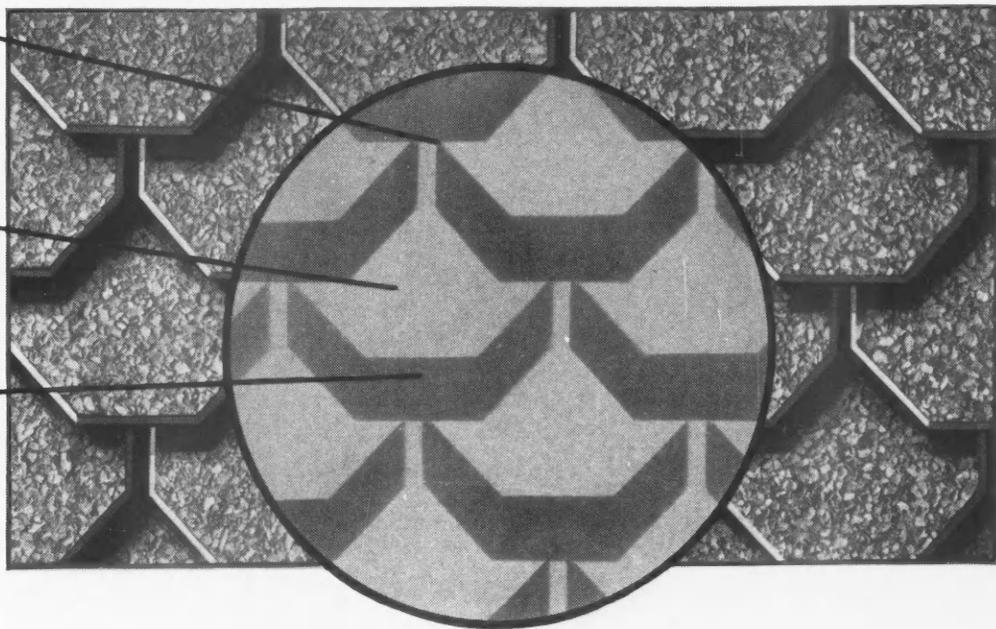
-the  
Big Butt  
Shingle  
**Winthrop**  
Tapered Asphalt Shingles

# STUDY THIS X-RAY FOR A MINUTE

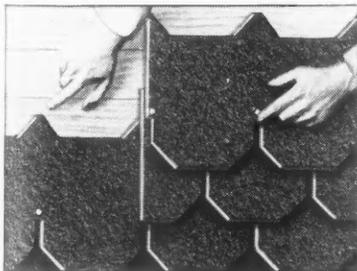
Triangular tab at top of each slab underlies slots in second course above, giving double thickness where it is most needed. This Doubletite feature is patented.

Light gray section indicates all-over double thickness of Doubletite.

Dark gray spots denote triple thickness in vital spots.



Doubletite is the widest 4-in-1 slab shingle made. Easy to handle and automatically spaced.



A shingle is cut away to show how patented triangular projection gives double thickness in slot where other medium-priced slabs have only single thickness.

**A** GLANCE at this X-Ray shows why Vulcanite Doubletite builds a roof with double thickness, double wear and double weather protection at every point. Also triple thickness at vital points.

No other medium-priced slab shingle gives this important advantage. *It's patented.* So no other shingle is made like it or *can* be made like it.

Doubletite is the widest 4-in-1 slab shingle on the market — 12 inches. It's the heaviest, too.

Lies perfectly flat. Won't curl in any climate.

Extra thickness and unusual octagonal shape give Doubletite an expensive Italian tile-like appearance. Extremely popular among owners of fine homes.

Automatic spacing makes it absolutely impossible to go wrong in laying.

Write us for full-sized sample and detailed Vulcanite proposition. If you specify, sell or lay roofings, it will surely interest you.

### VULCANITE ROOFING DIVISION

The Beaver Products Company, Inc.

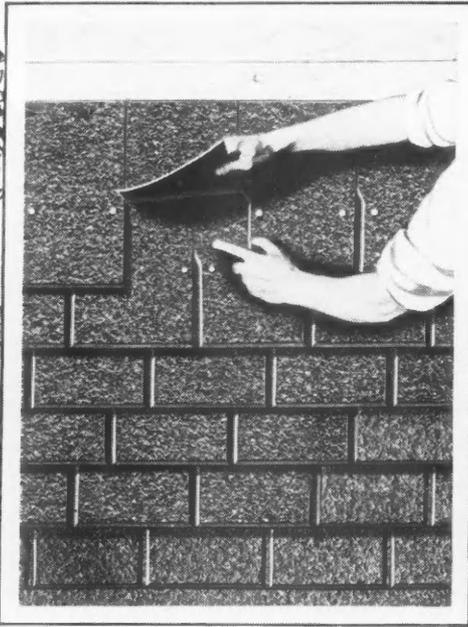
Administration Offices, Buffalo, N. Y.

District Sales Offices: Albany, N. Y.; Cincinnati, Ohio; Chicago, Ill.; Kansas City, Mo., and San Francisco, Calif.

# VULCANITE ROOFINGS



## VULCANITE QUALITY FOR BETTER ROOFS



### Vulcanite Self-Spacing Shingle

Patented shoulder makes correct application extremely simple. Set upper half of each shingle flush against next and spacing is done quickly, accurately and automatically. Laid according to instructions, you get a roof that's triple thick except at slot. Rain and snow can't drive into roof boards.

## Two Patented Vulcanite Roofings, Each Unequaled in Its Class

WITH Vulcanite Doubletite, the two patented specialties shown on this page give Vulcanite dealers three roofings, each of which is unapproachable for its particular use.

Think of the strategic position in which such a proposition places you.

And bear in mind that these three specialties are backed by a line that includes a better roofing for every need. Vulcanite is made in a varied combination of styles, weights and finishes, each suited to a special service and each of high quality and lasting dependability.

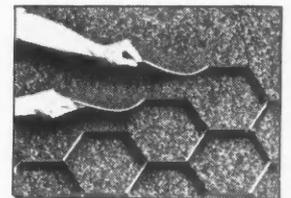
Another most important factor from your standpoint is this: *no matter where you are located, we can promise quick deliveries and low freight rates.* Factories at Albany, N. Y.; Anderson, Ind.; Chicago, Kansas City and San Francisco. Also conveniently located warehouses.

We will gladly have one of our many roofing experts call on you and explain the Vulcanite line in detail. Communicate with our nearest office. Full-sized samples on request.

#### VULCANITE ROOFING DIVISION

The Beaver Products Company, Inc.  
Administration Offices, Buffalo, N. Y.

District Sales Offices: Albany, N. Y.; Cincinnati, Ohio; Chicago, Ill.;  
Kansas City, Mo., and San Francisco, Calif.



### Vulcanite Hexagon Slab

A distinctive Vulcanite design with unusual decorative possibilities. Highest possible quality. Considerably wider than ordinary slab shingle. Double thickness at every point. Patented design assures proper application. Can be applied directly over old shingles. Many dealers have developed profitable business in Hexagon Slabs for this use alone.

### The Complete Vulcanite Line Includes

Standard Individual Shingles  
Self-Spacing Individual Shingles  
(Standard and Jumbo Weights)  
Hexagon Slab Shingles (Standard  
and Jumbo Weights)  
Doubletite Slab Shingles  
Four-in-One Slab Shingles  
Slate Surfaced Roll Roofing (Standard  
and Jumbo Weights)  
Smooth Surfaced Roll Roofing  
(Talc, Mica and Sanded Finishes)  
Ornamental Roll Roofing  
Vulcanite Built-up Roofing

Our line of deadening felts, cements  
and roofing paints is also complete and  
includes an item for every use.

# VULCANITE ROOFINGS



VULCANITE QUALITY FOR BETTER ROOFS

# Desco METAL STORE FRONTS

"DESCO" is a combination  
of simplicity and strength  
—sold at a moderate price.

## A BOOK OF MONEY! —send for it TO-DAY!

Scores of contractors and carpenters will tell you that the Desco Store Front Manual is "a book of money".

They will tell you that every page of this illustrated book contains money-making information—designs and methods for installing Desco Store Fronts that have enabled these contractors to successfully launch into the store front business and increase their profits. Knowledge of the business is unnecessary because the book gives helpful information in detail.

Desco Store Front construction is built to enable you to easily order and install it. Every unit—sash, corner bar, division bar, mouldings, etc., is simple, strong and built to last for a long period of years. See Sweet's catalog.

Branch out into this new and profitable business. One attractive Desco installation will bring you other orders. The Store Front Manual contains valuable information and will be sent upon receipt of coupon. Fill out the coupon today.

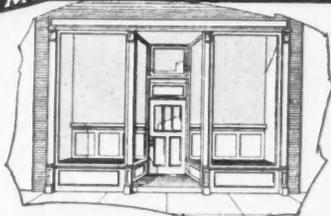
**DETROIT SHOW CASE COMPANY**  
1654 Fort Street West      Detroit, Michigan

### These Distributors Carry Complete Stocks of Desco Construction

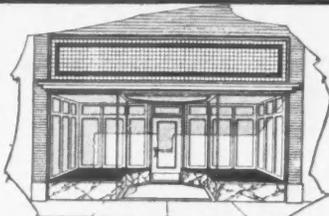
- |  |   |  |
|--|---|--|
| Pacific Builders Supply Co., Los Angeles, Calif. | Atlas Paint & Glass Mfg. Co., Kansas City, Mo.      | John Lucas & Co., Inc., Pittsburgh, Penna. |
| John J. Kinsella Co., Chicago, Ill.              | S. Schemer, Baltimore, Md.                          | Akron Mirror & Glass Co., Akron, Ohio.     |
| Thoma & Son Inc., Fairfield, Ia.                 | St. Paul Glass Co., St. Paul, Minn.                 | Riddle Co., Nashville, Tenn.               |
| H. Neuer Glass Co., Cincinnati, Ohio.            | Toronto Plate Glass Importing Co., Toronto, Canada. | Patek Bros., Milwaukee, Wis.               |
|  | Jamaica Plate Glass Co., Inc., Jamaica, N. Y.       | (105)                                      |

Write for name of the Desco dealer nearest you if it is not convenient to buy from one of the above distributors

# Desco STORE FRONTS



This Type of Front is Fast Being Replaced by Modern Fronts



Thousands of Contractors Make Money Installing Fronts Like This

Detroit Show Case Co., Detroit, Mich.  
1654 Fort Street West

Gentlemen: Without obligation on my part you may send me a copy of your book containing information regarding store fronts.

Name.....  
Street.....  
City.....  
State.....



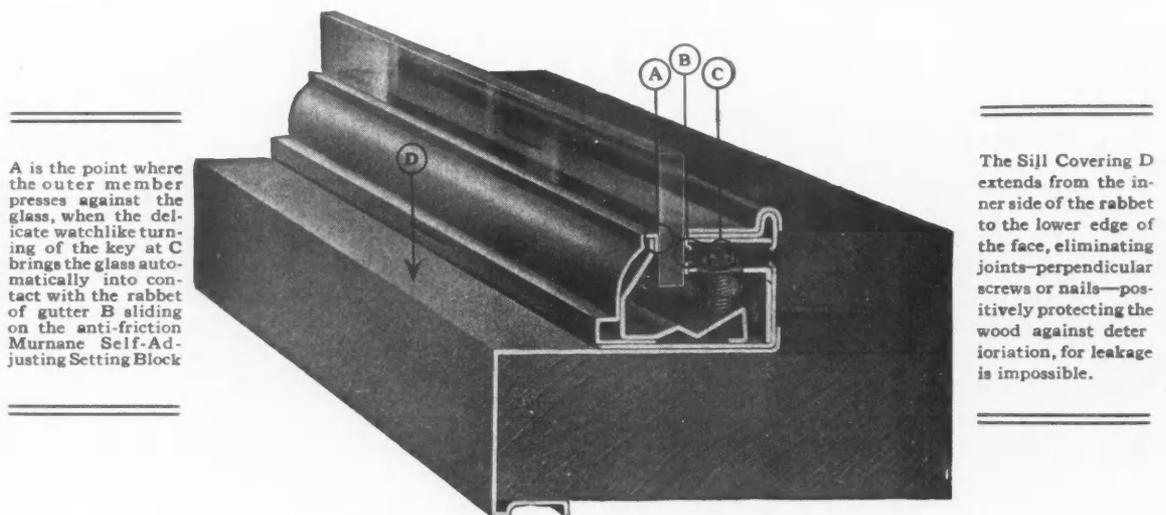
## Think What This Loss Means to You!

Insurance authorities report that there is a loss of several millions of dollars each year due to plate glass breakage. Why are these figures so appalling, when the plate glass breakage evil can be checked?

Faulty setting is the cause of nearly all plate glass breakage. This great loss—borne alike by merchant, manufacturer and insurance companies—will be sharply reduced if the following is made a part of all store front specifications:

### Glazing Specifications

**All Metal Sash, Corner Bars, Division Bars and Self-Adjusting Setting Blocks Used in Store Fronts Must Be Listed by the Underwriters' Laboratories**



A is the point where the outer member presses against the glass, when the delicate watchlike turning of the key at C brings the glass automatically into contact with the rabbet of gutter B sliding on the anti-friction Murnane Self-Adjusting Setting Block

The Sill Covering D extends from the inner side of the rabbet to the lower edge of the face, eliminating joints—perpendicular screws or nails—positively protecting the wood against deterioration, for leakage is impossible.

No. 110 Zouri Combination Key-Set Sash and 705 Sill Covering

Your aid in checking this enormous waste is earnestly solicited. With your help this unnecessary expense may be banished—this direct reflection on everyone having to do with plate glass installation will be removed.

All Zouri Key-Set Sash, Corner Division Bars and Self-Adjusting Setting Blocks have been listed by the Underwriters' Laboratories.

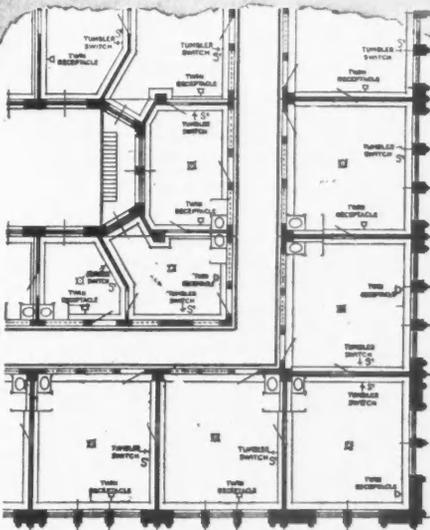
# Zouri Drawn Metals Company

Factory and General Offices

1622 EAST END AVENUE

CHICAGO HEIGHTS, ILLINOIS

*American business men are keenly appreciative of convenience as a means to greater efficiency*



### Convenience— an essential of modern building

**O**F what use to a tenant are firm foundations and a skilfully designed structure if there are no *conveniences*?

Factories, homes, offices—all require convenience as a first essential. Business demands it, a builder's reputation grows upon it.

A limitation on conveniences is a limitation on profits. Follow the course of least sales resistance by having complete electrical convenience.

G-E Wiring Devices furnish a ready means. There are over 3000, one for every possible requirement. All are architecturally harmonious; all are sturdy and dependable.

G-E national advertising is creating a demand for the comforts and conveniences of completely wired homes. Builders can profitably capitalize this demand.



For information, address Merchandise Department, General Electric Company, Bridgeport, Conn.

# General Electric Company

General Office Schenectady, N.Y. Sales Offices in all large cities



Customer:—

*“What heating equipment do you install in your houses?”*

Builder:—

*“Holland Furnaces.”*

Customer:—

*“Good! Then my purchase will depend entirely upon house location and room arrangement. I am satisfied that you use nothing but quality material and workmanship from basement floor to chimney top. The name Holland is sufficient.”*

## HOLLAND FURNACE COMPANY

*Largest Installers of Furnaces in the World*  
Directly and Solely Responsible to You

General Offices:

**HOLLAND, MICHIGAN**

Two Factories:—Holland, Michigan  
and Cedar Rapids, Iowa

Over 240 Factory Branches  
in Central States



## Large—Small—Wide—Tall There's a "Sunbeam" for Every Kind

No matter what style, size or plan of house you are building there is a Sunbeam Furnace that will heat it, and heat it thoroughly and economically. You can be absolutely sure that your reputation as a builder will be promoted by "Sunbeam" performance.

The Sunbeam Pipe or Pipeless Furnace, is a volume heat producer. It floods every room with its fresh, warm, healthful air. By reason of increased heating surfaces and enlarged, scientifically designed casings maximum air circulating capacity is attained. And it is heavy enough to withstand the most severe, zero weather service. It is a "quick action" heat machine that gets busy in the early morning and keeps up its steady flow of heat throughout the day. And morning,

noon or night it saves fuel by utilizing every unit of heat.

### *A Low First Cost*

When you see how sturdily the "Sunbeam" is built and know how surely it will perform in the houses you build, you will be surprised to find how little it costs. Volume production of furnaces *exclusively*, combined with a policy of small profit per unit and volume sales makes this attractive price possible. You can safeguard the owner's interests and have the advantage of a better profit.

Sunbeam Dealers and distributors are ready to serve you. Send for the "Sunbeam" Book and turn your houses into homes.

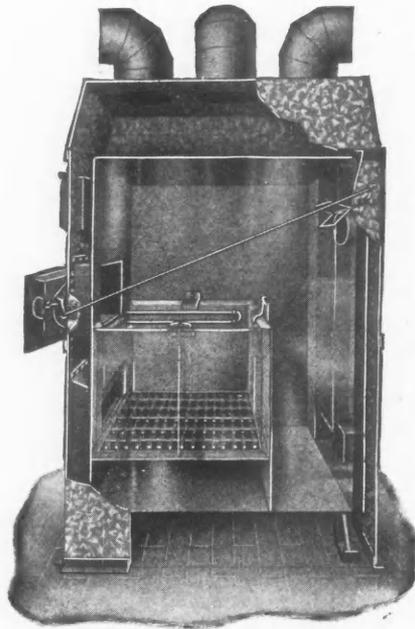
THE FOX FURNACE COMPANY, ELYRIA, OHIO

# SUNBEAM

PIPE *and* PIPELESS

## FURNACES

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



# HESS

## Welded Steel Furnaces

**Are Long of Life, and Every Day's Use  
Develops Economy and Efficiency**

**T**HERE was a time when the durability of steel in furnace construction was under suspicion, but "those days are over." We have demonstrated in the past thirty years that steel is inexpensive to maintain and costs less for repairs in the long run than cast iron.

The advantages of steel, in quick radiation of heat, promptness and ease of regulation, and absolute freedom from leakage confirm our judgment in the use of this metal for furnaces.

### WE GUARANTEE

that our welded seams will never leak as long as the furnace shall stand. What maker of cast iron furnaces could guarantee that?

We guarantee also, that the steel will not rust nor burn through for five years after installation. Our guarantee is good. Ask any banker.

**Hess Warming & Ventilating Co.**  
1220 K Tacoma Building Chicago

*Our Booklet (1922 Edition) tells you a lot more. Ask for one!*

# The Man Who Knows Is the Man to Consult

The Brick Mason knows just how to get the most effective results in brick work at the most reasonable figure. That's his line.

The Electrical Contractor knows which electrical fixtures are the greatest values. That's his line.

## The Plumbing Contractor Knows Plumbing Fixtures. Get His Advice

Tell him what your needs are and you'll find him anxious to give you the benefit of all he knows.

When it comes to the choice of a hot-water tank he will tell you that the "STAR NACO" RANGE BOILER is the greatest value in the field. Where your experience with boilers might be confined to two or three that have been put in for you, he forms an opinion on hundreds and sometimes thousands that he handles during the year.

When he gets enthusiastic over "STAR NACO" RANGE BOILERS and tells you that they are the greatest values going and that they have no equal, it means that he knows. Take his advice.

## Order A "STAR NACO" Hot Water Supply Tank

### Here's What One Plumber Says About It

Detroit Range Boiler & Steel Barrel Co.  
Detroit, Mich.

Detroit, Mich., Oct. 8, 1921

Gentlemen:—

I would like to get one of your range boiler manuals.

I have been in business here for 7 years and have used in the neighborhood of 200 range boilers and every one has been a "STAR NACO" standard or extra heavy. I have never had to replace one because of any defect whatever. I refuse to install any range boiler that is not a "NACO" and would like to see the time when nothing else would be permitted. I replace a good number of range boilers and it is seldom I find a "NACO" that has not given 10 years of service.

I believe it is your duty as well as to your interest to educate the plumbing and heating trade to the difference in quality in range boilers. Thanking you in advance for the manual, I am,

Yours respectfully,

WILBUR N. WILLIAMS  
Plumbing and Heating  
Detroit, Mich.

DESCRIPTIVE CIRCULAR SENT ON REQUEST

**Detroit Range Boiler & Steel Barrel Co., Detroit, Michigan**

NEW YORK

CHICAGO

TRENTON

TOLEDO

ST. LOUIS

SAN FRANCISCO



### Six All "Star" Features of "STAR NACO"

- 1 Double seal seam. Riveted and welded. Double protection against leaks.
- 2 Copper bearing steel. Resists rust and corrosion. Makes every boiler last longer.
- 3 Riveted side spuds that will not twist out at time of installation.
- 4 Heavy coat of pure zinc spelter galvanizing put on by hot dip process.
- 5 Head spuds that prevent accumulation of dross by permitting drainage of spelter at time of galvanizing.
- 6 Heavier steel is used for greater strength.

# The Work the *Sterling* Does



### MORE WORK

When you figure the initial cost of any wheelbarrow as compared with the daily wage of the man who wheels it, you will understand why we emphasize the work a Sterling does.

For Sterlings on your job **really do mean** more work done each day. Take the **self-lubricating bearing**, for example. This one feature of Sterling construction reduces wheeling effort 50%.

Then there is the **flat leg bearing reinforced**. No tipping a Sterling—it stands where it is put while loading.

The axle is locked with a cotter pin so it can't turn with the wheel—another great advantage.

### STRENGTH

Keeping wheelbarrows on the job means keeping money busy all the time. No breakdowns—no delays.

Here is the reason for the two extra spokes in the Sterling wheel. Flattened and broken tires never trouble.

And the flat leg bearing with the steel shoe for extra reinforcement. Little chance of the legs wearing through here. Another point, the legs are riveted—no stove bolts to shake loose and out.

Then the handles are clamped on instead of being drilled through the center and bolted. Less splitting—no rights and lefts.

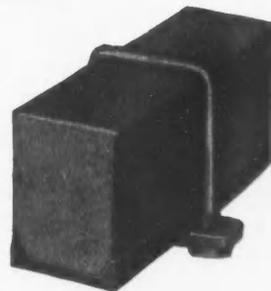
### ECONOMY

More work per man—less repairs and longer life spell **Economy**.

For these reasons Sterling Wheelbarrows are the universal favorites among the contractors—and the workmen too.

"Ask the man who pushes one"  
or write to us for full details

The  
Clamped On  
Handles



The Cotter Pin Lock for Axle

Flat  
Leg  
Bearing  
with  
Extra  
Steel  
Shoe



## Sterling Wheelbarrow Company

NEW YORK  
BOSTON  
CLEVELAND

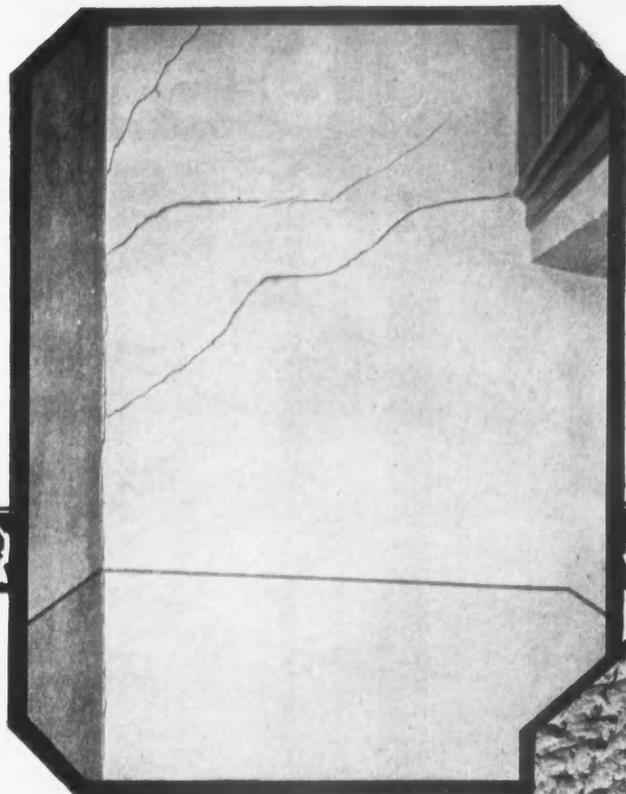
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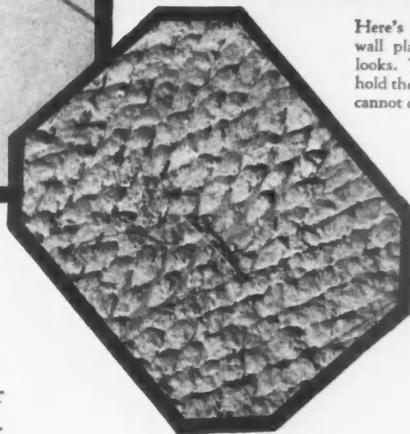
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EXPORT DEPARTMENT  
ALMACOA ALLIED MACHINERY COMPANY OF AMERICA ALMACOA

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



Metal Lath prevents cracks like this



Here's the way the back of a wall plastered on metal lath looks. The strands of the lath hold the plaster tight so that it cannot crack or fall off.

## \$45 prevents ruined decorations

IS there a home builder who hasn't sighed in regret over the annoying cracks in plaster that have ruined expensive wall paper and other decorations?

Actual tests have proved that cracks like those shown in the photograph above, at partition angles, can be prevented by the use of metal lath.

A strip of Mahoning Metal Lath twelve inches wide set into the angle, six inches each way, of every partition corner and at the angle of ceilings with walls in the home in which this cracking plaster appeared would have added less than \$45 to the cost of the building.

All five vulnerable points where cracks usually appear can be protected by metal lath at an additional expense not over 1% of the cost of the building. \$100 additional will place metal lath at these five points in the average \$10,000 home.

Talk to any architect or builder about the advantages of Mahoning Metal Lath—get his experience as to how this steel plaster base prevents unsightly plaster cracks and gives additional fire protection to frame houses.

### Points of Crack <sup>5</sup> Prevention

#### Metal Lath Protects Against Plaster Cracks When Used:-

- A On ceilings of prominent rooms
- B As a 6" lap on either side of wall and partition angles and around door bucks
- C Back of wainscots and tile mantles
- D Across plumbing pipes and heat ducts
- E On exterior walls for successful stucco.

## "Metal Lath Makes Good Frame Construction Better"

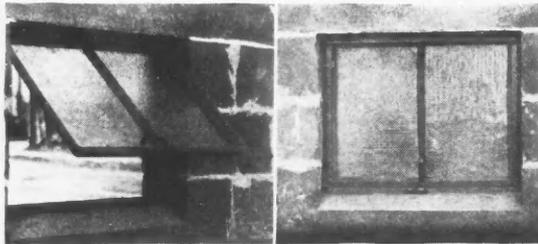
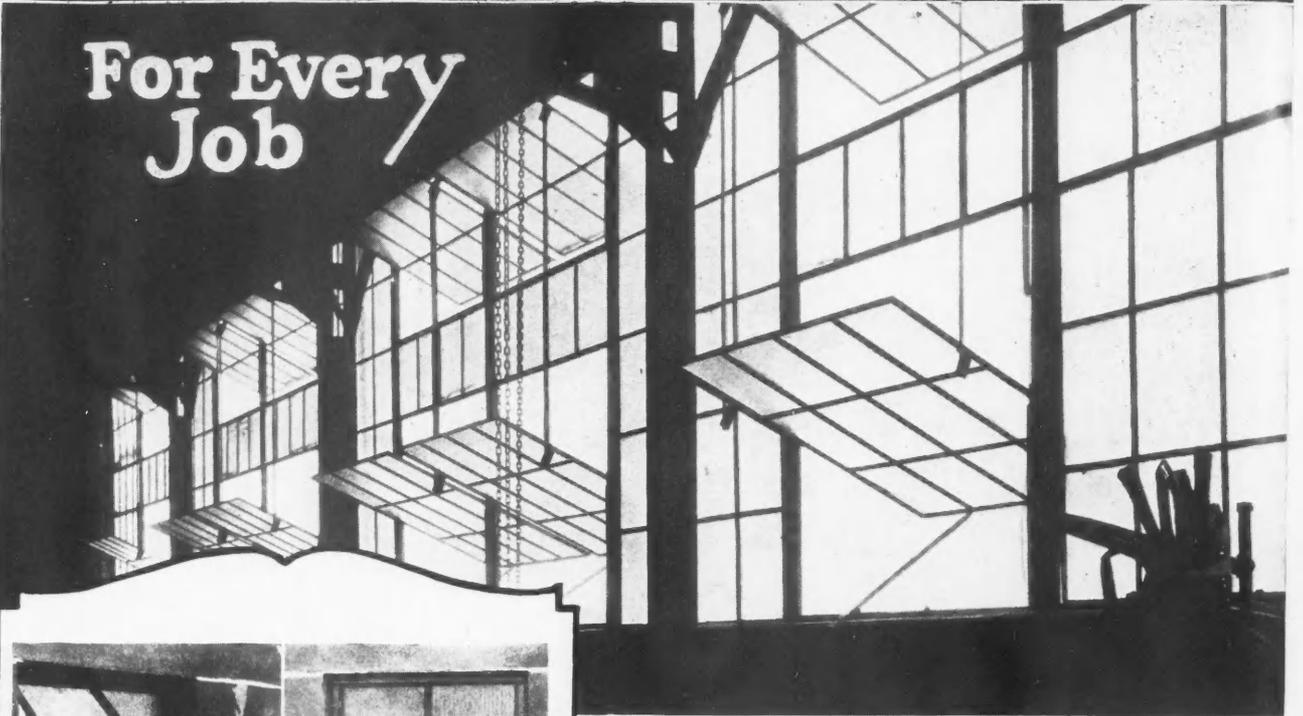
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LEVER LATCHES · FURROW & GONG WHEELS	HOUSING COVERS · BRAKE DRUMS	INDUSTRIAL CAR WHEELS · WHEEL DISCS	COLD FORMED CHANNELS & ANGLES BOTH HEAVY & LIGHT
BARRAGE BOOTH CLAMPS CULTIVATOR SHIELDS	CLUTCH DISCS · STEP HANGERS	HATCH CLEATS · BARREL HEADS	YOUNGSTOWN & PARKER CORNER BEAD EXPANDED METAL
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# FEBRISCO Solid Steel Sash

For Every  
Job



## FEBRISCO Solid Steel Basement Sash and Frames

Neat and trim in appearance. Will not rot, warp, bind or shrink. No hinges, catches or locks to be attached. Give more glass in height and width than ordinary sash for same wall opening. Easy to install. Made in standard glass sizes to meet all practical requirements.



## FEBRISCO Solid Steel Store Front and Show Window Sash

Make an attractive store front or show window. Provide more light for show purposes and for interior of store.

NOTE—All Joints of Febrisco solid steel sash are mortised and welded by special process. This makes joints strong and square; also insures sash arriving on the job in perfect condition. Frame sections are made to provide more than usual anchorage in walls. No projections to collect dirt or moisture.

## This is the Sash the Best Builders are Using

Febrisco, the *solid* steel sash! Constructed of solid, rolled steel sections. Made better than any sash we know of. Earning the outspoken approval and preference of the best builders everywhere.

There is a Febrisco solid steel sash for every job. Febrisco Commercial and Industrial Sash (as illustrated above) for all industrial plants, private garage windows, etc. Febrisco Basement Sash and Frames for basement windows, Febrisco Store Front and Show Window Sash for all types of stores.

Febrisco solid steel sash can be bought in any quantity and will be found as economical as other types of window construction.

Read the brief descriptions of Febrisco solid steel sash printed to the left and see what a superior sash this really is.

*Write for Bulletin describing the type of Febrisco Solid Steel Sash in which you are particularly interested.*

Manufactured by **FEDERAL BRIDGE AND STRUCTURAL COMPANY, Waukesha, Wisconsin**  
Steel Sash *Engineers, Designers and Fabricators* Steel Febrisco Products

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



## Home Lovers Covet These Homes of FACE BRICK



THEY are selected at random from over one hundred distinctive designs reproduced in our booklets of "Face Brick Bungalows and Small House Plans." These attractive homes are the work of capable architects especially skilled in small house designing, and because of their artistic exteriors and convenient interior arrangements have proved exceptionally popular with prospective home builders.

### You Can Build These Homes From Plans We Supply



With these booklets of face brick home designs in your office you can interest your prospective clients in the designs illustrated with full assurance of being able to secure the complete architectural plans. If desired, to meet individual lot conditions, reverse plans may be obtained. These working drawings with masonry material surveys range in price from \$12 a set for 3 and 4-room designs, to \$21 for 7 and 8-room designs.



For your convenience, 3 and 4-room designs have been grouped together in Booklet No. 1; 5-room designs in Booklet No. 2; 6-room designs in Booklet No. 3; and 7 and 8-room designs in Booklet No. 4. These booklets, with reverse plans, place in your hands an unmatched selection of over 200 house arrangements, supplemented with a high grade plan service. Single booklets are 25c, the set of four \$1. Write for them to Dept. A. 9.

### Other Booklets of Value to You

"The Story of Brick," a complete discourse on all factors and advantages of brick construction, sent FREE; "The Home of Beauty," a book of the 50 best house designs submitted in a country-wide architectural competition, price 50c; and the "Manual of Face Brick Construction," a text book of face brick construction, with designs and plans for 30 homes, price \$1.00.

# THE AMERICAN FACE BRICK ASSOCIATION

130 North Wells Street : Chicago

# General Motors Trucks



*GMC owned by Steve Czaplewski & Son of Milwaukee, Wis., delivering material on building job.*



## *Real Motor Truck Construction*

GMC trucks are real motor trucks. There is not a passenger car part in them. Every unit is built for truck use only. Moreover these trucks have been designed for truck use as well as built for it. The engine in GMC trucks was developed for these trucks only. It is not a large sized passenger engine but a real truck power plant embodying features that meet the wants of truck users and that have been determined from a decade of successful truck building. The same thing is true of transmissions, axles, wheels and all other parts of the chassis. Even the electrical equipment is built particularly for GMC trucks and the battery supplied for the lighting system is of extra size and capacity.

GMC trucks all have magneto ignition, electric lights and generator, pressure gun lubrication of the chassis, radius rods, interchangeable brake rods and a host of other refinements that are particularly fitted for motor truck usage and that go to create the dependability for which these quality trucks are known everywhere.

And the cost of GMC trucks is remarkably low considering their quality. The chassis lists at the factory as follows: one-ton, \$1,295; two-ton, \$2,375; three and one-half ton, \$3,600; five-ton, \$3,950; tax to be added.

## Have Tripled Business Since Using GMC Truck To Haul Mason Materials

Five years ago Stephen Czaplewski & Son, Milwaukee mason contractors, decided to try a motor truck as the delivery unit to get their materials to their various building jobs.

They selected a three-quarter ton GMC truck for the work and for three years this truck served them daily, hauling equipment to and from jobs and bringing materials to all parts of the city.

This truck was then traded in on a one-ton GMC which has already completed two years of the same service and is still going steadily every day, averaging about 40 miles daily.

But the important thing is that since using GMC trucks the firm has tripled its yearly business. Not only have hauling costs been lowered but the promptness made possible by this truck has resulted in tripling the volume of business.

### *Well Suited for Fleet Users*

Not only because of the low operation and maintenance of GMC trucks and their unfailing service for a long period, but all because they are stand-

ard built, these trucks are being adopted everywhere by concerns which use large truck fleets.

For there is practically no difference between the construction of the various models of the GMC line except as to size and strength of the units. This standardization of manufacture is reflected in actual service by the savings that can be affected through having drivers, garagemen and mechanics working only upon one style of truck.

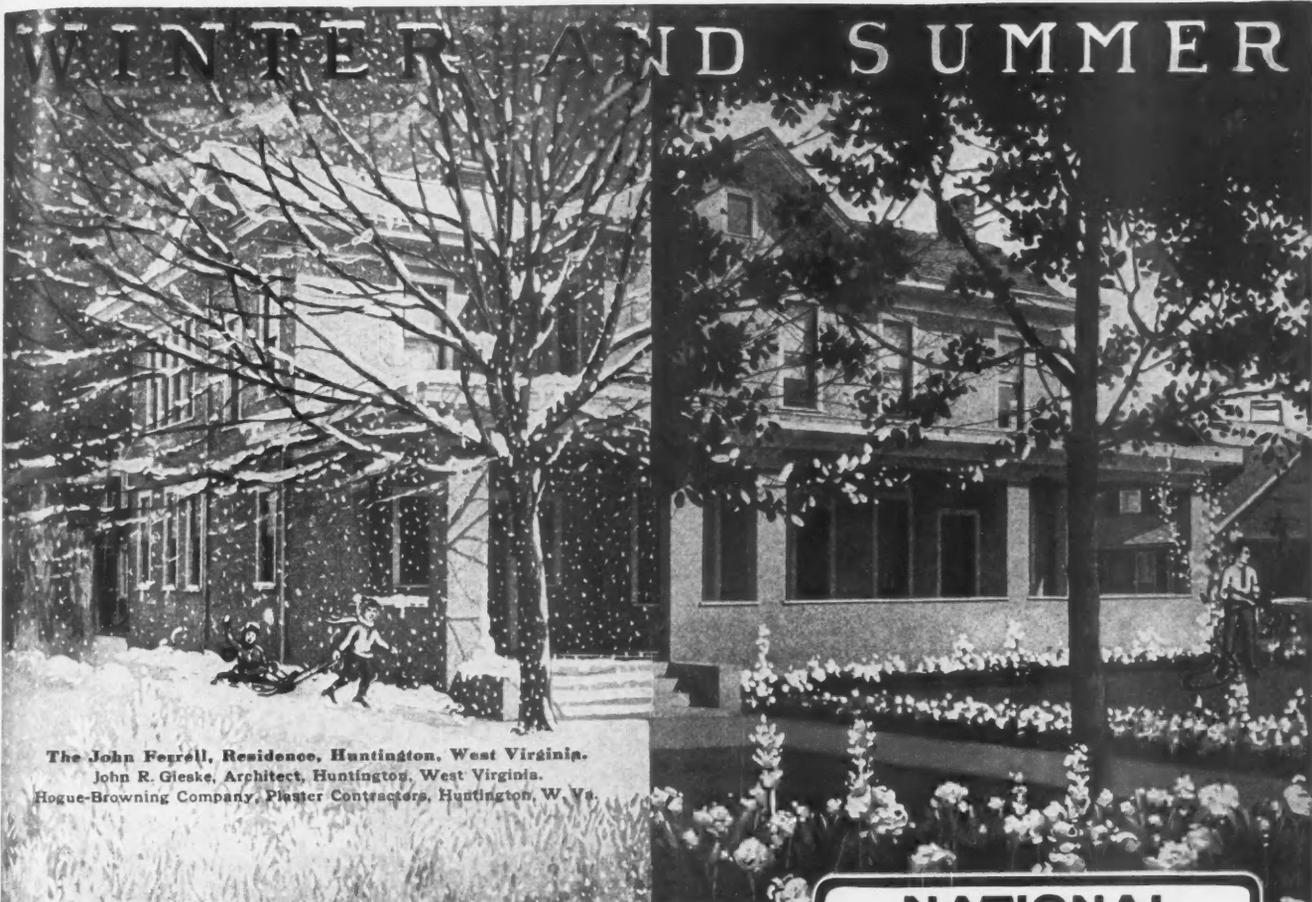
Moreover the GMC line, ranging from one to five tons capacity, offers every practical size for any business. Firms needing both heavy duty and light speedy trucks find the GMC line fits their business requirements perfectly since they have a truck which is exactly like the others in their fleet.

## GENERAL MOTORS TRUCK COMPANY

*Division of General Motors Corporation*

PONTIAC, MICHIGAN

*Dealers and Service in Most Communities*



The John Ferrill, Residence, Huntington, West Virginia.  
 John R. Geske, Architect, Huntington, West Virginia.  
 Hogue-Browning Company, Plaster Contractors, Huntington, W. Va.

**NATIONAL  
 STEEL FABRIC**  
 GALVANIZED



A Galvanized Reinforcement and Base for Stucco Exteriors, Solid Partitions, Walls, Ceilings and for Porch and Bathroom Floor Construction.

Aside from its natural aesthetic beauty, Stucco, when applied over National Steel Fabric, takes the form of a solid REINFORCED monolithic covering over the exterior walls. This means moisture-proof and wind-proof walls; a cool house in summer—a warm and easily heated house in winter.

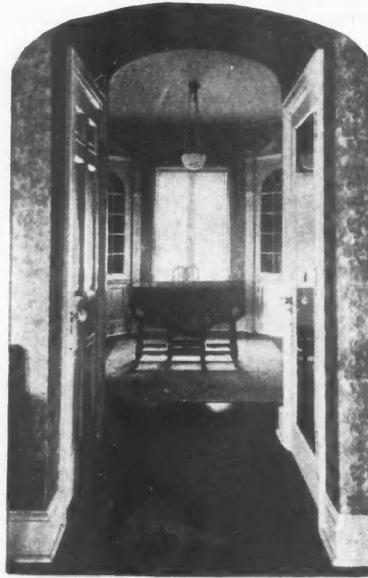
From the moment of application, Stucco has the delightful shades and tones that give a house its homelike appearance as it mellows into the landscape. When properly applied (that is, over a REINFORCING FABRIC—in accordance with the recommendations of the American Concrete Institute), Stucco improves with age, in looks and in structure.

Catalogue and samples sent on request.



TRADE MARK

**NATIONAL STEEL CO**  
**FABRIC CO**  
 Subsidiary of PITTSBURGH STEEL CO  
 UNION ARCADE BUILDING PITTSBURGH, U.S.A.



## Quality is the only true economy

OF course you agree with such a statement. But do you ever weaken when a prospective home builder begins to argue for a lower cost? If he has figures from his lumber dealer on Curtis Woodwork do you tell him that there—on woodwork—is one place where he cannot cut costs without suffering for it?

You know, of course, that when a home builder uses Standard Sizes and Designs of Curtis Woodwork he is practicing the truest economy. When he is led astray by mere prices, based not upon quality but upon selling necessity, he is costing himself money

in the end and making your job of giving him a satisfactory home an impossible one.

No one wants an unsatisfactory home. You are in a position to do a great deal toward keeping the home builder from error.

No contractor wants to build an unsatisfactory home. There is no money in it. He does not gain customers in that way.

Curtis Woodwork makes satisfied home owners, contractors and lumber dealers. If you are not thoroughly familiar with Curtis Woodwork write us. Let us send you windows for Better Built Homes, for even in windows Curtis has certain points of superiority.

### THE CURTIS COMPANIES' SERVICE BUREAU

Dept. 13

CLINTON, IOWA

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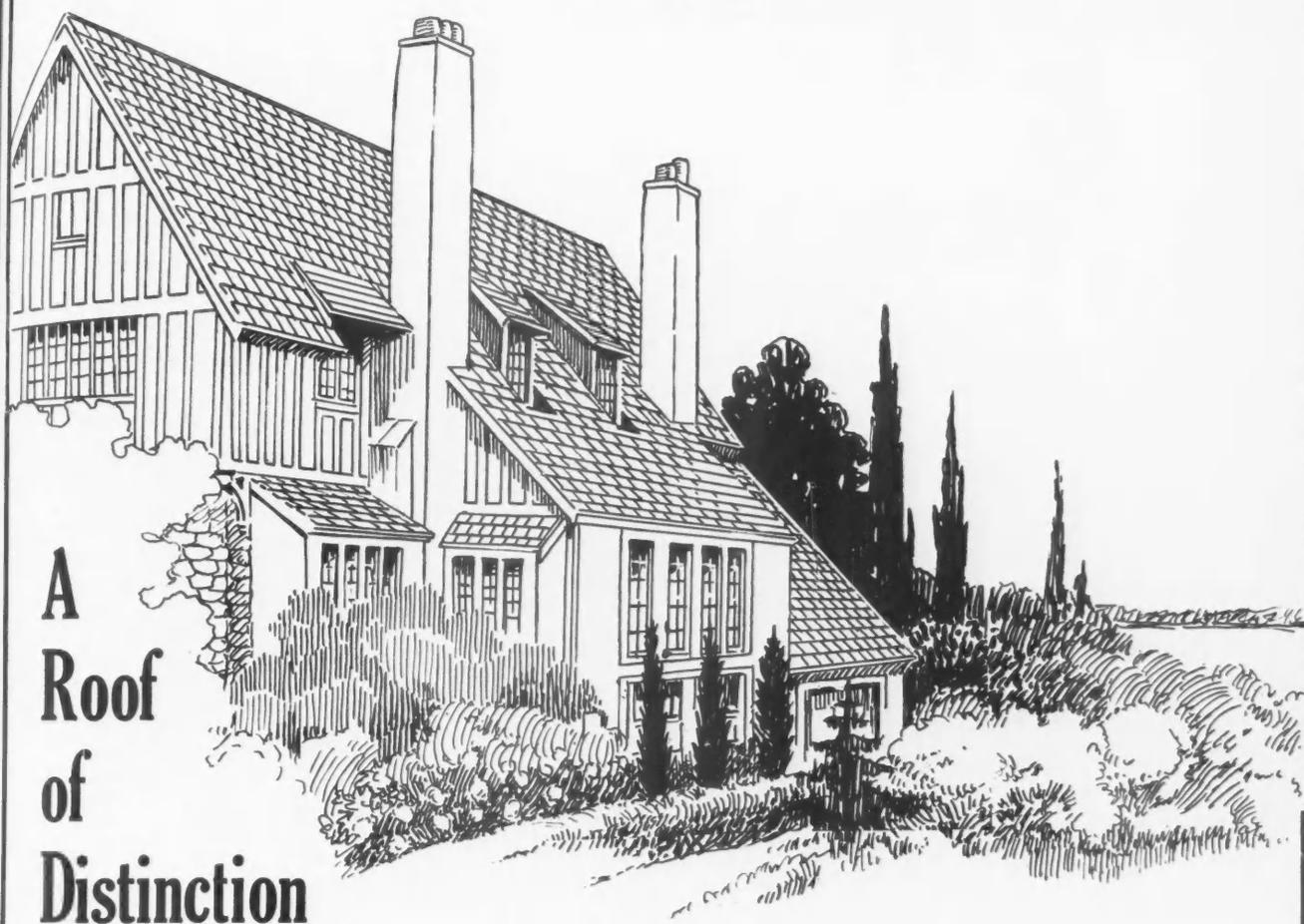
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The makers of **CURTIS** Woodwork guarantee complete satisfaction to its users. "We're not satisfied unless you are."

1866  
**CURTIS**  
**WOODWORK**

"The Permanent Furniture for Your Home"



## A Roof of Distinction

The best dressed man is he whose clothes are distinctive yet quiet in tone. So the roof which is distinctive and quiet in tone best harmonizes with the house and its surroundings.

## BLUE ASPHALT SHINGLES

Surfaced With

## Flint-Arrow BLUE Slate

make a roof which best produces this much sought for effect. The deep blue-black tone with its play of light and shade among the granules gives an effect of depth and richness which is distinctly artistic and satisfying to the eye of the most critical.

*This effect is secured only in shingles surfaced with Flint-Arrow BLUE Slate. Shingles with this surfacing are made by most of the leading roofing manufacturers and can be obtained through dealers everywhere.*

*Ask your local dealer for sample and information or write us*

## BLUE RIDGE SLATE CORPORATION

ESMONT, VIRGINIA

# ATKINS

## SILVER STEEL SAWS



ATKINS SILVER STEEL SAW No. 51  
Old Style Handle, Skew Back



ATKINS SILVER STEEL SAW No. 53  
Perfection Handle, Skew Back



No. 64, STRAIGHT BACK, SILVER STEEL  
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SAW No. 72  
Carpenter's Set, Nickel Tool



**Hand, Rip and Panel Saws,  
Straight or Skew Back,  
Wide or Ship Point,  
Improved Perfection or  
Old Style Handles**

Only Atkins can supply a wide range of popular patterns like the above, and for that reason,

### ATKINS SILVER STEEL SAWS

are becoming very popular among carpenters, farmers, mechanics and the home saw user.

You will find illustrated, straight and skew back saws fitted with both the new Perfection and the old style handles. The No. 72 Saw is a Ship Point saw.

Give Atkins Saws a trial and it will not be long until you will be convinced that they are

**"The Finest on Earth."**

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carpenter's apron, pencil and  
"Saw Sense" booklet.



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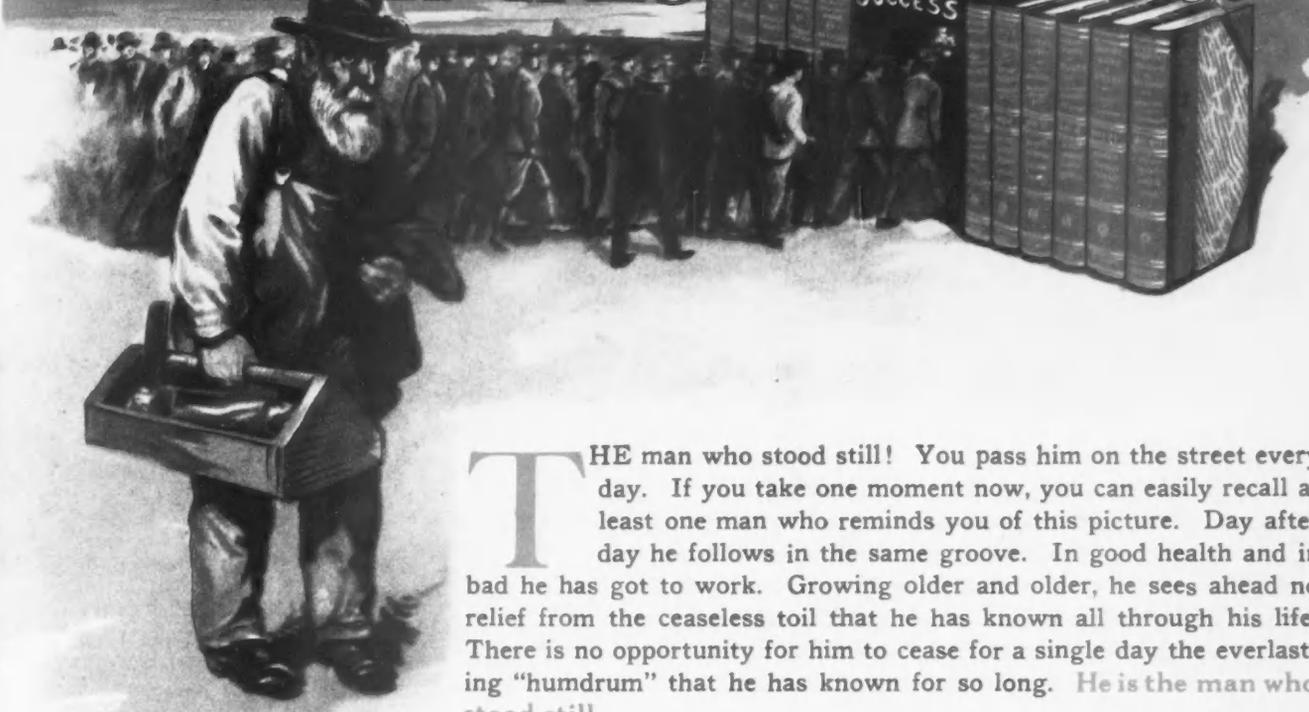
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Vancouver, B. C.

# The MAN Who Stood Still!



**T**HE man who stood still! You pass him on the street every day. If you take one moment now, you can easily recall at least one man who reminds you of this picture. Day after day he follows in the same groove. In good health and in bad he has got to work. Growing older and older, he sees ahead no relief from the ceaseless toil that he has known all through his life. There is no opportunity for him to cease for a single day the everlasting "humdrum" that he has known for so long. He is the man who stood still.

When he had the chance he failed to seize it. He allowed other men, no smarter, no abler, no better than he, to crowd him out. One by one his fellow workers passed him by to better and more profitable work. They left him always standing on the threshold of success. But they left him behind. He heeded not the beckonings of opportunity. He is the man who stood still.

And now at sixty, at seventy or at eighty years you may see him any day if you care to look—a good carpenter, a good builder, a good contractor perhaps—but that's all; good in the sense that he can do certain things simply because he has done the same thing over and over again—but not good enough to try the new difficult work, the modern up-to-date jobs; the kind that pay good money. No, he cannot do these things—he never learned how. He is the man who stood still.

You don't want to stick to the plane, the saw and the hammer all your life. If you are a contractor or a builder don't you want bigger work than just barns, sheds and now and then a house or two?

If you are a draftsman, an apprentice or assistant in an architect's office you don't want to remain in your present position any longer than you have to; you want to make your present work the stepping stone to a bigger position, which will be your life's work.

You don't want to stand still and see your friends step ahead to enjoyable, well paid, independent work simply because they "snap up" the same opportunities, the same chances that are offered you. It is the natural ambition of man to want to keep up with his fellows.

The only way that you or any other man can keep up is through study—study of your chosen work. If there is a certain part of your work that you don't thoroughly understand then some time when that kind of work has got to be done some other man is going to step up ahead of you and do it. He learned how. **KNOWLEDGE IS THE GREAT LEVELER.** There is no true independence where there is lack of training.

You have the chance now within your grasp to get this necessary training. This advertisement is an absolutely direct appeal to you. No matter how good a position you hold now—no matter how much work you are getting—no matter how well you are paid for it—this advertisement holds as much interest for you as the man who is actually looking for work.

At no risk to you—without the slightest obligation on your part—we offer you the really great opportunity of perfecting yourself in your life's chosen work. Don't pass this page by until you have made up your mind to give the rest of this advertisement careful study. Look at the picture again at the top of this page—look at it carefully. You owe it to yourself and to those who may be dependent upon you to take advantage of every possible chance for bettering yourself.

You cannot afford to be the man who stood still

## Radford's Cyclopedia of Construction

# RADFORD CYCLOPEDIA OF BUILDING

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NEW YORK

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Express Charges Prepaid.

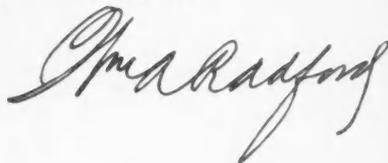
## Carpentry, Building

The best tool in any workman's kit is books—practical books that tell how to do work in the easiest, the best and latest ways; books that tell you all about each and every feature of your work to the smallest detail; books that keep you in touch with the biggest and smallest details of building construction. This is an opportunity of a lifetime to get a set of books that will tell you everything about building construction in all its branches. Read our guarantee below.

### My Personal Guarantee

If you do not find the Radford Cyclopaedia of Construction just as advertised and entirely satisfactory, or if for any reason whatsoever you do not wish to keep it after having had the free use of it for five days, I personally guarantee to refund your deposit immediately upon receipt of such information from you. I guarantee to prepay all carrying charges. I guarantee you will get this low price if ordered now. I guarantee to send you Three Plan Books of 300 Plans. I guarantee to furnish you with a complete set of blue printed working plans and type-written specifications, as per terms in this offer. I further guarantee you will receive one full year's subscription, twelve numbers, to the American Builder, conceded the world's greatest and best known Building Paper.

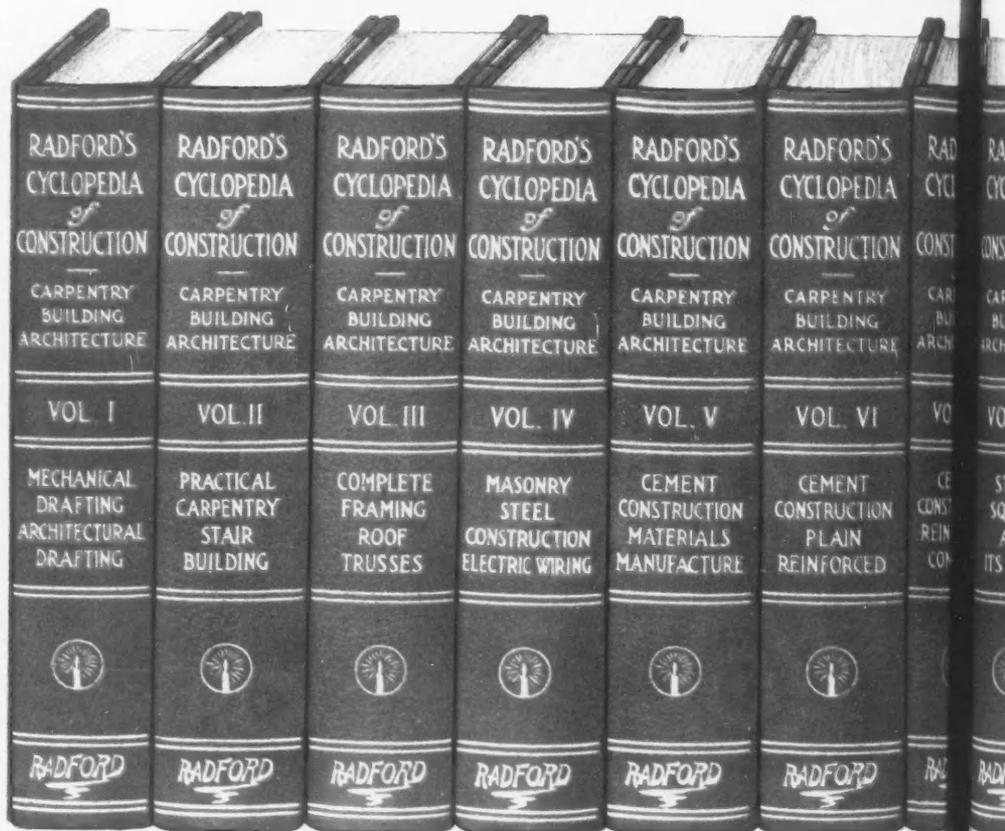
Don't hesitate a moment to hold me to this guarantee and notify me within the five-day limit, as we want every set of books we put out to remain only in the hands of appreciative and enterprising purchasers, as this price is made with the sole purpose of placing a set in your town to which we may refer later, and with the understanding that you write us your opinion of it to help secure other business at our regular price.



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Combination Squares.  
Universal Square.  
Bevel Try-Squares.  
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### KEY TO THE STEEL SQUARE.

Rafter Table.  
The Revolving Disc.  
Side Cuts.  
Table of Tangents.  
Miter for Polygons.  
Five-Pointed Star.  
Framing Timbers at any Pitch

(See Next Page)

PREPARE AT ONCE FOR

# CONSTRUCTION



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## Building and Architecture

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**WHAT YOU GET:** Twelve Great, Big, Massive Volumes, over 5,000 pages, 3,200 specially drawn illustrations, charts, diagrams, working drawings, besides hundreds of full-page half-tone plates and zinc etchings; Three Plan Books of over 300 plans of buildings; one complete set of working blue prints and complete typewritten specifications—your own choice; and a full year's subscription to that great, big paper, "The American Builder."

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### How to Get Them

All you have to do is to write your name and address plainly on the coupon at the bottom of the next page, pin a dollar bill to it and mail it to us. We trust you as a member of the building trade and send you the entire set of books immediately. We prepay all express charges and thus it does not cost you one penny for examination. When you get the books they are yours for five days to examine them just as leisurely and as carefully as you please. You have the privilege of calling in your family, your friends, your associates to look them over and help you to make a decision. After you have had the chance to go through them page by page, if you should decide that you do not want to keep the books, all that you have to do is drop us a postal telling us so. We will immediately send back to you the payment of \$1.00 which you sent us with the order blank. We do this without any argument, without any red tape and without any haggling whatever. Furthermore, we will remove the set of books without cost to you at once. Therefore, you are nothing out on the deal, you have not spent a cent, you have lost nothing whatever.



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How to Regulate Setting.  
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(See Next Page)

# He Waited Too Long



"If I only had this set of books twenty or thirty years ago, they might have changed my whole life. The knowledge in the big CYCLOPEDIA would have enable me to increase my earning power, to take on big work, paying big money, and possibly have helped me to make a fortune in the building business."

**H**UNDREDS of letters like the above have come to us, breathing between the lines the same pathetic story of regret—showing how hard it is for the untrained man to really get ahead in life. The opportunity is yours **NOW**, and the way is easy. Don't wait too long. Don't wait at all. Read the terms of our **NO-RISK, Guarantee Offer** over again, and sign and mail coupon today. You risk absolutely nothing, and you will reap the benefit ever afterward. The building trade has as much use for an exclusive library relating to carpentry, building and architecture as the professional men, such as lawyers, doctors, ministers and teachers have for their particular libraries, to which it is necessary for them to refer and without which they could not continue their practice. The building trade has more possibilities and the successful contractor and builder can, with the use of books, make more money and attain a higher position in the community than the average professional man. The line which has heretofore been drawn between the professional man and the mechanic is just about wiped out and it has been done by the use of books.

Price in U.S.A. \$37.50  
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## Special Free Premiums If you order at once

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If we receive your order at once, we will send with this Cyclopeda one year's subscription (12 numbers) to the American Builder, the world's greatest building paper. We will send free of all extra cost, one complete set of blue printed working plans and typewritten specifications of any of the houses illustrated in three Books of Plans, which we also send to you free of cost, so that you may make your selection. These plans and specifications are as complete as those charged \$50.00 to \$75.00 for by many architects. These plans will be very valuable to contractors, builders and draughtsmen. The only reason we can offer to do this is because we have the largest architectural establishment of its kind in the world, and are able to produce these complete blue printed working plans and specifications at the very lowest possible price, and to the purchasers of this big Cyclopeda we are willing to give the benefit. Without American Builder \$1.00 less.

Radford  
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 1827 Prairie Ave.,  
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We make this liberal offer because we want you to have our Cyclopeda, and we believe by having it in your hands we will have a greater opportunity of disposing of others in your locality, and it is with the distinct understanding that if it is entirely satisfactory, you will write us a letter and assist us in making other sales.

Our special price to you for advertising purposes is only \$37.50, and our liberal terms are only One Dollar down and \$3.00 per month until the amount is paid. We give you five days to look the books over and see if they are entirely satisfactory. If you conclude not to keep them, we will refund your money and pay the express charges both ways. Order today. Fit yourself at once to increase your earning power.

Please send me, express pre-paid, your 12-volume Cyclopeda of Construction, for five days' free examination, with privilege of return at your expense. I enclose \$1.00 deposit which you agree to return if I decide not to keep the books after examination. If I keep the books, I will pay \$3.00 a month until the special price, \$37.50 is paid, otherwise I will notify you within five days after receipt of books.

Your offer also includes Three Big Plan Books (over 300 designs) and one full year's subscription to the American Builder. You also agree to furnish set of Blue Prints and Specifications, if ordered within 2 months after acceptance of books.

Name .....

Street .....

State .....

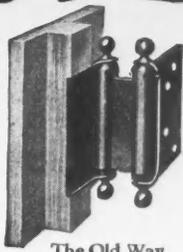
**The Radford Architectural Co.**  
 1827 Prairie Ave.,

**PIN A DOLLAR BILL TO THIS COUPON AND MAIL TODAY**  
**NO-RISK GUARANTEE COUPON**

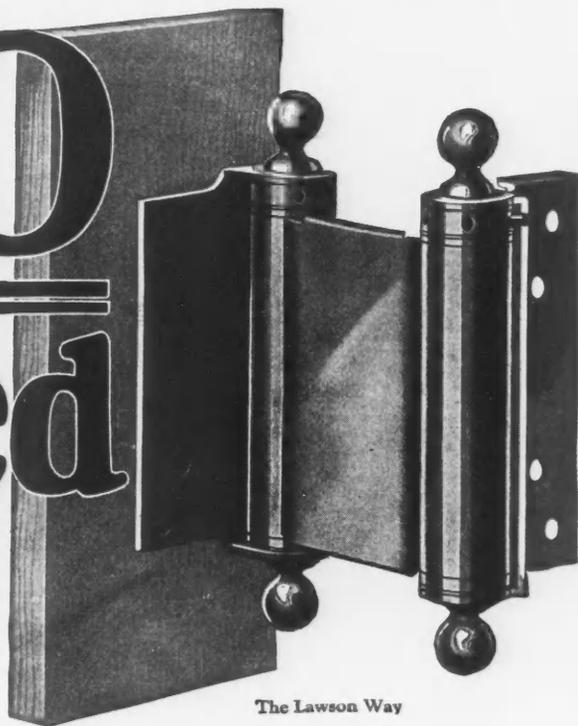
# Why Use Hanging Strips?

**\$1.50  
Saved**

on the  
Hanging  
of Every



The Old Way



The Lawson Way

## Lawson Nu Jamb Spring Hinge



**L**AWSON Nu Jamb Spring Hinges are applied directly to door jambs *without hanging strips*. No strips to buy, finish or mortise. The saving on each hanging is at least \$1.50.

Dealers everywhere prefer them. A Western dealer recently said:

"Since I've been showing LAWSON'S

hinges, customers won't buy others. The hinge that requires no strips outsells all the others put together."

Stock LAWSON hinges, compare sales with ordinary hinges, note how easily they sell once you explain the direct-application feature, and you too will prefer to handle LAWSON'S hereafter.

*Write today for illustrated catalog describing in detail this and other styles of Lawson Spring Hinges, for residence, office and factory doors, gates, etc.*

**Lawson Manufacturing Company**  
Dept. A B, 230 W. Superior St., Chicago, Ill.

# LAWSON

# Attractive and Permanent Returns

A *selling* product that offers substantial returns is the prime reason for the business solidity of dealers in Rocbond Exterior Stucco.

The demonstrated superiority of Rocbond in new construction and in remodeling is productive of repeat orders. *Repeat* orders mean *attractive* and permanent returns.

If Rocbond is not represented in your community, a postal request will bring you full details of this easy-selling, profit-making, weather-resisting, non-cracking, easily applied stucco.

## THE ROCBOND CO.

533 Home Guard Bldg, Van Wert, Ohio

Van Wert, Ohio   Cedar Rapids, Iowa   Harrisburg, Pennsylvania

# ROCBOND

## EXTERIOR STUCCO



# Let the Outdoors In

Happy is the home owner who installs **AiR-Way** Multifold Window Hardware. It throws his home wide open to the benefits of sunshine and fresh air. **AiR-Way** makes a sun room or sleeping porch of almost any room.



Happy is the builder who installs **AiR-Way** Multifold Window Hardware. Like all R-W hardware, it gives such lasting satisfaction that every user becomes an enthusiastic booster.

**AiR-Way** provides sliding-folding windows which may be opened and closed from the inside without interfering with either screens or dra-

peries. Although easy to operate, the windows fit the opening snugly and are absolutely weathertight when closed.

You will find it profitable to introduce **AiR-Way** in your locality. It should be used in every new and remodeled home. If you are not already familiar with this widely-advertised hardware, write today for Calalogue G-4.

## Richards-Wilcox Mfg. Co.

"A Hanger for any Door that Slides."

AURORA, ILLINOIS, U.S.A.

Minneapolis  
Philadelphia

Chicago  
Boston  
Winnipeg

New York  
St. Louis  
LONDON, ONT.

Cleveland  
Indianapolis  
Montreal

Los Angeles  
San Francisco

RICHARDS-WILCOX CANADIAN CO. LTD.

### Slidetite

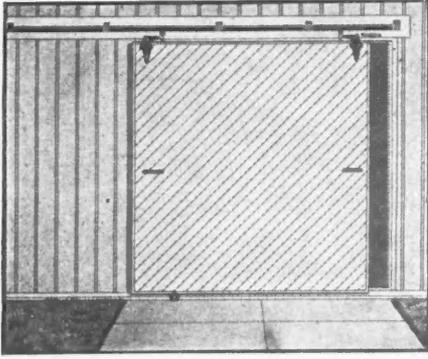
Manufactured by Richards-Wilcox is the original sliding-folding garage door hardware.



Quality leaves its imprint

### Slidetite

Is the most widely imitated garage door hardware. "Imitation is the sincerest form of flattery."



# WAGNER CLOZTITE THE Universal Hanger

**Set No. 1561** for flush sliding doors. For barns, warehouses, etc., where a weather tight construction is desired, when a sliding door is used.

## Doors Hung

with Wagner Clozite Hangers fit into jamb as tight as a single door. Will not sag—will fold back out of the way at any angle when open.

**Write for** Catalog G 21, giving full line of sets for openings from 2 to 10 doors. Packed complete in box, excepting track.

## Wagner Mfg. Co.

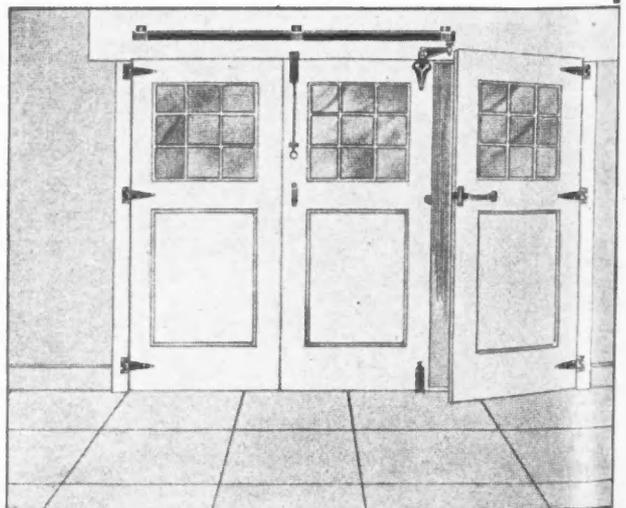
CEDAR FALLS, IOWA

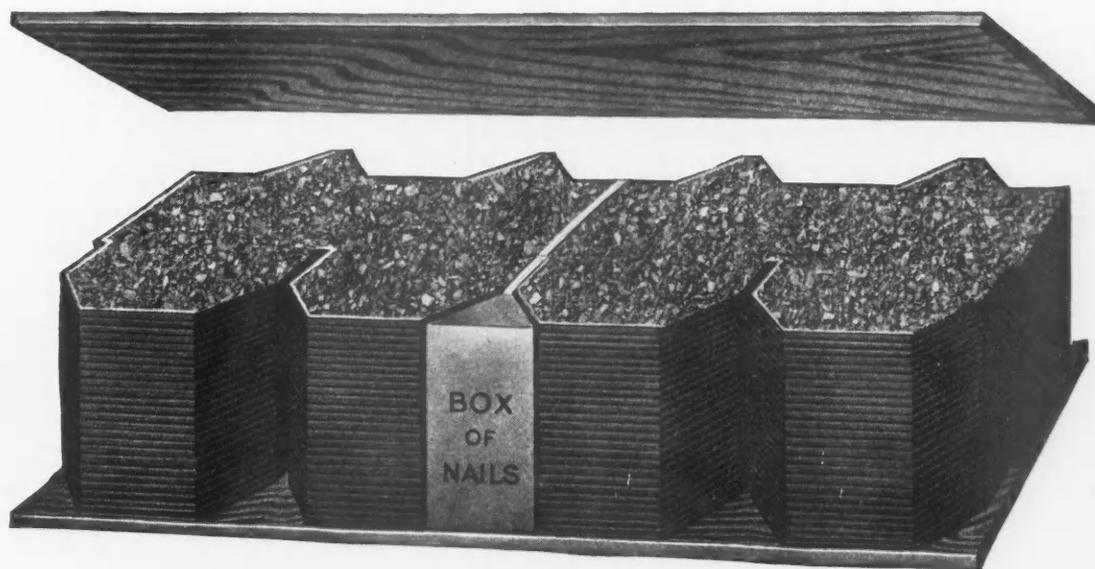


Easily  
and  
Quickly  
Applied

**The Same Hanger** used for either Sliding or Folding Doors. The Swivel Arm takes care of different kinds of doors, different thickness, etc., without adjusting brackets or building out track.

**Garage Set No. 1558,** our most popular seller—3 door arrangement.





## A New Shingle Package

### Handy on the Job

Look at this handy package of shingles! It contains all the barbed zinc-coated nails necessary to do the job right. And they're in the bundle—on the job just where you are going to use them.

You can see by the illustration that they are securely packed between the shingles. When you open the package, there they are, ready for use—no worrying about fixtures when you use Ruberoid Strip-shingles. This makes it much easier for your men.

These shingles, too, are easy to lay—self-spacing, with no chalk lines necessary. They are extremely durable, and make a roof of attractive and massive appearance. The red and green of the natural crushed slate surface, and the patented shape of Ruberoid Strip-shingles, make them particularly adapted to laying in special designs.

Ask your building-supply or lumber dealer for a folder illustrating Ruberoid Strip-shingles in color.

**The RUBEROID Co.**

95 Madison Avenue, New York  
Chicago

Boston

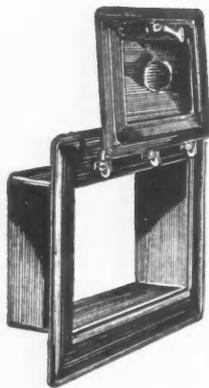
# RU-BER-OID

## SHINGLES AND ROOFING



Residence R. E. Rollins, Des Moines, Iowa  
Architects, Vorse, Kraetsch & Kraetsch  
Contractors, Wm. Knudson & Sons  
Dealers, Century Lumber Co.  
Stucco on Sykes Expanded Cup Metal Lath

## We Looked About Us



In deciding how a coal chute door should be made, we examined those on the market for their merits and defects, and worked to include the one and eliminate the other.

The result is Sykes Economy Coal Chute Door, pressed steel with malleable iron fittings, unbreakable and non-rusting, bigger in value, smaller in price.

Write for information and prices.

## The Contractor's Lath

**S**YKES EXPANDED CUP METAL LATH is a favorite with the contractor. He likes it because it is quickly applied and easy to plaster on. The fact that it gives a perfect key without furring strips, means a worth-while saving in time and material on every square yard applied.

The fact that it has no upside-down nor wrong-side-out means that it is safely applied even by the inexperienced workman. It is easy to work, too, in the irregular spaces which usually make trouble and consume time.

The unusual weight, strength, and rigidity of Expanded Cup mean a wall that won't sag or spring under the load of wet plaster; the plasterer's work is done easier and quicker.

Most important of all, Expanded Cup makes a finished job that stays put—a job that is as permanent as it looks and continues long after it is finished to increase the reputation and prestige of the contractor.

*We have a lath for every place where metal lath is used. Write for samples*

**Sykes Metal Lath & Roofing Co.**  
504 Walnut Street, NILES, OHIO

What You Should Know About Architectural Drawing.	What You Should Know About Water Supply and Drainage.	What You Should Know About Plastering and Painting.	What You Should Know About Sheet Metal Work.	1000 Better Ways of Doing Things.
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What You Should Know About Carpentry and Building.

What You Should Know About Heating and Ventilating.

How to Care for Tools.

## A Thousand Things You Ought to Know

EVERY day in your work you get up against new problems—sometimes it is only some old “sticker” coming in a new way. Just the same though it takes a lot of time to figure them out. DON'T DO IT. Here's everything worked out for you. Every problem, big or little, that you will meet in a day's work. Hundreds of new ideas and better ways of doing things. Hundreds of ways the other fellows are making money. Hundreds of ways you can make more out of the same work you are doing now.

### Cyclopedia of Carpentry and Contracting

Five great big volumes bound in genuine American Morocco with 2,138 pages and more than 1000 blueprints, plans, pictures and diagrams. It is the newest, most complete, most practical work of the kind ever published. Twenty-five well known experts prepared these great books, gathered the material from hundreds of different sources. Every man in the shop and on the job should have them.

The old days of hit-or-miss experience are passed. You have got TO KNOW if you want to keep in the running now. A little of your spare time and the Cyclopedia of Carpentry and Contracting will put you 'way ahead of the rest. See our FREE trial offer and easy payment plan below.

### FREE Examination 8 Months to Pay

Send the coupon for these great Carpentry and Contracting books TODAY. You can't afford to be without them and you don't take any risk at all. The coupon brings the whole set by express collect for a week's free examination. Use the books a week and notify us to get them back if they don't please you. If you like them send us only \$2.80 in 7 days and \$3.00 each month until \$19.80 is paid. If you prefer to pay cash with order, send only \$17.80. The return privilege holds good just the same. Send the coupon NOW. Remember—sending for the books does not obligate you to buy.

**AMERICAN TECHNICAL SOCIETY**

Dept. G-336, Chicago

### FREE EXAMINATION COUPON

AMERICAN TECHNICAL SOCIETY, Dept. G-336, Chicago.

Please send me the 5 Volume Cyclopedia of Carpentry and Contracting, shipping charges collect. I will send you \$2.80 in seven days, and \$3.00 each month until \$19.80 is paid, or notify you to send for the books at your expense.

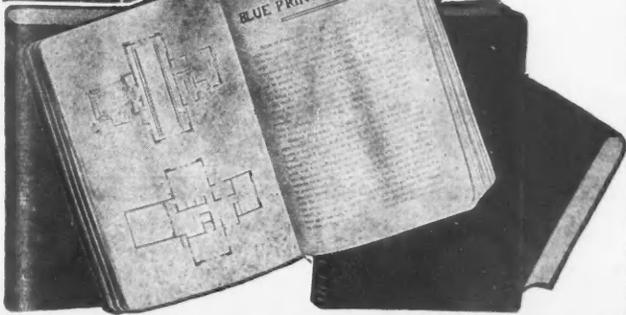
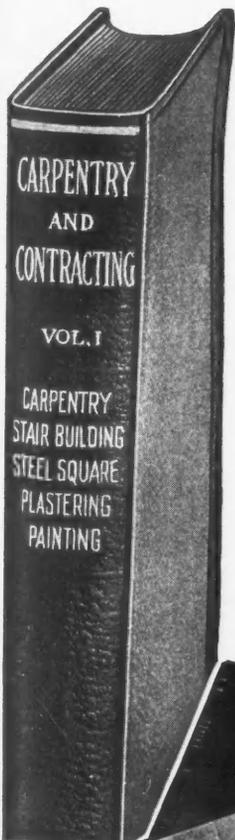
Name .....

Address .....

City ..... State .....

Employed by .....

Please fill out all these lines.



How to Use the Steel Square Successfully.

How to Build a Brick or a Frame Structure.

How to Estimate the Cost of a Building. How to Be a Successful Building Superintendent.

What You Should Know About Contracts and Legal Relations.

How to Know Material and Select the Best.

How to Write and Read Building Specifications.

How to Read Blueprints and Plans.



**A** NEW principle in the production and application of a better grade of stucco is that employed now by the F. R. C. Products. The new principle that has brought F. R. C. Products to the front so rapidly is the use of our own manufacture of granite sand.

Older methods constituted the use of loam or bank sand and the introduction of foreign substances—cork, gypsum, lime or hair—and for waterproofing stearates and animal fats. No degree of uniformity or any assurance of satisfactory results could be hoped for until absolute reliance could be placed in an all mineral stucco.

F. R. C. Products are guaranteed to contain nothing but minerals, yet you will find them to possess the maximum of tensile strength, elasticity and moisture proofing.

F. R. C. Products are now in the hands of most of the live dealers—ask your dealer to tell you more about this new wonder of building materials. He can give you some valuable information and samples.

Write to us direct if you wish for information and samples.

## The Flint Rock Corporation

207 Fulton Bldg., PITTSBURGH, PA.

220 W. 42nd St., NEW YORK CITY

Main Office and Factory, INGOMAR, OHIO

**MAGNESITE STUCCO**

**GRANITE DASH**

**INTERIOR FLOORING**

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

# "Everything burned but the Sheetrock"

## KING LUMBER COMPANY

Kansas City, Mo.,  
May 9, 1922

UNITED STATES GYPSUM CO.,  
205 W. Monroe St.,  
Chicago, Ill.

Gentlemen:

We recently suffered a fire loss which practically destroyed our entire plant, and it occurs to us that you will be interested in the fact that Sheetrock gave a wonderful example of its fire-proof qualities.

On February 23rd we finished unloading a car of Sheetrock in our warehouse at 4:30 P. M. That evening fire broke out in an adjoining lumber shed and before fire apparatus arrived the yard was in flames. The warehouse containing the Sheetrock burned to the ground and all other merchandise in it was completely lost. But the Sheetrock was still in good shape.

This car of Sheetrock was subjected to the most intense heat imaginable—tons of water were poured on it, and now, two months later, we have salvaged and sold within 3200 feet of the full car. We have seen several jobs on which this very board was used, and after decoration had been applied, it was impossible to find any traces of fire.

Very truly yours,

KING LUMBER COMPANY

(Signed) Walter J. Wood, Secretary

The whole story of Sheetrock's fireproof nature is told in Mr. Wood's letter. Sheetrock won't burn, buckle or warp because it is a rock product. The permanent satisfaction it gives both in remodeling and in new construction assures the Sheetrock dealer a steady, profitable repeat business. You can order Sheetrock in cars containing less than one-third the footage of ordinary wallboard. We help you get Sheetrock leads. Write for a sample of Sheetrock and the Sheetrock Dealer Aid Plan. Just tear off and mail the attached coupon today!

*Sheetrock is inspected and approved by The Underwriters' Laboratories, Inc.*

# U.S. SHEETROCK

Reg. U. S. Pat. Off.

## The FIREPROOF WALLBOARD

UNITED STATES GYPSUM COMPANY, General Offices: Dept. B, 205 W. Monroe St., Chicago, Ill.

*World's Largest Producers of Gypsum Products*

SALES OFFICES: New York, N. Y., Buffalo, N. Y., Boston, Mass., Washington, D. C., Philadelphia, Pa., Pittsburgh, Pa., Cleveland, Ohio, Cincinnati, Ohio, Detroit, Michigan, Milwaukee, Wisconsin, Minneapolis, Minnesota, St. Louis, Missouri, Kansas City, Missouri, Omaha, Nebraska, Denver, Colorado, Los Angeles, Calif.

MINES AND MILLS: Oakfield, N. Y., Plasterco, Va., Cleveland, Ohio, Gypsum, Ohio, Genoa, Ohio, Detroit, Mich., Alabaster, Mich., Grand Rapids, Mich., Milwaukee, Wisconsin, Fort Dodge, Iowa, Blue Rapids, Kas., Southard, Okla., Eldorado, Okla., Piedmont, S. D., Loveland, Colo., Denver, Colorado, Arden, Nevada, Amboy, Calif.

UNITED STATES GYPSUM CO.

Dept. B, 205 W. Monroe Street, CHICAGO, ILL.

Tell me about your Sheetrock plan of sales co-operation.

Sheetrock comes in standard sizes: 3/8 inch thick, 32 or 48 inches wide and 6 to 10 feet long

Name \_\_\_\_\_

Address \_\_\_\_\_

# This strong 2-page advertisement opens the Our town finds innumerable uses for B



**ELMER WALKER'S CAR** used to freeze up every cold night. The little stove in his garage tried hard to heat the whole outdoors, but couldn't make the grade. Finally Elmer had the garage lined with Beaver Board. His car hasn't frozen since.



**GEORGE SMITH'S WIFE** wanted a playroom in the attic for the twins. George covered the bare beams with Beaver Board. He did the work himself. When it was finished, the room was so cozy and comfortable that George tried to get it for a den.



**THAT GOOD-LOOKING** paneled effect made such a hit with Walter Jones that he put Beaver Board on the walls and ceilings of every room of his new house. It saved him lots of money and folks say he has the best-looking house in town.



**WHEN FRANK TUTTLE** was taken in as junior member of his father's firm, he graduated into an enclosed office, with a mahogany desk. The office partitions are made of Beaver Board and Frank is proud as can be every time a client comes into the shop.



**HANLEY'S DRUG STORE** has been entirely remodeled with Beaver Board. You'd never know it's the same old place. Even the prescription counter is enclosed with Beaver Board and the stock bins are made of it, too. Doc says it didn't cost much, either.

# BEAVER

**WARNING--BE SURE YOU GET GENUINE BEAVER BOARD**

WE ASKED ourselves this question, "What is the best way to send still more buyers of Beaver Board to our dealers this fall?"

The above advertisement is part of the answer. It appears in the Saturday Evening Post on September 9th. Read it. Notice how we have brought out the many different uses of Beaver Board. And how these uses are brought right home to the reader. Don't you agree that this kind of advertising is going to help boost your sales this fall?

# ent in The Saturday Evening Post he fall campaign on Beaver Board!

## for Beaver Board



WIFE wanted  
atric for the  
board. He did  
When it was  
so cozy and  
urge tried to



MRS. WILL BROWN made her husband's life miserable till he promised to have the bathroom done over. They used that special tiled Beaver Board. It didn't cost much, but Mrs. Brown is delighted.



GEORGE HARTER, of Harter & Son, furniture manufacturers, not only has Beaver Board on the walls and ceilings of his plant, but uses it for backs of bureaus and mirrors, for folding screens and in other ways too numerous to mention.



AN UNTIDY KITCHEN was the bane of Mrs. Watt's existence until she conceived the idea of having the walls and ceiling covered with Beaver Board. Now, the kitchen is the pride of her heart. And she says you'd be surprised to know how little it cost.

**I**N EVERY TOWN there are innumerable uses for Beaver Board. Doubtless you, yourself, have some construction or repair work in mind for which this versatile material can be used much more economically and satisfactorily than ordinary lumber.

A partial list of the ways in which Beaver Board can be used is given below. Read it and see if it doesn't suggest something to you—some new addition or improvement you have been putting off, some repairs you have been postponing—because you feared the cost.

Genuine Beaver Board is a wonderfully economical material. It is flawless, knotless manufactured lumber—made from the long, tough fibres of white spruce. And it comes ready for use in panels that are sized by our patented Sealite process, which makes a perfect surface for painting and decorating.

Any carpenter or lumber dealer in your town will gladly figure on the cost of the Beaver Boarding you want to do.

Ask one of them about it to-day. Or, write direct to our Builders' Service Department in Buffalo, enclosing a rough sketch, giving dimensions, locating doors and windows, and specifying the type of room. Our designers will prepare specifications at no cost to you.

**ABOVE ALL, be sure you buy genuine Beaver Board. All wall board is not Beaver Board. Genuine Beaver Board is made only by the Beaver Products Company, Inc., of Buffalo, New York. Identify it by the Beaver trade-mark on the back of each panel. We stress this point, because the success of genuine Beaver Board has been such that imitations have entered the field. Use genuine Beaver Board and you can rest assured of an economical, permanent, fully satisfactory job.**

**THE BEAVER PRODUCTS COMPANY, Inc.,** Buffalo, New York  
The Beaver Company, Ltd., Thorold, Ont., Canada, and London, England  
District Sales Offices at New York, Atlanta, Buffalo, Chicago and Kansas City

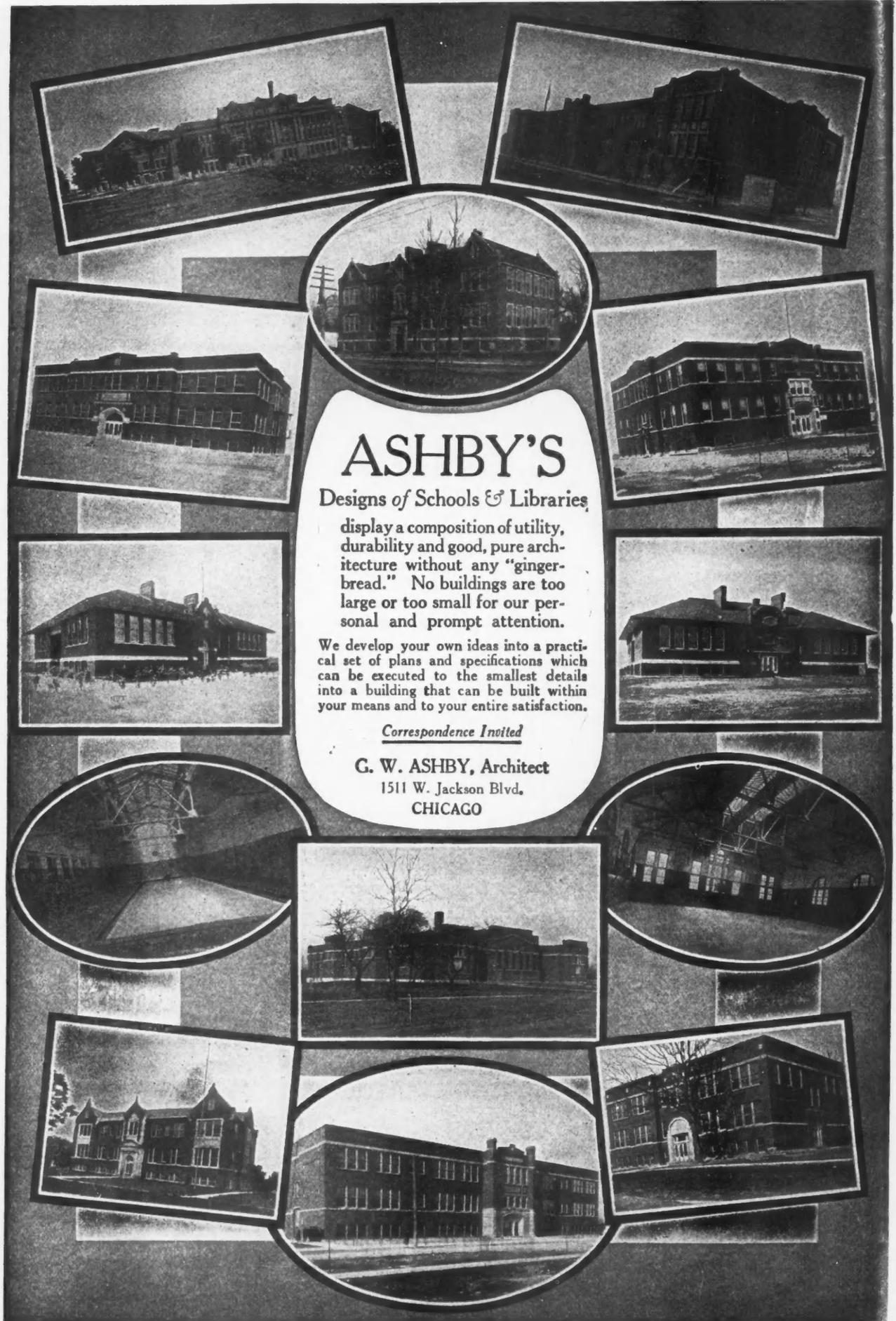
**CHECK UP YOUR USE FOR BEAVER BOARD. HOME USES:** Walls and ceilings throughout houses, bungalows, summer home and cottages. Finishing the attic. Dining-room wainscots. Beamed ceilings. Lining sun porches and garages. Covering up old plaster. Remodeling large rooms into more, but smaller quarters. Putting extra rooms in waste space. Building-in bathrooms. Additions. Tiled wainscots for kitchens and bathrooms. Sheathing for small houses. Building workshop or laundry in basement. Cellar partitions. **FARM USES:** Lining dairies and other buildings that need sealing or weather protection. Lining tool houses, bins, granaries and stockrooms. **BUSINESS USES:** Built-in private offices, partitions, etc. Walls and ceilings for stores, moving-picture theatres, clubs, etc. Lining factories and workrooms where a sanitary, dust-proof and fire-proof construction is needed. Window displays. Display booths. Cab-sets. Triumphant arches. Floats for parades. Folding screens. Cabinet work, drawer bottoms, backs of mirrors, etc., and many other uses.

# BOARD



**IDENTIFIED BY THE BEAVER TRADE MARK**

THE OTHER PART of the answer is the campaign to follow. There are more big pages in the Saturday Evening Post—and a striking series for newspapers. Then, there is a well-planned campaign for your tie-up. All are based on the one big idea—*more sales of genuine Beaver Board right away!* If you aren't a Beaver Board dealer now—wire or write for full details of our dealer proposition. It will interest you. Prompt delivery.



# ASHBY'S

Designs of Schools & Libraries

display a composition of utility, durability and good, pure architecture without any "gingerbread." No buildings are too large or too small for our personal and prompt attention.

We develop your own ideas into a practical set of plans and specifications which can be executed to the smallest details into a building that can be built within your means and to your entire satisfaction.

*Correspondence Invited*

**G. W. ASHBY, Architect**  
1511 W. Jackson Blvd.  
CHICAGO

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Cont



Builders of the Prescott School, Lincoln, Nebraska, made many savings and secured a stronger, more durable wall through the use of Carney.

Architects: Fiske & Meginnis, Lincoln, Neb.  
Contractors: Olson Const. Co., Lincoln, Neb.

## Lower Bids With More Profit

**W**RITING Carney in your plans is writing profit on your books. Thousands of contractors know that Carney enables them to make lower bids and to give their clients a better job with more profit to themselves.

To those who have never used Carney, this may seem impossible. The following economies show why you can make lower bids.

The first cost of Carney is less. You have no lime to buy for Carney does not require lime in mixing. There is no slacking of lime. The simple formula, "One part Carney—three parts sand—no lime," prevents mistakes and makes mixing easy.

Mixing Carney requires less labor

and is quicker. There is no waste, for left-over mortar can be used the next day by re-tempering with water. Carney lays approximately 1000 bricks to the barrel. Men work faster on the wall because Carney is more plastic and smoother working.

On top of these advantages Carney builds a stronger wall. The mortar becomes harder than the brick or tile it joins. Thus it is that Carney enables you to submit lower bids, get more contracts, and build a better wall—all with more profit.

*It Will Pay You to Investigate*

It will pay you to investigate a cement with the advantages given above. Let us send you the Carney Catalog for your files.



**Carney Cement Company**  
Cement Makers Since 1883  
Mankato, Minn.

#### District Sales Offices:

Leader-News Bldg., Cleveland; Chamber of Commerce Bldg., Chicago;  
Omaha National Bank Bldg., Omaha; Syndicate Trust Bldg., St.  
Louis; Book Bldg., Detroit; Builders' Exchange, Minneapolis

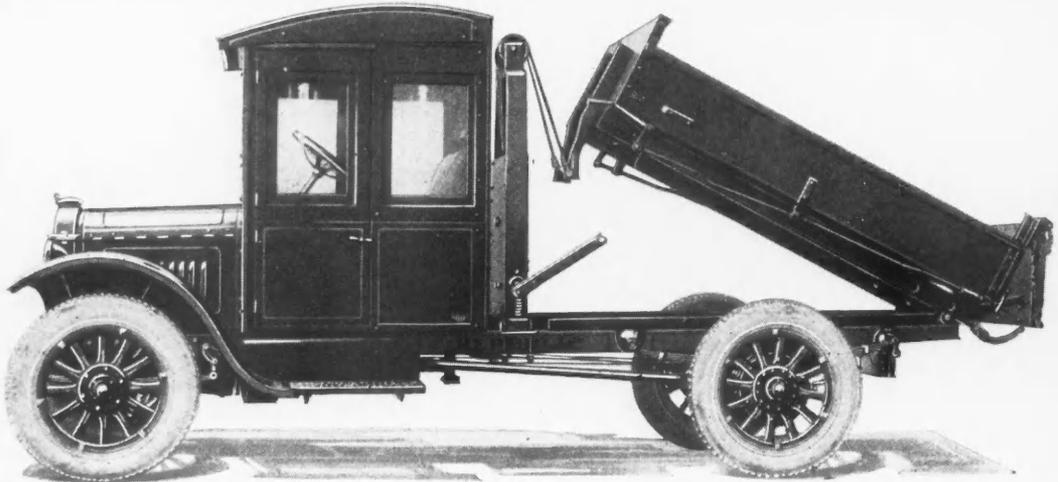
Specifications: 1 part Carney, 3 parts sand; no lime

# CARNEY'S CEMENT

*For Brick and Tile Mortar*

# LEADERSHIP

## Quality-Price-Service



*Republic Rapid Transit, with dump body and closed cab, cord tires, electric starter and lights. Price on application.*



**UNEQUALED  
SERVICE**

**"FIFTEEN** to eighteen miles on a gallon of gasoline." Such facts from owners' records substantiate the unusually low operating cost of the Republic Rapid Transit.

Low first cost, low operation and upkeep cost, plus Republic Unequaled Service, have gained for the Republic Rapid Transit a reputation as the greatest truck value ever offered the building and contracting industry.

The Republic Line: Rapid Transit, 1, 1½-2, 2½-3, 3½-4 tons capacity

**REPUBLIC TRUCK SALES CORPORATION**  
ALMA, MICHIGAN

# REPUBLIC

## RAPID TRANSIT®

Republic has more trucks in use than any other exclusive truck manufacturer

# Around the Family Table

## Useful Paint Information

WE KNOW our readers take a lot of pride in their work. They want every job right up to the highest standard. Because they want to do just the very best sort of work they are always on the sharp lookout for all the useful information they can get. They like to hear about something that will help them make a good job better.

So much can be done to mar or really make a job look finished by the painting that builders are very much interested in getting good painting done on all their work. Now the painting process is not as simple as it looks. We who are in the building field realize that a good paint or varnish job must follow thru a careful routine. There are many things important to do. And there are some very important "don'ts" in connection with painting also.

We hope you will find the things to do and the things not to do in finishing floors, as outlined in an article in this issue, mightily helpful. The information is reliable. It is given us by an expert, Mr. G. B. Heckel, secretary of the Save-the-Surface organization and a practical and long experienced authority on paints and varnishes. It gets right down to facts and tells exactly what to do to get a hard, lasting finish on different kinds of floors.

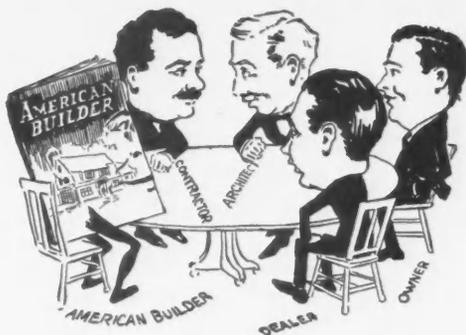
If you will write us that you would like some more practical, useful information about painting, varnishing and staining we will endeavor to fill your needs.

## Good for You, Mr. Cullom

THERE was a lot of satisfaction for us and a good tip for you in a letter we recently got from P. Wilbur Cullom, a builder at Drexel Hill, Pa. Mr. Cullom's letter follows:

"As I have been a subscriber to your paper since 1911 you can see that it must appeal to me. I have written direct to any number of advertisers in your paper and have got a lot of useful information from them. They have helped me answer many hard questions."

Mr. Cullom is right, isn't he? Nobody knows more about a certain phase of the building field than the manufacturers who are in that particular line. They eat, sleep, drink and study their business day in and day out for years upon years. Naturally, they gather a lot of useful information. They've just got to if they are going to stay in business. And they are always glad to give the other fellow the benefit of their experience.



We think Mr. Cullom and thousands of other readers of the AMERICAN BUILDER show good sense in taking advantage of the facts, ideas and information they can get by writing to manufacturers who advertise in the AMERICAN BUILDER. Probably you are following the plan. If it happens that you haven't formed that good habit, try it out. The results will satisfy you,

for such a habit puts real dollars and cents in your pocket.

## Are You Building Apartments?

HOW many of our readers are doing apartment building work? Many of them, we feel sure. It's not only a banner building year but one of the most active we have ever had in the apartment construction field. It's getting to be a common thing to put up duplex homes and even much larger apartment buildings even in our smaller cities. A few years ago apartment building was of interest to only big city builders. Now the smaller communities are acquiring their apartment homes. And as the years roll on this practice will grow until every builder will have many jobs of this kind each season.

We would very much appreciate hearing from you about the apartment building you are building or have finished this year. Write us and tell us about it. Send us a photograph of it and a print of the floor plans or the rough working plans. Give us the important facts such as materials used, anything unusual about the room arrangements, any peculiarity in the shape of the lot and how you overcome it, etc. Just tell us about it in the way you would visit with another builder friend about it. And we shall be glad to tell of your achievements.

We are just as interested and so are our readers in small flat buildings as in the larger ones. Let us hear from you, please, about the apartment building experience you have had.

## Always Useful

IT IS our idea in assembling together the things that are printed in the AMERICAN BUILDER to print only such facts and information as stand the test of time. We realize that you have your daily paper filled with information about your own town and the country and world, at large. You have no trouble in getting all the baseball news you want or in finding out what Congress is doing or talking about doing. And you are interested, in a way, in all these news happenings. But we all realize that they have no lasting value. They are worth a few moments' attention but they don't mean anything to our business prosperity.

But the AMERICAN BUILDER reaches you brim full of facts and news and information about your business—the most important thing in your life. It gives you the sort of facts that are worth actual money to you. It helps you get more business and get business with more profits.

There is no trash in our paper. It's all meaty facts. And the instructions and information it gives are useful years after publication. That's why our readers all save their copies of the paper. They know they will refer back to previous issues many times.—Editor AMERICAN BUILDER.



Residence A. B. Headley, Esq., 1450 East Ave., Rochester, N. Y.  
Architects, Foote, Headly & Carpenter, 401-403 Carter Bldg., Rochester, N. Y.  
Bishopric Base used on all exteriors

## The Well Built Home An Asset

No expenditure is so important as that which you make for a home, then if circumstances lead one to remove elsewhere, they want, as a commercial asset in their house, both strength and beauty, for these are sure to get one a better return in rent or sale.

# Bishopric Stucco

and

# Bishopric Base

Provides a Unit Wall  
For All Time and Clime

A Bishopric Stucco Home Means



- (a) Least Cost for Labor.
- (b) Least Cost for Material.
- (c) Speed of Construction.
- (d) Strength-Stability-Endurance.
- (e) Living Comfort—Winter and Summer.
- (f) Lowest Maintenance Cost.

Write for booklet "For All Time and Clime". Beautifully illustrated—working details—specifications. Let us solve your building problems.

*Sold by Dealers Everywhere*

**The Bishopric Manufacturing Co.**  
2 Este Avenue Cincinnati, Ohio

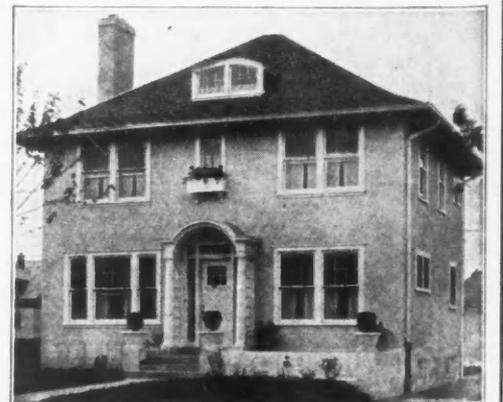
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