

# AMERICAN BUILDER

## THE WORLD'S GREATEST BUILDING PAPER

Vol. 46.

CONTENTS FOR OCTOBER, 1928

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MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS

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LET  
**TRUSCON**  
 TWENTY-FIVE YEARS OF PIONEERING & LEADERSHIP  
**TRUSCON**  
 SERVE YOU

Truscon offers for your consideration + years of experience in practical building + a close knowledge of the problems of the modern builder + the only complete line of fireproof building products in the world ever manufactured by one concern + an engineering service covering all problems of modern, permanent building to supplement your own organization + a warehousing service that is nation-wide and puts the entire commodity line within a few hours of any building site + and finally, the basic desire to give every possible cooperation.

TRUSCON STEEL COMPANY, YOUNGSTOWN, O.

Established 1903

*Warehouses and Engineering Offices in All Principal Cities*

Factories in Youngstown, Cleveland, Los Angeles  
 The Truscon Laboratories, Detroit, Michigan

*The Complete Truscon Line of Steel Building Products includes*

<b>STEEL WINDOW PRODUCTS</b> Pivoted Continuous Double-Hung Donovan Awning Type Counterbalanced Projected Mechanical Operators Steel Casements Basement Windows Steel Frames	<b>STEEL DOORS</b> Swing and Slide Vertical Folding Vertical Lift Vertical Lift-Swing Airplane Hangar	<b>METAL LATH PRODUCTS</b> A-Metal Laths and Hy-Rib Lath Accessories Metal Trim	<b>REINFORCING STEEL</b> Steel Forms Florestyles Locktype Welded Steel Fabric Contraction Joints Steel Road Forms	<b>STEEL POLES</b> H-Frames Towers
<b>STEELDECK ROOFS</b> Insulated and Waterproofed.	<b>STEEL JOISTS</b> P-G (Plate Girder) Type OT (Open Truss) Type	<b>PRESSED STEEL SPECIALTIES</b>	<b>MAINTENANCE PRODUCTS</b> Waterproofings Technical Paints Floor Hardeners Cement Roofing Tile	

# Slidetite SLIDES

*Where they are*

The convenience and utility of a garage, at all times, depends upon its doors. And door performance depends on the hardware used—it does the work.

Slidetite garage door hardware assures doors that always work, with the least effort and quickly.

Doors equipped with Slidetite slide and fold inside the garage—where both hardware and doors are protected—the ravages of exposure and rust are eliminated.



(1151)

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

R-  
lar  
lin

# DOORS INSIDE

*away from snow and ice*

The garage is always accessible, regardless of snow and ice, and the doors will never stick or sag.

Slidetite, with patented "Lock Joint" brackets, is packed in complete sets for doorways with 3 to 8 doors—providing for unobstructed openings up to 30 feet wide. Buy complete sets only and satisfaction is assured.

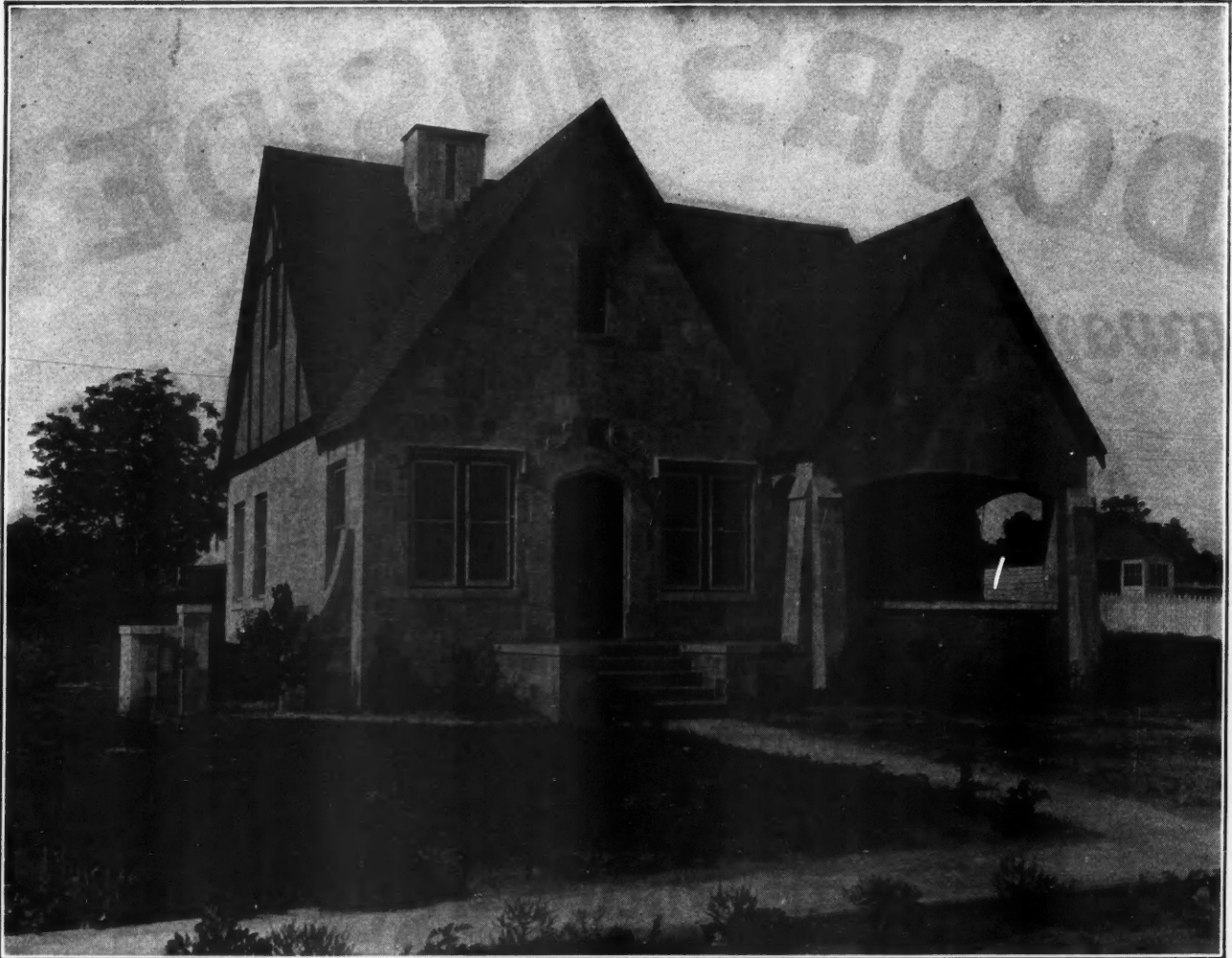
## Richards-Wilcox Mfg. Co.

*A Hanger for any Door that Slides.*

New York . . . **AURORA, ILLINOIS, U.S.A.** . . . Chicago  
 Boston Philadelphia Cleveland Cincinnati Indianapolis St. Louis New Orleans Des Moines  
 Minneapolis Kansas City Los Angeles San Francisco Omaha Seattle Detroit  
 Montreal · RICHARDS-WILCOX CANADIAN CO., LTD., LONDON, ONT. · Winnipeg



*R-W door hardware, the largest and most complete line made, will solve any doorway problems.*



*Residence, Macon, Georgia, built of Indiana Limestone Random Ashlar*

# Easy to Build...

# Easy to Sell

**T**HE shrewd builder is taking advantage of the new profit opportunity offered by stone construction. In all parts of the country, splendid examples of Indiana Limestone Random Ashlar residences, store buildings, apartments, etc., are now to be found.

Why shouldn't you take advantage of this new development in building? Stone offers you the chance to get away from dead level competition. To establish yourself as a builder of unique residences, different from those everybody else is putting up.

Indiana Limestone Random Ashlar is easy to

handle. We saw the stone at the quarry into strips four inches thick. These slabs are shipped direct to the job. There they are broken to length with an ordinary hand saw or electric saw. Then laid up in the wall by a stone-mason or a bricklayer. The only cut-stone required is for doors and for sills. No carefully prepared drawings are necessary.

Indiana Limestone prepared in this way is applied as a veneer to stud frame walls with galvanized metal ties, the same as a veneer of face brick work. This method is so simple that construction goes ahead with maximum speed.

## INDIANA LIMESTONE COMPANY

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

*Indiana Limestone Random Ashlar homes offer a new, unexploited profit opportunity for you. Send today for full information . . . . See coupon*

**Cost only 5% or 6% more**

The cost of a residence with Indiana Limestone Random Ashlar facing is only 5% to 6% more than when some other less desirable and distinctive material is employed. Resale value is much higher.

Wherever these beautiful houses have been built they attract marked attention. The prospective home-owner is not familiar with this new use of stone. He is apt to think of stone construction as meaning solid walls. Thus you have an interesting sales talk to give your prospects in this new use of an old and justly famous natural building material.

**Who we are**

The Indiana Limestone Company is a consolidation of 24 of the principal properties in the Indiana Limestone district. With assets of over \$46,000,000.00, with 19 branch offices and ample facilities, we are in a position to give you every possible assistance when starting to build Indiana Limestone houses. The residence field is a field we are now particularly interested in.



*Portable electric saw replaces old mallet and chisel method of breaking stone. One man at ordinary wages now keeps six stone-masons busy!*

If you get started ahead of the other fellow, you have an opportunity to establish yourself as the leading authority on stone construction in your community. It will mean profits and prestige for you that otherwise some competitor of yours will get. Don't let this chance go by. Other contractors are taking up stone construction with great success.

We know that Indiana Limestone offers the biggest single profit opportunity in years to the builder who will act quick. It gives him a chance to get the jump on his competitors.

**Write for Plan Books**

Let us send you plan books and full information on construction. Without obligating you in any way, we will post you thoroughly on this wonderful home building proposition. For convenience, fill in your name and address on the coupon below, and mail.

**FILL IN, CLIP AND MAIL**

Box 757, Service Department,  
Indiana Limestone Company, Bedford, Indiana.

Send me full information on Indiana Limestone for Random Ashlar facing for residences.

Name .....

Address .....

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

**General Offices: Bedford, Indiana    Executive Offices: Tribune Tower, Chicago**



**In the Brass and Copper Business**  
**— A NEW TRADEMARK\***

**CHASE ALPHA BRASS PIPE, ONE OF MANY CHASE BRASS AND COPPER PRODUCTS, WILL USE THIS MARK**

\* THIS MARK WAS DRAWN FOR THE CHASE BRASS & COPPER CO., BY FRED G. COOPER

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE



An old house takes a new trademark • This distinctive figure out of the bronze age (illustrative of the chase), is the new mark of the *Chase Brass and Copper Co., Incorporated.*

Look for this new Chase-mark on Copper gutters, downspouts, flashings, nails, Bronze and Copper screen cloth, Alpha Brass pipe—

And upon all products formerly sold by the *U. T. Hungerford Brass and Copper Company* and the *Waterbury Manufacturing Company* whose goods will now be sold under the Chase name and mark.

Chase Brass and Copper products are carried in stock by thirteen Chase branches throughout the country,\* and are also shipped direct from the factories and mills of the Chase Companies, Inc., of Waterbury, Connecticut.

See that the Brass and Copper building materials you buy are marked "Chase". They are known to builders everywhere as *good* products.

## TO BE SPECIFIC . . . .

This new Chase-mark will appear on shipping tags and labels and on all boxes, cases and crates in which our brass and copper products are shipped. Wherever practicable, it will also be die-stamped directly on the products. Alpha brass pipe for example, and Chase copper leaders, gutters and other copper, brass and bronze construction materials will bear this new mark.

\* CHASE BRANCHES: New York • Boston • Newark • Philadelphia • Baltimore • Cincinnati • Cleveland • Detroit • Chicago • St. Louis • New Orleans • Los Angeles • San Francisco



**ALPHA BRASS PIPE CHASE**  
**BRONZE SCREEN CLOTH**  
**COPPER ROOF GUTTERS**

92% OF ALL HOMES ARE BOUGHT ON THE WORD OF A WOMAN—



*While the man is listening to specifications, the woman is looking for style. Give it to her with patterned linoleum floors. They have eye-value. They have color. They make empty houses home-like. Made by a firm known for eighty-five years as authorities on smart floor coverings, W. & J. Sloane Linoleum has the style to clinch your sale. We shall be glad to help you with your floors. For information address: Contractors Service Department, 577 Fifth Avenue, New York City—W. & J. Sloane Mfg. Co., Trenton, N. J.*

**W. & J. SLOANE LINOLEUM**

# STOP! LOOK! READ! THIS!

THE LATEST IMPROVED  
FOR FLOOR WORK  
FOR SHOP WORK



WALTER R. SIMPSON  
*Floorkraftsman*  
BANGOR, MAINE

Clarke Sanding Machine Co.,  
3815 Cortland Street,  
Chicago, Illinois.

Gentlemen:

You asked me to write you a line or two to tell you how I like the little machine. Well it sure is a little wonder. I was going to write you before but had a job or two I wanted to try it on.

The first floor I had to do was a floor that the painters put a strong solution of lye on and burnt the wood brown. The owner told me I made the floor better than when it was first laid. They did not think I could take it out good but I sure did. Simple and easy.

A few days after I struck another one they used lye on and had the same good results. Another kitchen floor I did, they had a fire in the kitchen and had the chemical and one stream of heat on it and I brought that out as good as new. It is a pleasure to watch it work. And so simple and easy to operate. And fast is right! I did a table top of oak for a man and it came out fine; also a set of stairs with the same good results.

The job I finished today the people were more than pleased. They had one done last summer with a big machine and the woman told me they came with two horses and three men to unload it. I just laughed as I know what these heavy machines are - I had two of them - they are just a lot of excess weight for nothing.

Nearly every job I did, they are going to have more done later. I think so much of my little wonder that I built a nice oak case to take it from one job to the other. I have done some hard floors - yes - some that people said could not be done.

I see plainly why you put a strong guarantee on your machines. If a man buys one of your machines and does not get good satisfaction it is better to take it out of his hands because it is not the machine but the man's fault. I am on a job and have some of the floor done before I could get a big machine on the job. Speaking plainly, I can do faster and better work with my new machine than I could with the old fashioned machine. The man who invented the Clarke Sander deserves much credit.

Well I must come to a close for this time saying I am very much pleased with the results I am getting out of my Fast Cutting Clarke Sander.

Yours very truly,  
Walter R. Simpson

Original in our files

*Hard job  
Simple and  
easy*

*Tough job  
made good  
as new*

*Gets a big start  
on job before a  
big machine  
could even get  
to the job.*

*Faster and  
better work*

*Fast is right!*

*Easy to operate*

*Fine results on  
table top too.*

*Customers more than pleased*

*Did work people said  
couldn't be done*

*Strong is right!  
The Clarke is the  
only Sander with  
Positive, definite,  
written Guarantee  
of Performance*

Just one of the thousands of letters received from users of the Clarke Vacuum Portable Sander

**THE CLARKE IS SURE  
TO DO THE WORK YOU WANT DONE**

**MAIL THIS →**

FOR FACTS THAT MEAN PROFITS FOR YOU

CLARKE SANDING MACHINE CO., Dept. A-210, 3815 Cortland St., Chicago, Ill.  
Originators, and for over 11 years, manufacturers of Portable Sanding Machines

**Get "Pointing the Way to Greater Profits" - It's FREE**

It is filled with additional letters from actual users, telling just what the CLARKE is doing for them

**MAIL THIS COUPON TODAY**

---

Clarke Sanding Machine Co.  
Dept. A-210, 3815 Cortland St., Chicago, Ill.

Please send me full information about the Clarke Vacuum Portable Sander.

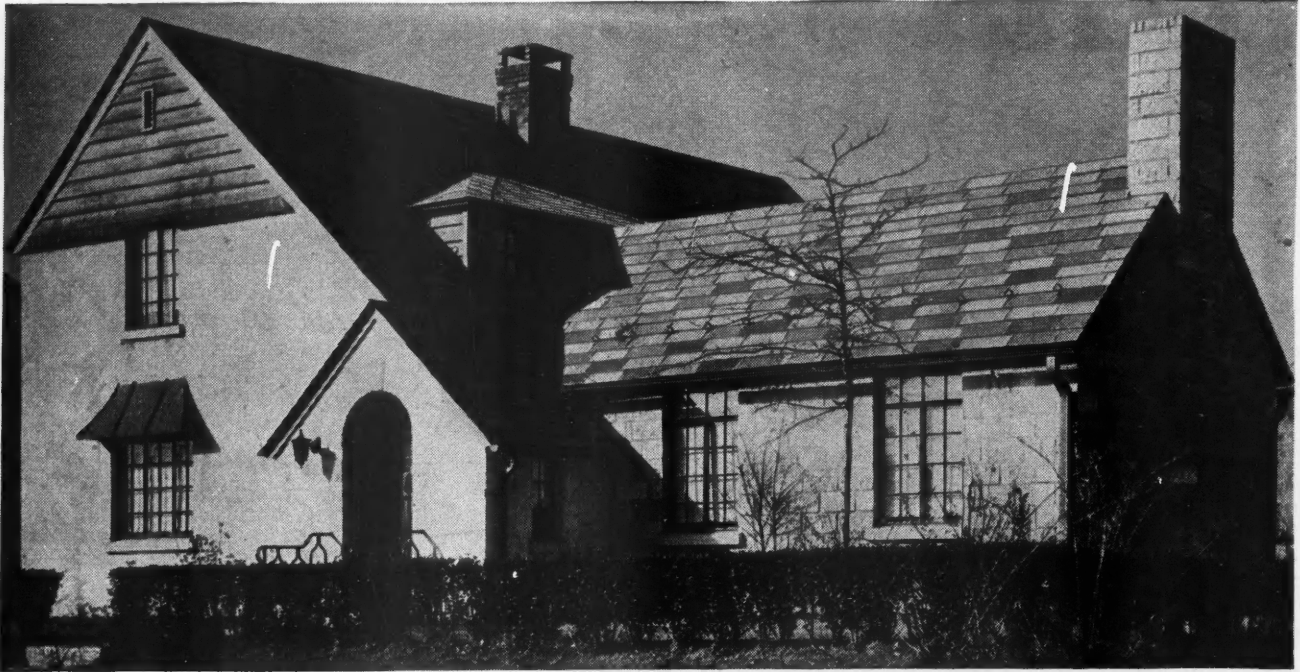
For Floor Work     For Shop Work

Name.....

Address.....

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

# 3 roof designs instead of 2 —but only with Eternit Horizontals!



An application of Eternit Horizontals on a pleasant suburban home

THREE roof designs? Here: Eternit Asbestos Shingles, as other shingles, came in two styles—American and Hexagonal. They were beautiful; they were durable; they were fire-proof. But they didn't answer every architectural requirement! Then Eternit, Inc., perfected the exclusive Horizontal. Now, for any job, you have three roof designs instead of two. *But only with Eternit Horizontals!*

The Horizontal design is striking! The shadow lines are soft

and pleasant. And the colors—as all Eternit colors—are fast and will not bloom! These rich deep colors, by an exclusive Eternit process, can withstand frost and beating sun—and still stay beautiful!

*Fast colors in a wide variety!*

The variety of colors in the Horizontal runs the same as in the Eternit American and Hexagonal. These: Emerald Green, Quarry Blue, Indian Red, Autumn Bronze, Colonial Gray.

Do these fast colors and the new Horizontal design add to the cost? Not one whit! Eternit Horizontal shingles cost no more than the economical Hexagonals. And from the low first cost you can subtract long years of service these shingles

will give. Strong, tough, durable, Eternits will last as long as the building stands.

*Write now for information and samples*

And more: the exclusive Eternit construction, combining asbestos fiber with Portland cement, makes Eternits absolutely fire-proof! They can't burn. Nor can they rot, crack, or break. . . . Let us send you information about Eternit Horizontals—their beauty, durability, economy, fire-safety. Better still, write for samples and information about *all* Eternit Shingles. Mail the coupon now.

Eternit, Inc., Riverview Drive, St. Louis. Offices at Jacksonville, New Orleans, Houston, and Philadelphia. Factory at St. Louis.

**Eternit**  
Reg. U. S. Pat. Off.

**ASBESTOS  
SHINGLES**  
ABSOLUTELY COLORFAST

ETERNIT, Inc., Dept. A, 10 Riverview Drive, St. Louis, Mo.  
Please send me full details about roofing directions and samples.

Name \_\_\_\_\_ Street \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_  
Dealer's Name \_\_\_\_\_

# Home Buyers Demand the Best in Materials and Workmanship

That Prospective Home Owners "Want Fewer Frescoes on the Walls and More Durable Studs Behind" Has Been Proved by the Master Model Demonstrations

By **BERNARD L. JOHNSON**,  
*Editor, American Builder*

**T**HE home buyer that roams our subdivisions today is looking for structural perfection and cannot be put off with dabs of paint and glistening door-knobs," says L. Porter Moore, president of the Home Owners' Institute, builders of master model demonstration homes in key cities throughout the country. The Institute is entering the second year of its campaign to raise construction standards by showing the public what well built houses are. Interesting aspects of the public mind on home buying and building have been gathered by the Institute and are being reported each month in **AMERICAN BUILDER**.

"There was a period in our construction history when a high polish and a few trick appliances sold houses to people looking for a change from the residences built by their grandparents," says Mr. Moore. "But that brief time has passed and the buying public now wants fewer frescoes on the walls and more durable studs behind them." Mr. Moore bases his remarks on his contact and that of his staff with hundreds of thousands of people who have inspected the Institute houses in cities from San Francisco to New York and from Omaha, Neb., to Washington, D. C.

Houses are not exactly cheap these days, says the Institute president and the public wants something that will

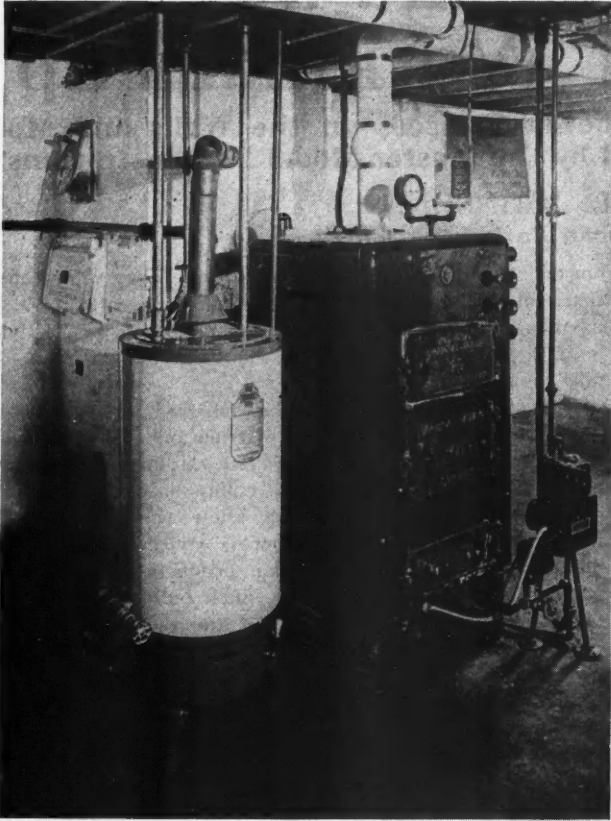
not collapse under the first severe storm. They want houses that will last at least as long as it takes them to finish the payments, and the builder who can talk permanence today is in a better sales position than the builder who can talk fancy decorations.

"Structural perfection can be achieved by sound construction methods and the use of tried and tested products, materials, and equipment," says Mr. Moore. "And sound construction methods are more common than good materials. A great many builders know their business, as far as putting a house together is concerned, but many builders have been using certain products and equipment without exactly knowing why. Such builders should look over the materials they are using and then look over the material field and see if perhaps they can deliver better houses to their clients by using more advanced products.

"Certain building materials have unusual merit and some materials have more merit than others. The Home Owners' Institute, in beginning its model homes program more than two years ago, realized that there is nothing new in the demonstration house. Model homes, 'honeymoon' cottages, and 'bungalows for newlyweds' have risen on hundreds of subdivisions in all parts of the country. The Institute did know, however, that there was something new in homes built of gilt edged materials, guaranteed products, and



Good Architectural Design and Pleasing Landscaping of the Grounds as Well as the Proper Use of Good Materials, Such as Common Brick, Steel Casement Windows, Rigid Asbestos Shingles and Copper Sheet Metal Work, Make Selling Easier for the Investment Builder and Satisfaction Sure for the Prospective Owners.



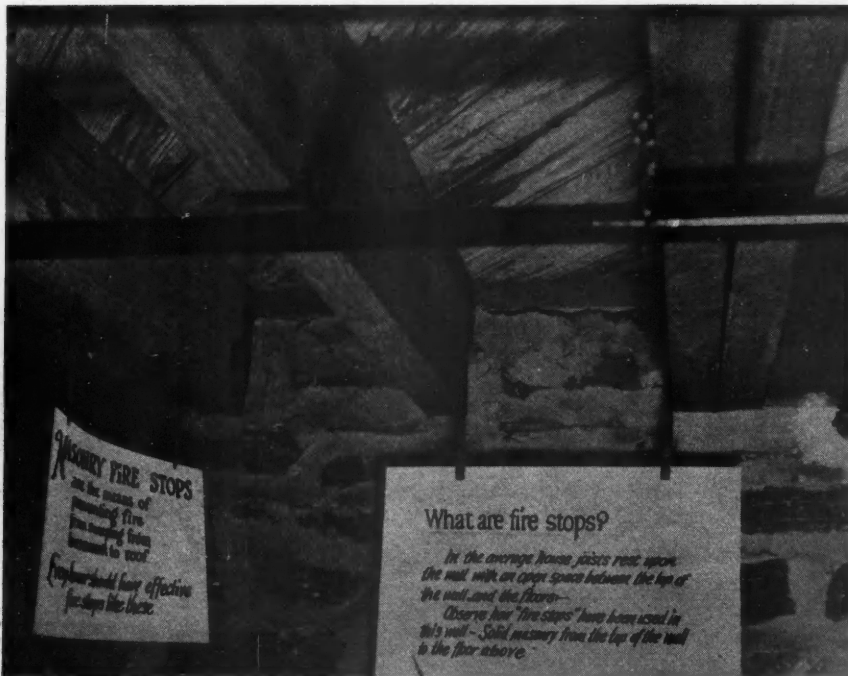
An Oil Burner, Steel Jacketed Boiler with Asbestos Covered Pipes, Heat Regulator, Hot Water Heater, Brass Piping and Built-In Incinerator, in the Basement of the New York "Herald-Tribune" Master Model Home.

highly approved equipment. In its preliminary work in the New York territory when the Institute built model homes for the New York 'Herald-Tribune' in the suburbs outside of New York City, the Institute realized three years ago that the house inspecting public was seeking *durability*.

"It was for this reason that the list of Institute materials



Quilt Insulation, the Proper Use of Brass Pipe and Metal Lath with Strong Framing Combined to Make the Concealed Portions of the Master Model Homes an "Honest Deal" on the Part of the Builder.



This Picture Shows Clearly What Is Often Lacking in Even Expensive Homes, That Is, Fire Stops or Beam Filling in the Foundation Walls. With this construction fire cannot sweep up through exterior partitions.

was selected with such great care and it may be of interest to readers of **AMERICAN BUILDER** to know why we chose certain manufacturers to be represented in our 1928 houses that will be built in 32 cities in the United States.

"We found that certain manufacturers anticipated the trend of the home buying public from a frivolous contemplation of fancy decorations to a serious contemplation of how long their houses will last. These manufacturers, working for durability and perfecting new features to safeguard the life of the house have achieved the materials, products, and equipment the Institute wants to present to its public during the coming year.

"In the matter of plumbing, the use of copper and brass prevents corrosion and rust, cuts down on upkeep and depreciation and therefore is one highly important step in making a house structurally sound. Copper and brass should be used also for gutters, downspouts, and flashings. The Institute uses Anaconda brass pipe, gutters, rainpipes, and flashings of copper and Anaconda bronze wire screens manufac-



and tear of modern life and you will have no trouble convincing your prospects of the merits of what you have to sell. The public is less interested in fancy touches and more interested in common sense."

**Complete Furnishing Sets Off the Interior of This Master Model Bedroom Which Displays Such Features as Trade Marked, Single Panel, Inner-Frame, Flush Moulded Doors; Aromatic Cedar Lined Clothes Closet, Steel Casement Windows, Bronze Wire Screens, Thin Tube Radiators, Lighting Fixtures in Colonial Design and Crack-Proof Plastering.**

tured by the American Brass Company.

"It is interesting to know that plumbing fittings have been greatly improved in recent years because, realizing the importance of this equipment, the great manufacturers of plumbing fixtures have added fittings to their lines. But fittings were not sold by these manufacturers until they had worked on the old models for a long time and improved them to meet the improvements in kitchen, laundry and bathroom fixtures. Fittings that will not tarnish or corrode and that harmonize with the fixtures should appear in every house built in the future, even those of modest price.

"We use three-coat hydrated lime plaster (the Kelly Island Lime & Transport Co.) on metal lath (National Council for Better Plastering) because this combination makes sound proof, fire resistive walls that will not crack. Another way to achieve structural perfections and make permanency certain.

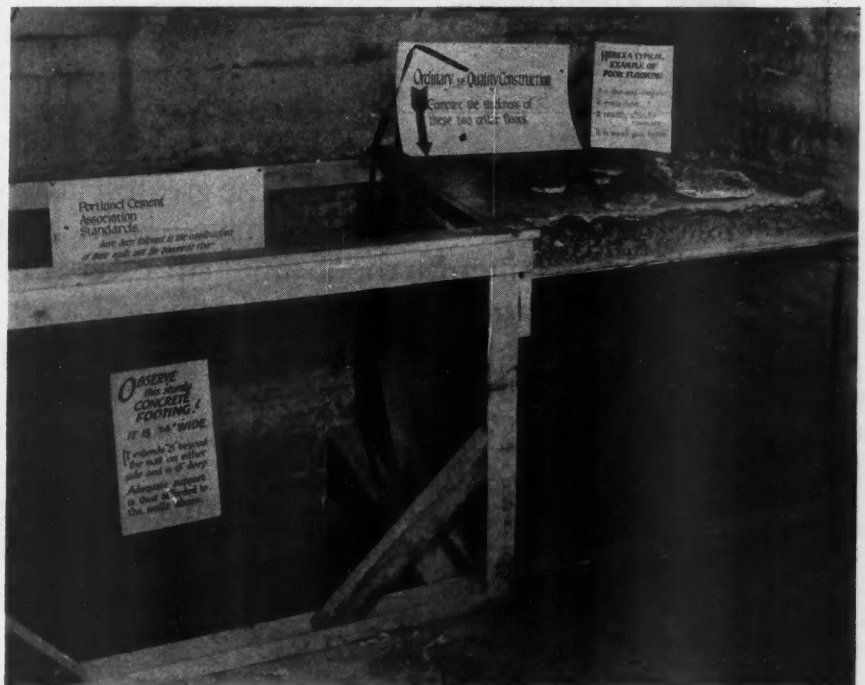
"We are featuring masonry homes of common brick (Common Brick Manufacturers' Association of America) because this type of construction is beautiful and enduring, its upkeep cost is low, it is fire resistive and due to these qualities its loan value is high.

"We are featuring 'Miracle' single panel doors (Paine Lumber Company, Ltd.) and I mention doors because we believe they are very important in the scheme of the home. The 'Miracle' doors are suited to almost any style of architecture or period of interior decoration and are acknowledged by our builders as one of the best constructed doors obtainable.

"Build homes that are structurally sound and that will resist the wear



**Steel Casement Sash Can Be Attractively Built Into Colonial Frame Houses Along with Other Nationally Advertised Products, Including the New Health Glass That Transmits the Ultra-Violet Rays.**



**The Sample of Poor Flooring Shown Here Was Actually Taken from a Supposedly Well Constructed House. It is, in some places, two inches thick, but at most places only one inch. When placed on an untamped sub-grade it cracked and disintegrated. Compare it with the Master Model floors resting on the footing of the foundation wall.**

# Efficiency of Design and the "Standard" Electric



*Efficiency* of design—the greatest attribute any mechanical device can have—is one of the leading features which distinguish the "Standard" Electric Dishwasher and Sink.

In determining upon so important a service element in the fine home or apartment you build, this efficiency with simplicity of operation at once instills a confident assurance that the "Standard" Dishwasher and Sink can absolutely be depended upon to perform.

And the housewife shares this confidence by reason of her knowledge of the inherent quality in that which bears the "Standard" trade-mark.

\* ————— { **"Standard"** } —————  
PLUMBING FIXTURES



# Simplified Operation Mark Dishwasher and Sink

The illustration to the left is of the noted "Three-8's" Sink, made of Acid-Resisting Enamel, and incorporating the efficiently-designed and dependable "Standard" Electric Dishwasher.

Water action is *positive*—provided by a centrifugal pump operated by electric motor. The water is constantly circulating through the pump, and is strained each time it re-enters the pump, keeping all food particles out of the cleansing water.

Cleaning action is *positive*, also. The wire basket holding the dishes and silverware revolves four times per minute. Consequently, all surfaces of each dish are turned to the forceful spray of strained-clean water fed through a correctly-designed nozzle.

No rubber hose is needed with the "Standard" Electric Dishwasher. The individual hot water supply valve fills the washing compartment and provides *clean* hot water for forceful spray rinsing. The standing waste automatically controls the depth of water in washing compartment.

Another feature—*exclusive* with this Dishwasher—which instantly appeals to the housewife, is the flexible shaft from the motor, with its two labor-saving attachments—a revolving brush for cleaning pots and pans, and a whip for cream, salad dressing, etc.

The fact that the dishwashing compartment is free of dirt-catching mechanism, and easily cleaned, is further evidence of forethoughtful design. And no owner can afford to overlook these qualities which

contribute to make his property more inviting. The "Three-8's" Sink, itself, is notable by reason of its dimensions. The 8-inch low back fits under low windows; the 8-inch compartment prevents over-rim splashing; and the 8-inch apron in front adds an element of stateliness and massive beauty.

This sink is of Acid-Resisting Enamel, so-called because its hard, glass-like surface repels the action of acids and alkalis, and stains and spots are easily removed with a damp cloth. Chromard Finish Fittings, with their platinum-like lustre, are in complete harmony with the high character of this sink and dishwasher unit.

The prevailing vogue of color in the kitchen is well served by "Standard" with the range of soft and inviting colors in which this sink and dishwasher combination is available. And the vitreous china garbage container, which swings beneath the sink on a folding bracket, is provided in same colors as the sink.

The beauty of these colors—the efficiency of design which distinguishes the "Standard" Electric Dishwasher—the practical dimensions of the "Three-8's" Sink—these, are qualities which can only be adequately appraised at a "Standard" Showroom. You are urgently invited to become more familiar with these qualities which, we firmly believe, are aids to the sale or rental of fine homes and apartments.



Standard Sanitary Mfg. Co.  
PITTSBURGH

“Standard”  
PLUMBING FIXTURES

# Master Model Homes are equipped with MCKINNEY



### List from which Master Model Home Cities will be selected

Atlanta	Minneapolis
Baltimore	Milwaukee
Birmingham	New Orleans
Boston	New York
Buffalo	Oklahoma City
Chicago	Omaha
Cincinnati	Philadelphia
Cleveland	Pittsburgh
Columbus	Portland
Denver	Rochester
Detroit	Richmond
Des Moines	Salt Lake City
Fort Worth	St. Louis
Houston	San Antonio
Indianapolis	San Francisco
Jacksonville	Seattle
Kansas City	St. Paul
Louisville	Spokane
Los Angeles	Syracuse
Miami	Washington, D. C.

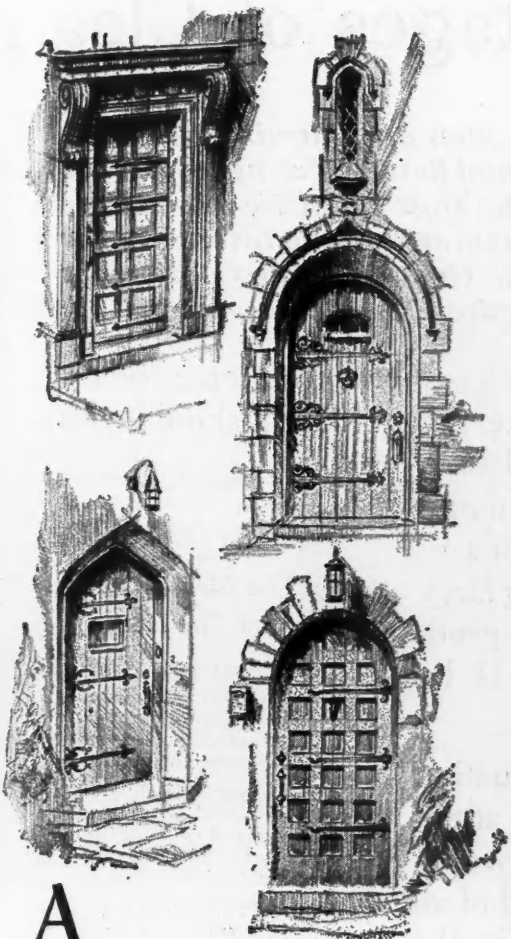
In the leading cities of the United States, the Home Owners Institute is sponsoring a program which includes the building of more than three hundred and sixty Master Model Homes. Last year on the opening days, crowds stood in line to go through the model homes as soon as they were completed.

This year, still greater advertising and publicity are pushing this national home building movement. Larger crowds than ever before have been attending.

BY SPECIAL ARRANGEMENT WITH THE HOME OWNERS INSTITUTE, ALL MASTER MODEL HOMES WILL BE EQUIPPED WITH MCKINNEY HINGES OR MCKINNEY FORGED IRON HARDWARE.

Naturally, McKinney is leaving no stone unturned in following up this effort. Extensive newspaper advertising is being used for the many cities where the model homes are built. Architects and builders are finding it to their advantage to co-operate by listing McKinney Forged Iron and McKinney Hinges in their specifications.

# FORGED IRON HARDWARE



A

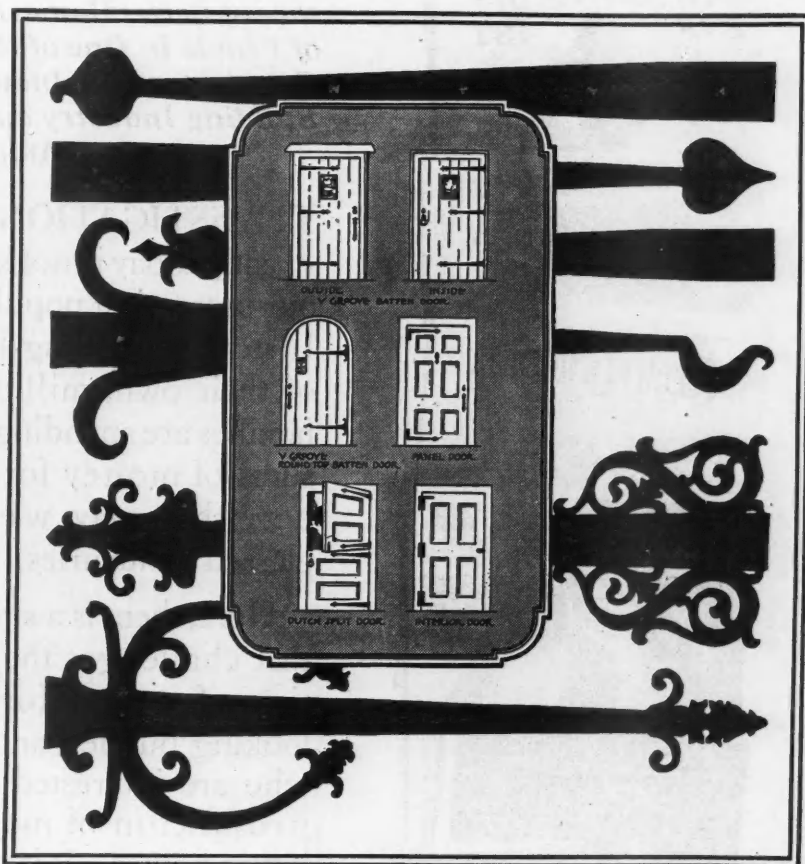
## Fitting Tribute

Use of McKinney Forged Iron Hardware on Master Model Homes is an additional illustration of its great popularity. Builders, hardware dealers and architects are giving it consideration for homes in almost every architectural style and in

every price range from cottage to mansion.

Never has such a texture or so splendid a finish been achieved. The designs also have found universal favor. And by creating enough different pieces so that houses may be outfitted

complete, by advertising and by fusing builder's hardware stores for distribution, McKinney has made it a simple matter to obtain and use it freely. McKinney Forged Iron is not a specialty. It is a staple every builder can count on.

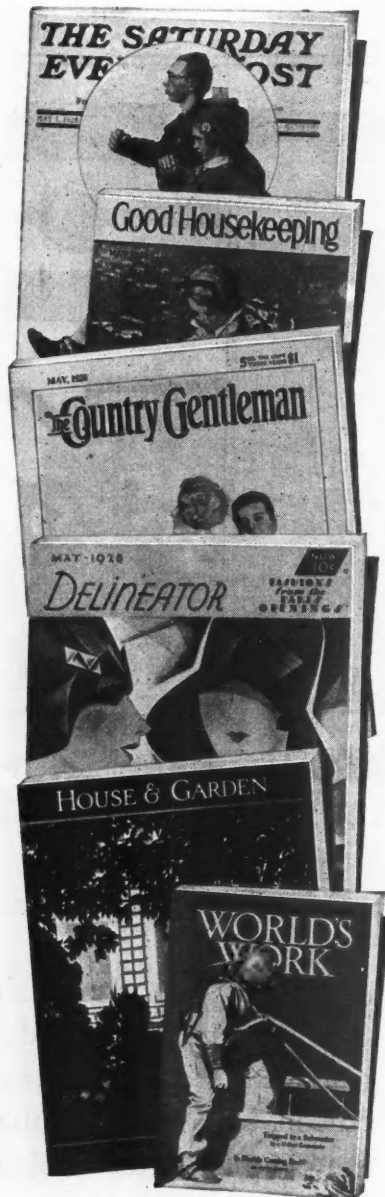


McKINNEY MANUFACTURING CO.

Pittsburgh, Pa.

IN THE INTEREST OF THE

# Educating America's People to .....and the advantages of Clean



*Many National Magazines are Carrying Our Message of Better Homes and Better Heating to Millions of People in One of the Most Extensive Advertising Campaigns Ever Inaugurated in the Interest of the Building Industry and Greater Living Comfort for America's People*

INVESTIGATION has shown that home ownership today is not keeping pace as it should with our increasing population. Instead of buying homes of their own, millions of families are spending large sums of money for products that may well be classed as luxuries.

Here, then, is a situation that challenges the attention of every forward-looking builder, and of all who are interested in the promotion of more and better homes. It is a problem which demands aggressive cooperation if home ownership is to progress and become a more vital thing in the lives of our people.

## RADIATOR HEAT

*The Ideal System  
for The Home*

**HEALTH and Comfort**—Radiator Heat assures 70 degrees healthful warmth in every room all winter—no matter how severe the weather.

**Cleanliness**—No dust or soot can be carried upstairs as with old-fashioned systems. Radiator Heat is the cleanest and most healthful known.

**Durability**—An American Radiator Heating Plant will serve faithfully as long as the home remains.

**Property Value**—Because of its universal recognition and acceptance by the public an American Radiator Heating Plant will add from two to three times its initial cost to the resale value of the house.

**Fuel Saving**—An American Radiator Heating Plant, because of its efficient design and construction, assures the owner the utmost economy of operation.

# AMERICAN RADIATOR

# BUILDING INDUSTRY.....

## to the Ideal of Home Ownership in Healthful Radiator Heat



Always eager to lead the way, the American Radiator Company, early in 1928, inaugurated a million dollar advertising campaign to encourage home buying and to spread the doctrine of clean, healthful radiator heat among the people.

Carrying out this program, striking single page and double page advertisements in four colors are appearing regularly in the Saturday Evening Post, Good Housekeeping, House and Garden, Country Gentleman, House Beautiful, Better Homes and Gardens, Christian Herald, Atlantic Monthly and other large and influential publications.

This advertising will encourage

home buying because it will serve to make families "Home Conscious," and to awaken them to the realization of the contentment and pride that come with owning the homes in which they spend the happiest hours of their lives.

### Get Behind this Campaign —It Will Pay You

We feel that you will agree with us that this great program is not only a genuine public service, but is a very material benefit to the building industry and its every individual member. Your co-operation is all that is needed to further Home Ownership in America, and to get your share of the increased business that will result.

*Mail This Coupon for Detailed Information*

# COMPANY

AMERICAN RADIATOR COMPANY  
Advertising Department  
40 West 40th Street, New York City

Amer. Bldr. 10-23

I would like to receive your Sales Helps and detailed information on how to tie up most effectively with your national campaign for better heating.

Name.....  
Address.....  
City..... State.....

# 2 MORE FREE BOOKS that will help you in building



*Includes vital facts: Ease of sale; The Ideal Wall; Sound Proof Interior Walls; Government Tests; Multiple Buildings; Stores, Churches and Schools; Loan Value and Safety; Permanence and Beauty; Fire Safety; Low Depreciation; etc., etc.*

Every builder and contractor will find in these two books facts that will give him a new appreciation of common brick. Facts that will assist in planning and building the type of structures that build reputation.

The data offered is the result of years' of study, compiled by authorities. Many of these facts are entirely new, and all are practical, worthwhile suggestions you can use every day in your business.

Only a limited edition of these valuable books have been published. Send today for your complimentary copy. The coupon below brings them to you without charge. Other helpful booklets are listed below at cost prices.

## BRICK forever

*Preferred by Architects*

COMMON BRICK MANUFACTURERS ASSOCIATION of AMERICA  
5-2151 GUARANTEE TITLE BLDG., CLEVELAND, OHIO

*These District Association Offices and Brick Manufacturers Everywhere Are AT YOUR SERVICE*

Boston.....11 Beacon Street  
Chicago.....605 Builders Bldg.  
Cleveland—Ohio Association  
2124 Guarantee Title Bldg.  
Denver.....1735 Stout Street  
Detroit...400 U. S. Mortgage Trust Bldg.  
Hartford.....226 Pearl Street  
Los Angeles, Calif.  
634 Chamber of Commerce  
New York City...1716 Grand Cent. Term.

**Clip and Mail This Today**

Without charge please send me a copy of "Common Brick" and "Brick Strengthens the Security."  
I am enclosing cash or stamps for the booklets checked below:

"Homes of Lasting Charm"—25c  
 "Skintled Brick"—15c  
 "Multiple Dwellings of Brick"—10c  
 "Farm Homes of Brick"—5c  
 "Brick, How to Build and Estimates"—25c  
 "The Heart of the Home (Fireplaces)"—25c  
(Enclose \$1.00 if you want all the books.)

New Orleans, La....727 Canal Bank Bldg.  
Norfolk.....112 West Plume Street  
Philadelphia.....1420 Walnut Street  
Pittsburgh.....524 4th Ave.  
Raleigh, N. C.  
508 Commercial National Bank Bldg.  
Rochester.....Post Office Box 773  
(New York State District)  
Salt Lake City.....301 Atlas Block  
San Francisco.....301 Sheldon Building  
Seattle, Wash.....913 Arctic Bldg.

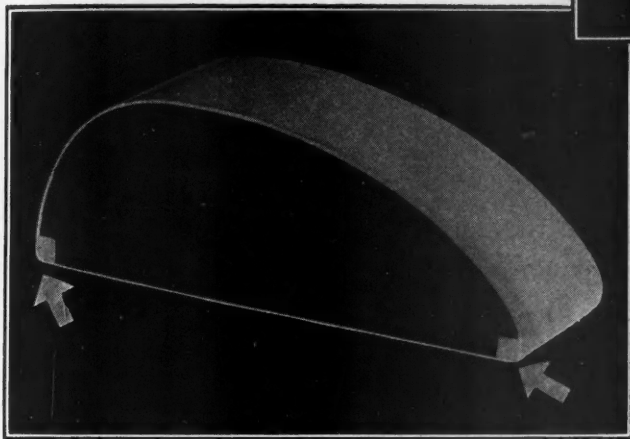
# A Brunswick Triumph In Seat Manufacture!

*A sheet-covered seat that is guaranteed indefinitely not to split at the edges*

As shown below, Brunswick's new White Seat has a heavy reinforced cushion of tough, resilient pyralin right on the outer edges where blows and rough usage are liable to cause white seats to split open. The sheet pyralin on the new Brunswick Seat is welded to this heavy cushion edge of pyralin. The seat edge is thus made 9 times as thick as a single sheet!



Brunswick White Seat, Model 300, with chromium plated hexagon hinge



THE makers of the famous Whale-bone-ite Seat now offer their newest triumph in seat manufacture. The Brunswick White Seat shown here is a pyralin sheet-covered seat on wood base with a unique patented feature that means complete protection at the outer edge of the seat where danger of damage is greatest.

Instead of merely joining the two sheets of pyralin by overlapping or butting, as has been the custom in white seat manufacture, Brunswick has developed and patented a joint which makes what has been the weakest part of a sheet-covered seat now the strongest.

The two sheets of pyralin are now welded at the edge to a heavy cushion of pyralin. Thus instead of the usual thickness at the edge, where blows are most apt to hit, this new-type seat has solid pyralin there 9 times the thickness of a single sheet!

Even the roughest usage won't damage this amazing new construction. It enables us to guarantee this edge against defects for an unlimited period.

Our large manufacturing facilities enable us to offer the Brunswick White Seat at exceedingly attractive prices.

In addition to the Whale-bone-ite Seat, and this new White Seat, Brunswick is now manufacturing a complete line of wood seats. Thus in the Brunswick line you can now find seats for every type of installation. Our catalog showing all models should be in your file. Write for it. The coupon is for your convenience.

### Fill In, Clip and Mail

Box 300, Seat Department  
The Brunswick-Balke-Collender Co.  
623 S. Wabash Ave., Chicago

Send your complete catalog, showing all models of Whale-bone-ite, White and Wood Seats.

Name.....

Address.....

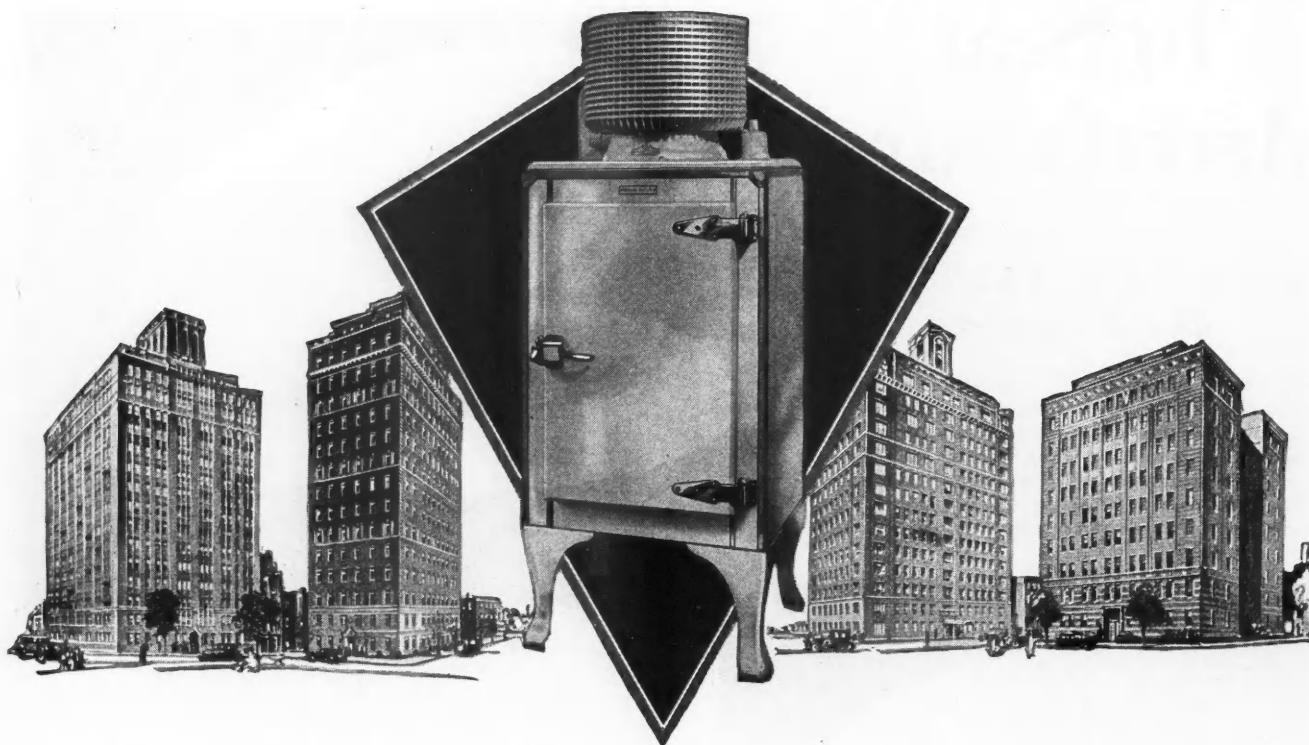
City..... State.....

# BRUNSWICK WHITE SEATS

Made by the Manufacturers of the Whale-bone-ite Seat

THE BRUNSWICK-BALKE-COLLENDER CO. • Chicago • New York

# Rented by Refrigerators



**W**ILL they sell, will they rent easily? Every architect and builder has to think of that in planning and building homes and apartments.

Forethought that included General Electric Refrigerators in the plans is today keeping rented many apartments while neighboring apartments go begging.

The choice of many progressive architects and builders has settled on General Electric Refrigerators

because they are "years ahead" in design, worry-proof, and so entirely automatic that they never even require oiling. Exceptionally quiet, with the most food space for least floor area; and backed by the General Electric guarantee, they add tremendous value in the eyes of every discriminating home buyer or renter

*Send for Catalog AB-10*

It gives complete specifications of all types and sizes. Similar but briefer information is contained on pages C3056-9 of "Sweets' Architectural Catalog."

## GENERAL ELECTRIC Refrigerator

"Makes it Safe to be Hungry"



*These shingles  
make fine houses  
better*



*Johns-Manville Asbestos Shingles add to the Charm and Saleability of any Home*

**T**HIS charming house gains in beauty through its colorful, substantial roof of Johns-Manville Asbestos Shingles. And with the beauty goes everlasting safety from fire.

Johns-Manville Asbestos Shingles will not burn now, nor ten years from now, nor one hundred years in the future. You may not be interested twenty years hence in the roofs of the houses you sell today. But your prospects will be and they are right now.

Successful operators are discovering that a roof of Johns-Manville Asbestos

Shingles is a wonderful asset in selling a house. The prospective buyer knows the name and the staying power of these Asbestos Shingles. Our constant advertising keeps these facts before him. You will find that about the best investment you can make in building is a roof of Johns-Manville Asbestos Shingles.

We are always glad to confer with speculative builders concerning the use of our Shingles on one house or a thousand houses. Write to Johns-Manville Corporation, 292 Madison Avenue, New York City.

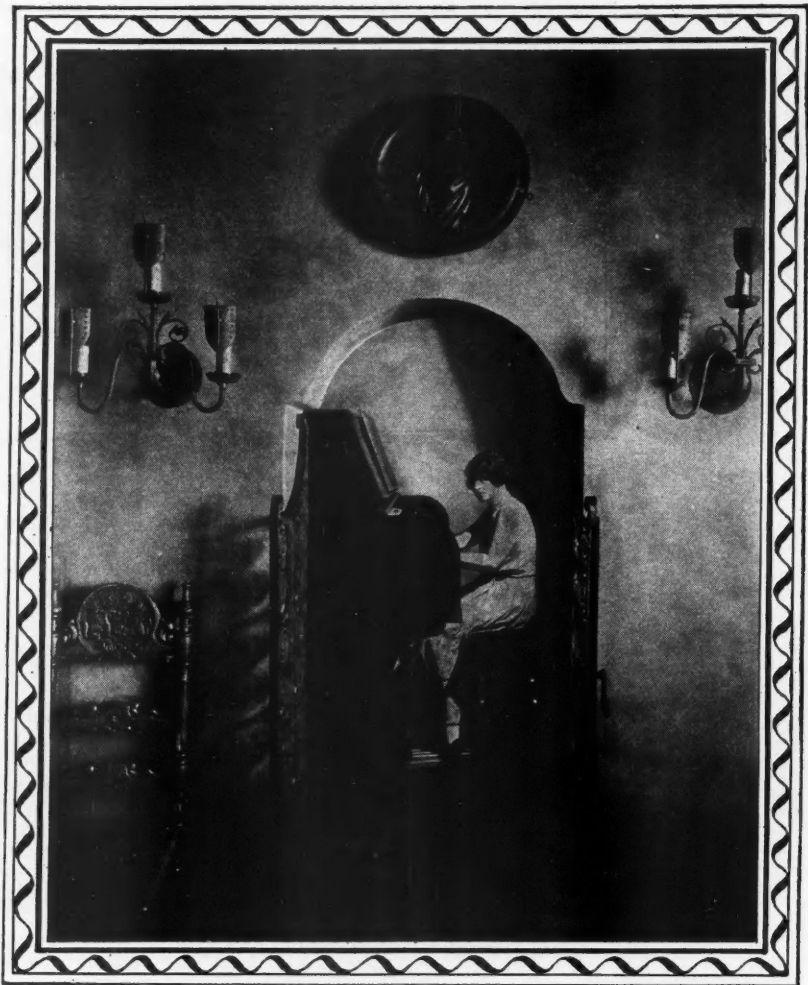


MASTER of ASBESTOS  
**Johns-Manville**  
ASBESTOS SHINGLES

# Wall Appeal



"Spreads like  
Warm Butter"



THIS ORGAN ALCOVE, a clever creation of the architect, is one of the many beautiful Tiger Finished rooms of the Los Angeles Times Master Model Home, sponsored by the Home Owners Institute.

Three hundred and fifty-nine other Master Model Homes, to be built by the Institute this year, will be plastered with Tiger Lime, *exclusively*.

To the remarkable effects created by its use may be credited directly the ready sale of many a *new* home. *Old* homes, without number, owe their present fine condition largely to its permanence.

Nearly 5000 dealers sell this famous finishing lime. The Tiger on the bag is your protection.

THE KELLEY ISLAND LIME & TRANSPORT CO.

"World's Largest Producer of Lime"

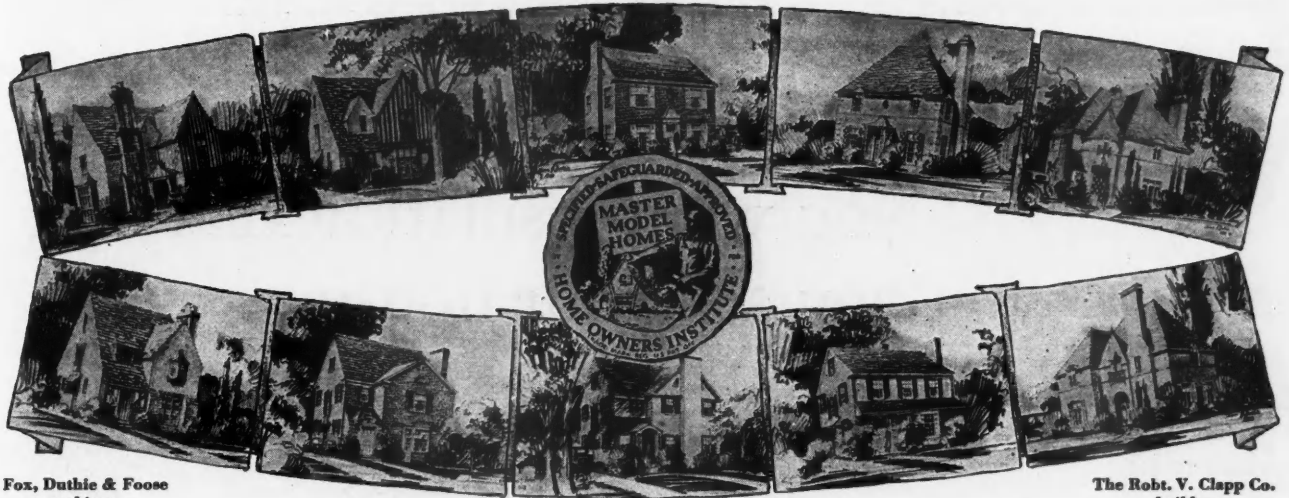
LEADER BUILDING .. .. CLEVELAND, OHIO

The Famous

# TIGER

# FINISH

And—Tiger Mason's, Tiger Agricultural, Tiger Chemical, Tiger All-Purpose Hydrate in 10-pound Packages, and High Calcium and Magnesium Lump Limes. Also Quicklake (ground Quicklime) in paper-lined jute sacks.



Fox, Duthie & Foose  
architects

The Robt. V. Clapp Co.  
builders

## Two Realtor-Builder Specialists and Cleveland Plain Dealer endorse Master Model Homes



CLEWELL SYKES



STOUDER THOMPSON

**M**ESSRS. Sykes and Thompson say: "The Master Model Home movement, originated by Home Owners Institute, marks a new era for the American builder and realtor. The whole plan is fundamentally sound because it benefits each participant. The manufacturer receives excellent publicity for his product; the newspaper profits through advertising, and the builder gets prospects at a lower cost per prospect. Three mutually interested and interdependent factors

are thus brought into close and profitable relationship by Home Owners Institute."

In the ten homes pictured above you see the tangible results in Cleveland of the Home Owners Institute Master Model Home idea. With the Cleveland Plain Dealer's editorial cooperation they will open this fall in the famous Van Sweringen development, Shaker Village.

Thousands will see these Master Models—built only with nationally advertised products, including:



**Anaconda Brass Pipe, Gutters, Rain-Pipes, and Flashings of Anaconda Copper, Screens of Anaconda Bronze Wire**  
THE AMERICAN BRASS COMPANY

**New Ideal Redflash Boilers, New Ideal Hotcoil Water Heaters, American Corto Radiators**  
AMERICAN RADIATOR COMPANY

**Brunswick Panatlope, Radio and Billiard Table**  
THE BRUNSWICK-BALKE-COLLENDER CO.

**Common Brick**  
COMMON BRICK MANUFACTURERS ASSOCIATION OF AMERICA

**G-E Wiring System, G-E Refrigerator, G-E Vacuum Cleaner, G-E Fans**  
GENERAL ELECTRIC COMPANY

**Rigid Asbestos Shingles; Improved Asbestocel Pipe Insulation**  
JOHNS-MANVILLE CORPORATION

**Tiger Finish (Hydrated Lime) Walls; Lime for Plastering and Brick Mortar**  
THE KELLEY ISLAND LIME & TRANSPORT COMPANY

**Kernerator Chimney-Fed Incinerator**  
KERNER INCINERATOR COMPANY

**Forged Iron Hardware, Hinges**  
MCKINNEY MANUFACTURING COMPANY

**Metal Lath for Better Plastering**  
NATIONAL COUNCIL FOR BETTER PLASTERING

**Miracle Doors**  
PAINE LUMBER COMPANY, LTD.

**Cephas B. Rogers Decorative Lighting Fixtures**  
CEPHAS B. ROGERS, INC.

**Plumbing Materials**  
STANDARD SANITARY MFG. CO.

**Truscon Steel Casement and Basement Windows**  
TRUSCON STEEL COMPANY

### HOME OWNERS INSTITUTE, INC.

441 Lexington Avenue

L. Porter Moore, President

New York City



The Home Owner's Safeguard Policy protects builder and purchaser. This Policy covers every Master Model Home and certifies as to quality of all materials and equipment as specified and used in construction.

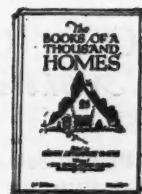
**HOME OWNERS INSTITUTE, INC.**  
441 Lexington Ave., New York City

I enclose 25c (stamps accepted) for "A Manual of Home Building," containing 40 pages of text, pictures and floor plans of model homes.

I enclose \$1.00 (cash, check or money order) for the "Home Owner's Safeguard Policy."

I enclose \$3.00 (cash, check or money order) for the 324-page, Vol. 1, "The Books of a Thousand Homes," containing 300 attractive homes of all types.

Write name and address large in margin below.



# You build good houses— you want insulation that helps you sell your houses

**H**ERE it is—the *flexible blanket* of Balsam-Wool. It tucks in—does a *perfect insulating job*.

Balsam-Wool costs you *almost nothing extra*.

Your houses sell quickly in competition. Your investment turns over faster. You make more money—and more *goodwill*.

\* \* \*

*Why Balsam-Wool costs almost nothing extra.*

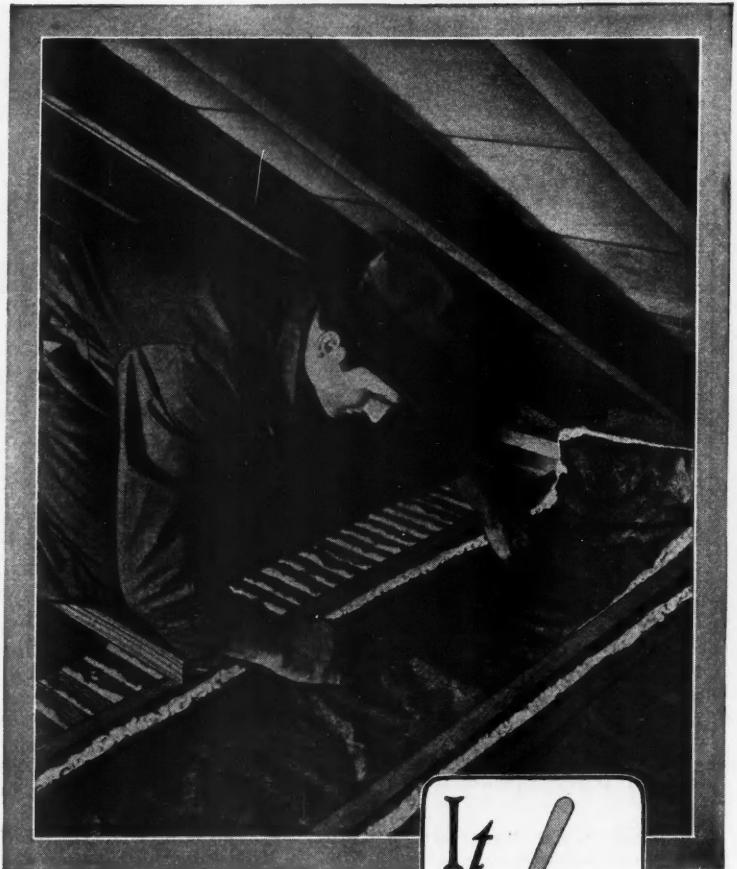
Use Balsam-Wool in outside walls and roof. Be generous with it. Tuck this flexible insulation around all window frames and door frames. Stop *all the leaks*.

Now you can use a *smaller* heating plant. *Smaller* furnace. *Fewer and smaller* radiators.

Here's where you save *practically all* the cost of the Balsam-Wool.

You're offering the *best houses* in the neighborhood. *At competitive prices*. They sell!

*Special Correspondence Invited.* Write us for anything you want to know about Balsam-Wool. Our Technical Department will gladly tell you about specifications covering various methods of application, its use for sound-deadening purposes, etc. Balsam-Wool is made in both *full inch* and *half-inch* thicknesses. If your lumber dealer doesn't handle it, let us know. We will direct you to a reliable dealer who does.



It  
tucks  
in



*The Weyerhaeuser Guarantee* is behind Balsam-Wool. It assures highest quality and lasting satisfaction to users.

## Balsam-Wool

—the *flexible* insulating and sound deadening blanket

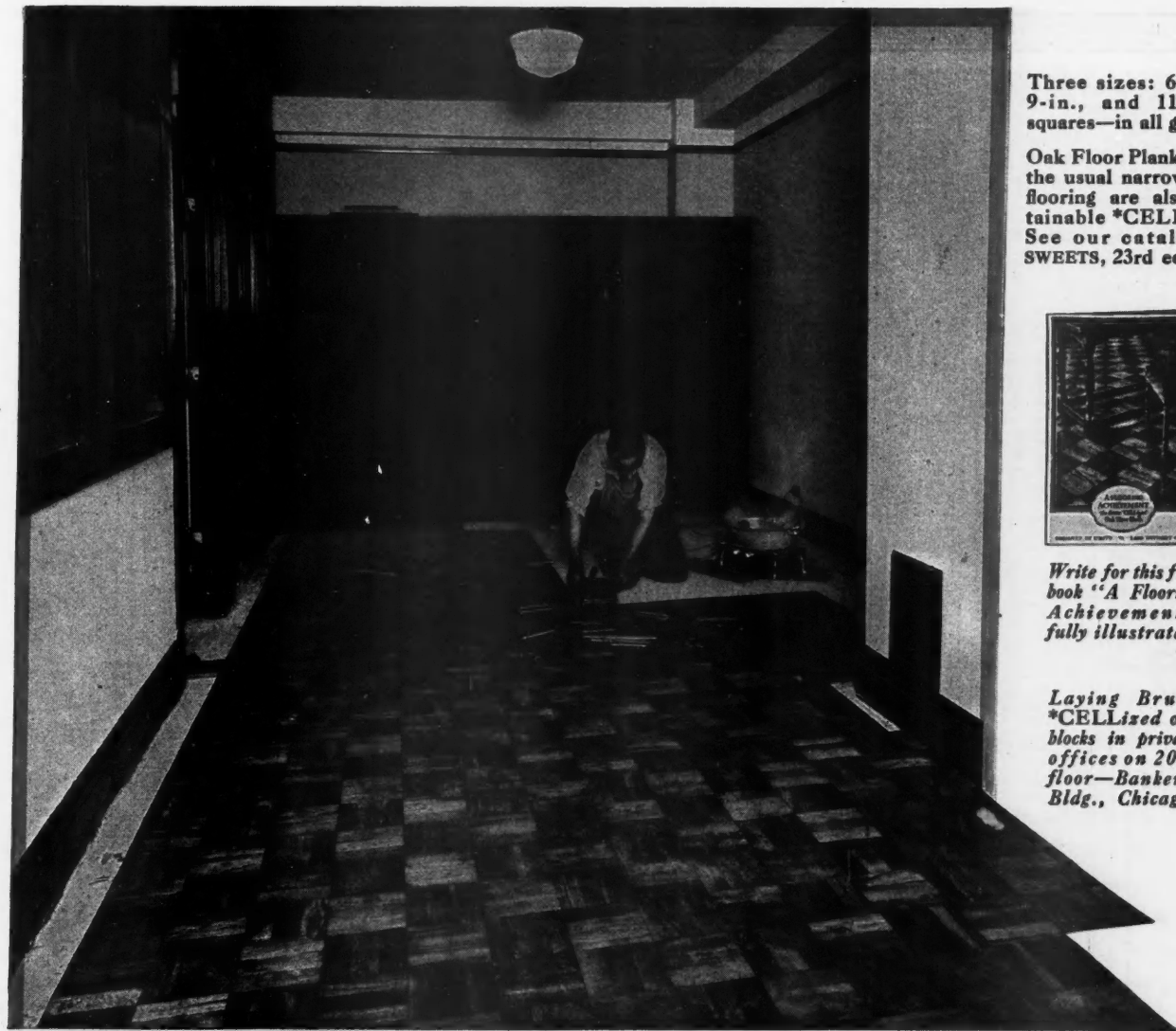
SOLD THROUGH RETAIL LUMBER DEALERS

### WOOD CONVERSION COMPANY

*Makers of both flexible and rigid insulations*

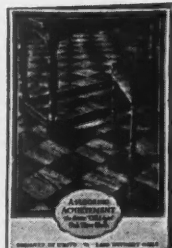
*Mills at CLOQUET, MINNESOTA*

*Sales Offices:* MINNEAPOLIS, Baker Building · CHICAGO, 360 North Michigan Avenue · NEW YORK, 101 Park Avenue  
DETROIT, 503 Stephenson Building · KANSAS CITY, 3525 Broadway



Three sizes: 6¼-in., 9-in., and 11¼-in. squares—in all grades.

Oak Floor Planks, and the usual narrow-face flooring are also obtainable \*CELLized. See our catalog in SWEETS, 23rd edition.



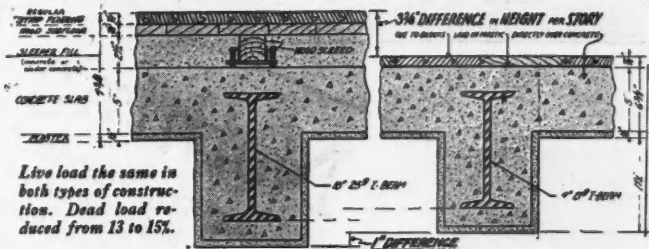
Write for this free book "A Flooring Achievement" fully illustrated.

Laying Bruce \*CELLized oak blocks in private offices on 20th floor—Banker's Bldg., Chicago,

## No other flooring is more suited to office buildings — beauty, permanence, comfort, economy

Private offices, professional reception rooms, etc., are enriched in appearance by the beauty and unusualness of this permanent design oak floor, now made possible at low cost by the Bruce unit block, \*CELLized.

The cost is but little higher than regular strip oak flooring; less than many perishable floor coverings. Each block is a complete unit, three or more oak strips, full 13/16" thickness, joined by a steel spline. Laid in EVERBOND (a non-setting cement, sound-deadening and moisture proof) directly over concrete or wood subfloor, without nails, as rapidly as strip flooring. Each block is \*CELLized, a deep-cell chemical treat, which prevents expansion or contraction. The floor remains tight, and will not open up or squeak. The treat permits a richer, more lasting finish, with less finishing material. Insect and decay proof.



Live load the same in both types of construction. Dead load reduced from 13 to 15%.

When a building is planned for Bruce oak floor blocks, there is a reduction of approx 2½" in height per story, without loss of headroom, eliminating screeds, cinderfill and wood subfloor. The total saving exceeds the cost of the design floor, laid and finished.

In remodeling, lay directly over the present floor, in EVERBOND, without nails.

**E.L. Bruce Co.**  
MEMPHIS, TENNESSEE  
Largest manufacturers of oak flooring in the world

# Bruce \*CELLized Oak Floor Blocks

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



# Nothing Else Like It

ADD THE ELECTRIFIED Napanee Dutch Kitchenet with Dinet  
 [exclusive, patented] to the kitchen, and instantly it increases  
 the sales and rental value of the home or apartment as no other  
 kitchen or pantry equipment can. Outlet plugs to accommodate electri-  
 cal appliances on the cabinet where they belong. Extra table space  
 [sliding in and out as needed] for preparing meals. Extra space  
 for breakfasts or lunch. The most advanced idea in kitchen cabinets in  
 years. Write for the Napanee catalog.

**COPPEBROS. & ZOOK, Napanee, Ind.**  
 New York Office: 415 Lexington Ave.  
 Detroit Office: General Motors Building  
 Chicago Office: 308 N. Michigan Ave., Keehn Bldg.  
 Agents in all Principal Cities

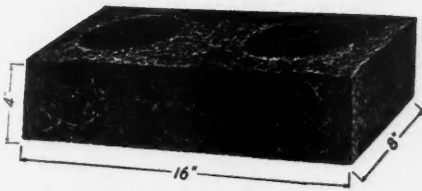
**NAPANEE**  
**DUTCH KITCHENET**  
*Built Like Fine Furniture*

## Mail This Coupon

**COPPEBROS. & ZOOK** AD-10  
 Napanee, Indiana  
 Gentlemen: Please send me further  
 information regarding styles, sizes  
 and arrangements of Napanee Kitch-  
 en Equipment. I am,  Architect,  
 Contractor,  Owner. [Check  
 square].

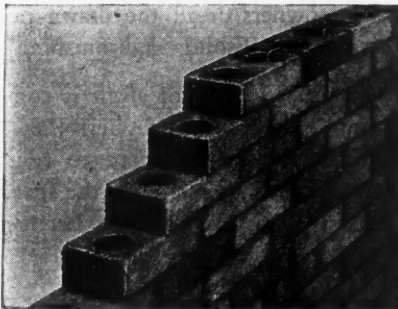
Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_  
 State \_\_\_\_\_

# What is Stockade?



**T**HIS is the equivalent of 8 bricks in volume. It weighs only as much as 1 brick. It provides from 3 to 5 times the insulation afforded in most types of construction. It is fire-resisting. It is called STOCKADE.

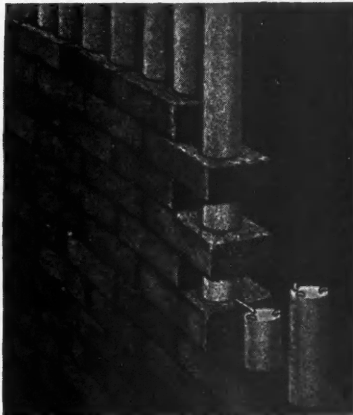
Stockade walls are built up like this, brick-like, only much faster, because of the large size, the light weight and the self-bonding feature. There are no mortar joints to be penetrated by heat or moisture.



Note that Stockade forms "columns of holes" which run up through the walls. As Stockade is laid, these holes are filled with concrete, properly and simply re-inforced. The result is a wall of 4-inch re-inforced concrete pillars, 8 inches between centers, with 8-inch thickness of *continuous, integral* insulation.

**N**OW THEN, you have the very highest type of construction—insulated, re-inforced concrete—usually considered out of reach for any home. Yet your first cost is no greater than for any substantial type of construction, and usually it is even lower. You have

SECTION OF WALL CUT AWAY

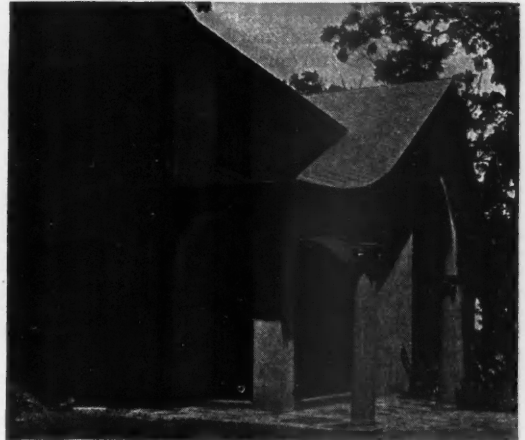


a wall which will never need up-keep because there is nothing in it to deteriorate. Indeed, the tendency of the Stockade wall is to improve with the years. You have a wall of great strength that can never crack or sag (67,500 pounds' resistance per lineal foot, at 8 feet high, according to Armour Institute of Technology).

**S**TOCKADE is easily and quickly erected, and without further treatment is ready for any interior and exterior finish. Stucco, for example, on the outside, and plaster on the inside bond perfectly to the Stockade surface. No lath or furring strips are necessary. Cracks are virtually unknown, because Stockade is sufficiently resilient to take up any expansion or contraction from moisture and temperature.

Soft, free architectural effects are obtainable *naturally* on Stockade without extra expense. Any preferred exterior finish, such as brick, stucco, half-timber, etc., may be used with Stockade as easily as with any other type of construction.

The 8-inch wall of Stockade construction makes possible the beauty of deep reveals, either interior or exterior, *without extra expense*. Always, the Stockade home, even when modest in design, looks rich and substantial. And it is thoroughly fine, permitting the best expression of architecture, structural engineering, and per-



A STOCKADE HOME AT CRYSTAL LAKE, ILL.

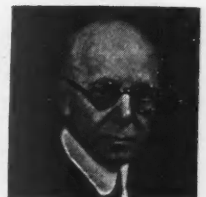
sonal taste—invariably at a decided saving.

The reason will be clear when it is considered that no other one material makes possible: (1) all the strength and permanence of re-inforced concrete; (2) from 3 to 5 times the insulation usually provided; and (3) a perfect, ready surface for any exterior or interior finish.

**R**EVOLUTIONARY in results, Stockade has the weight of authority behind it. It was originally developed by James Monroe Hewlett, a director of the American Institute of Architects. It has long since proved itself in

homes of every type and under all climatic conditions.

You cannot know how much farther your home investment will go—how much better it will be protected—until you know all about Stockade. Send for descriptive literature. Ask for book "A."



JAMES MONROE HEWLETT

THE STOCKADE CORPORATION,  
228 NORTH LA SALLE STREET, CHICAGO, and  
347 MADISON AVENUE, NEW YORK CITY.

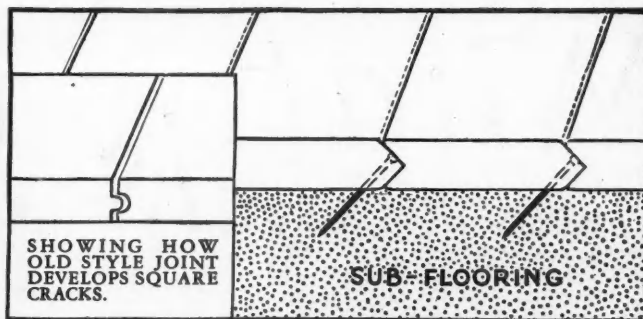
CROMAR makes you completely independent of floor-finishers. No subletting—you handle the entire job yourself. CROMAR reaches you crated (not merely bundled) in compact easy-to-handle packages. One length to a package. There isn't a more satisfactory flooring to handle—whether it's for residential work or apartments, churches, bedrooms of hotels, etc.—whether it's for a new building or a re-laying job.

And when you sell CROMAR, you can promise the greatest possible resistance to day-in and day-out wear, because patented machines apply filler, two coats of CROMAR special varnish and the moisture-resisting compound, at the CROMAR factory.

The filler is driven deep into all the pores of the oak strips—under tremendous pressure. In this way, all the millions of pores are sealed. Then the two coats of varnish are applied—and the oil in the varnish cannot seep into those sealed pores. The oil therefore stays in the varnish—keeps it alive and elastic so that it can't grow brittle and flake off. CROMAR'S beauty is lasting.

And no square cracks are going to open up either—to pack with dirt and mar the beauty of the floor with ugly black streaks: that is prevented by a tiny, rounded surface seam—smaller than the shaft of an ordinary pin.

There are numerous other CROMAR advantages—write for complete literature which tells and illustrates them all in detail.



## When You Lay CROMAR you can do a quicker job ... and with less trouble

### One of the reasons is the Special V-Type Tongue-and-Groove

The speed with which you can lay CROMAR makes it possible for you to handle more jobs with the same number of men. And it enables you to "land" re-laying jobs which you couldn't get otherwise at all (you know how owners dread the drawn-out and upsetting process of scraping, polishing and finishing).

With CROMAR you make speed because, first of all, it is completely finished at the CROMAR Factory, BY MACHINES—scraped, sanded, filled, twice varnished, and treated to resist moisture. Nothing to do but nail it down. Nailed at the speed of a room a day—and ready to use the minute the last nail is driven!

Even the Nailing, this only operation required with CROMAR, is made easier by the CROMAR Tongue-and-Groove. It is V-type. It fits quickly and snugly—without "blocking." It does away with the "setting" of nails. Further, this flat, beveled tongue, without sharp edges to bruise, prevents all damage to the finished face and the tongue itself. And—the off-center cut gives a flexible joint and equalizes unevenness in sub-floors.

But CROMAR has more than speed and ease to offer you. It has beauty. Lasting beauty—due to the quality and machine-application of its finishing materials.

THE CROMAR COMPANY, WILLIAMSPORT, PA.

# CROMAR

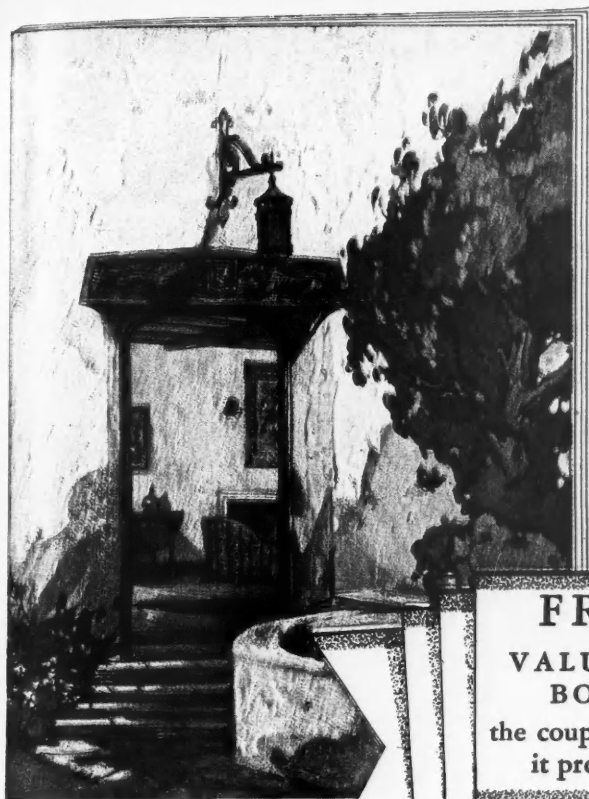
FACTORY FINISHED

## Oak FLOORING



Write for free samples and complete literature concerning the manufacture, the selling and laying of the only FACTORY FINISHED hardwood flooring in the world.





# As good as the principle behind it

**FREE**  
**VALUABLE**  
**BOOK**  
the coupon brings  
it promptly

**T**HIS book, "Better Walls for Better Homes" describes how STEELTEX applies the principle of reinforcing to walls and ceilings.

STEELTEX reinforces plaster with steel exactly as concrete is reinforced.

\* \* \*

Today everyone who builds or buys a home is more keenly interested than ever before in beautiful plaster effects or other wall decorations. The protection of plaster has taken on vastly increased importance. Home-buyers are learning to appreciate what is beneath the surface.

Builders will be quick to realize the value of a material that reinforces plaster by utilizing the same principle that is used to reinforce concrete—rigid steel embedded in the slab. STEELTEX has a successful record in over 200,000 installations.

STEELTEX is used in place of lath, but is far more than lath. It is a fabric of rust-

proofed (galvanized) cold-drawn steel, attached by a furring wire to a two-ply waterproofed backing. The steel has an average tensile strength of 78,000 pounds and is welded on 2" centers—giving it equal strength against stress from all directions. It comes in sheets 50" x 52".

Plaster is applied by an ordinary sweep of the trowel and the furring wire provides space for the plaster to spread under the fabric. As a result the steel is uniformly and completely embedded.

### Many advantages in one material

The backing not only produces automatic backplastering, but adds effective insulating, damp-proofing and sound-deadening qualities. Naturally it entirely eliminates lath marks. Never before has one material combined all these valuable qualities. The book, "Better Walls for

Better Homes" gives complete details. May we send you a copy?

### New—STEELTEX for floors

STEELTEX for Floors, recently introduced, has already been used in numerous important installations. Heavier than other types of STEELTEX. It is quickly stretched and secured in place over any type of beam or joist. It comes in rolls, not sheets.

Its obvious advantages include maximum construction speed, elimination of forms, prevention of droppings, uniform reinforcement throughout the slab, better curing, etc. The booklet, "STEELTEX for Floors" contains full details with working designs. Send for your copy.

### National Steel Fabric Company

DEPARTMENT OF  
**Pittsburgh Steel Co.**

3110 Union Trust Bldg., Pittsburgh, Penna.  
The world's largest manufacturers of  
welded steel fabric

# STEELTEX

**THREE TYPES—SAME PRINCIPLE—SAME PROTECTION**  
**for plaster . . for stucco . . for floors and roofs (concrete and gypsum)**  
**NOW PLASTER IS REINFORCED WITH STEEL—EXACTLY LIKE CONCRETE**

National Steel Fabric Co.  
3110 Union Trust Bldg., Pittsburgh, Pa.

Without obligation send

(check) *Better Walls for Better Homes.*


(check) *Steeltex for Floors.*

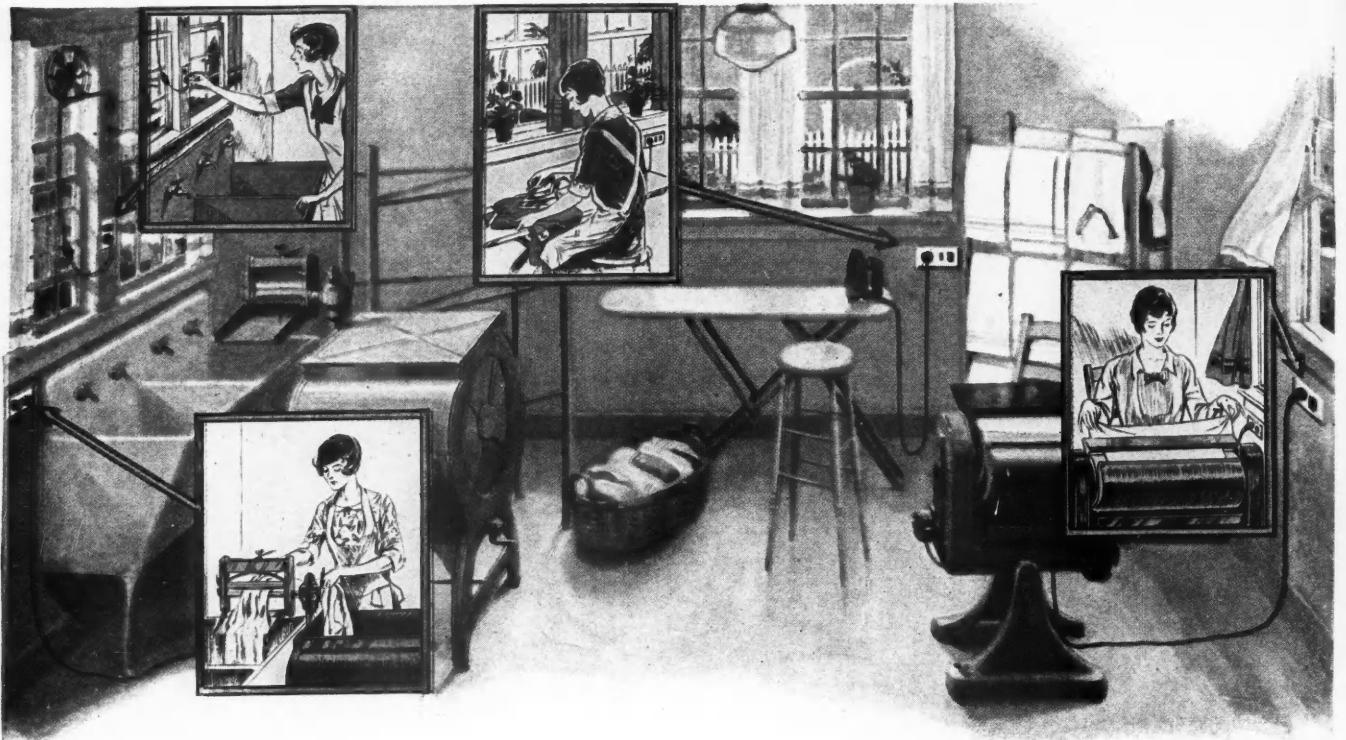
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Firm \_\_\_\_\_

Street \_\_\_\_\_

Place \_\_\_\_\_



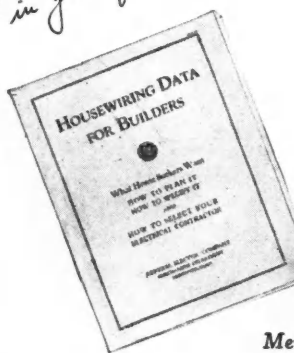


## This advertised wiring spells comfort . . . and it sells houses

Adequate wiring spells comfort these days—and comfort sells houses! The constant advertising of the General Electric Wiring System has built a demand for the houses that have this modern, completely planned wiring.

Home buyers know the name of General Electric. They have confidence in any product that bears it. The G-E Wiring System instantly gives them an assurance of quality that makes them favorably disposed to the whole house . . . in fact, it clinches many a sale!

*Write for this  
helpful booklet  
you should have it  
in your files*



Merchandise Department  
Section 31  
General Electric Company  
Bridgeport, Connecticut

# WIRING SYSTEM

*—for lifetime service*

# GENERAL ELECTRIC

# Conquered - a costly time waster

FOR years industrial builders have anxiously looked forward to the elimination of one of the most costly of all construction delays — waiting for concrete to harden.

That time has come. For Prestolith Velo Cement makes concrete you can use in 24 hours at a cement cost only slightly higher than that of standard portland. And, in comparison to the great saving effected in valuable time and overhead, the little additional cost is negligible.

The possibilities for more economical construction opened up by Prestolith Velo are almost limitless. Occupancy of an office or store building, which means the beginning of earning power, can be advanced many weeks. New concrete streets or repaving

in busy sections can be opened to traffic 24 hours after pouring. In work demanding precast concrete piles, the piles can be cast on the job and be ready for use when wanted. In practically all construction, time is money. And Prestolith Velo saves time.

The introduction of Prestolith Velo to the building industry indicates an inherent capacity for engineering service which has had a vital part in the rather unusual growth of the Missouri Portland Cement Company.

It represents an absorbing interest in the improvement of construction methods and materials which has prompted the investment of ability and money in the most exhaustive and conclusive tests of Prestolith Velo in the

laboratory and in actual work on a commercial scale over a period of five years.

And it represents the vision of complete usefulness which has caused, as a result of these tests, the building of a new \$2,000,000 plant at Prospect Hill, St. Louis, for the exclusive and adequate production of Prestolith Velo.

Write for our interesting booklet, "24-Hour Cement."



This is the emblem of the authorized dealer in Prestolith Velo and Red Ring Portland Cement. Through him, as the representative of the Missouri Portland Cement Company, is available the advice and engineering assistance of this entire organization.



## MISSOURI PORTLAND CEMENT CO.

ST. LOUIS •• KANSAS CITY •• MEMPHIS

Manufacturers of Red Ring Portland Cement, Prestolith Velo Cement; producers and distributors of sand, gravel and Bethany Falls crushed stone.

MISSOURI PORTLAND CEMENT CO.  
1311 Telephone Building, St. Louis, Mo.

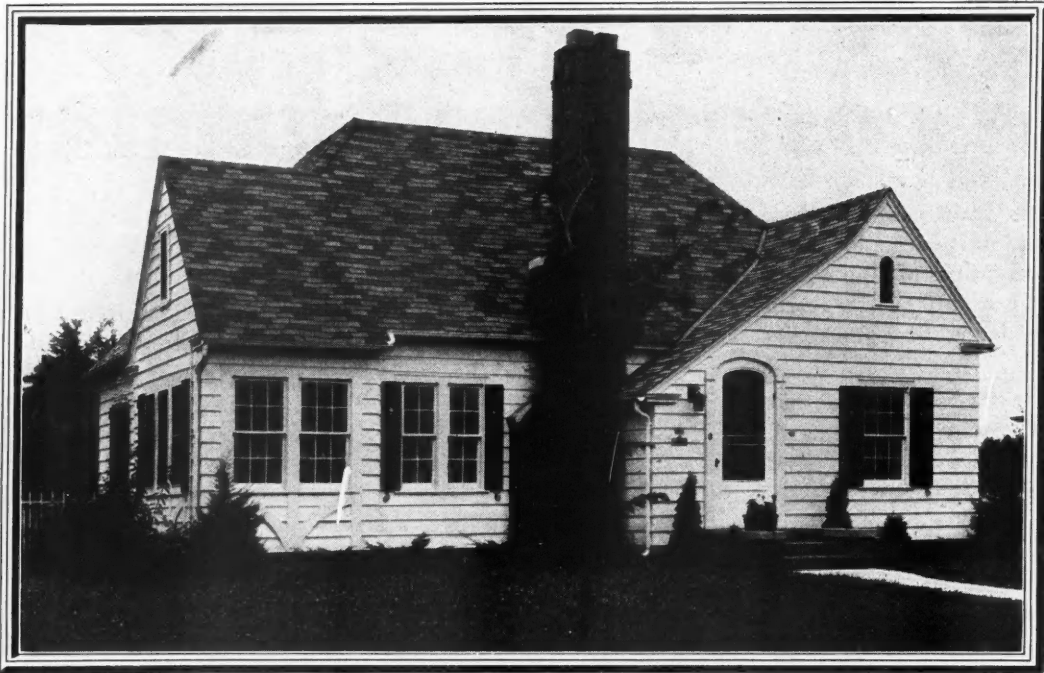
Please send me, without charge, your descriptive booklet, "24-Hour Cement."

Name.....

Firm.....

Street and No.....

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



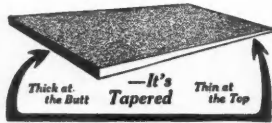
HOME OF  
*Lumber Dealer* ' ' '  
*roofed with Winthrops*

Many years' experience as District Manager of seventeen lumber yards, makes Mr. Roy W. Richards of 321 Jefferson Ave., Janesville, Wis., a sound judge of building materials and good construction.

As architect of his own home, he selected Winthrop Tapered Asphalt Shingles. The color, chosen with Mrs. Richards' help, is Slatefield Blend, laid staggered.

Slatefield is a cool blend of heather green, heather blue and purple. While trees and shrubs are growing, these colors will fit the house to its yard and always will they contrast pleasantly with the chimney tones.

With a range of twenty non-fading colors—all of natural slate—some solid, some blended—you can use Winthrop Tapered Asphalt Shingles to bring harmony between roof and walls, between house and its surroundings.



Color aside, Winthrops make the ideal roof. No other asphalt shingle has the tapered shape—the thick butt to lie flat, to double the thickness where exposure comes and to cast attractive shadow lines.

Winthrops are unequalled over old roofs. They bear the Class C Label of Underwriters' Laboratories. They will not crack, curl, rot, split, rust nor saw through their nails. Extra coats of everlasting asphalt are built up over heavy felt cores.

*Samples Free*

Most good lumber dealers carry Winthrops but we believe you can use a set of Slatefield Blend samples in going after roofing jobs. Shall we send them? Write us—and if you ask, we will send a sample also of Argotex Building Felt, noted for its insulating quality.

**BECKMAN-DAWSON ROOFING COMPANY**  
 1032 Brooks Building, 223 W. Jackson Boulevard, Chicago, Illinois  
 Factories at Chicago, Ill., Detroit, Mich. and Lockport, N. Y.

*the Big Butt Shingle*  
**Winthrop**  
**Tapered Asphalt Shingles**

# Unanimous

Architect  
Agents  
Builder  
Owner  
Occupants

**1400 Lake Shore Drive  
Apartments  
Chicago, join  
in endorsing**



*1400 Lake Shore Drive Apartments, Chicago, Ill. Hooper & Jannsch, Architects; Anton Wille, Financier and Owner; Elmer A. Claar & Co., Sales Agents; Hallbauer Labahn, Inc., Contractors.*

**SCHLAGE  
Button LOCKS**

**The SALES AGENT says:**

We are pleased to say that we have received very favorable comment on Schlage Locks, and we believe that they have been a material help in enabling us to sell our apartments. One feature which has caused considerable comment has been the fact that they do away with keys on the interiors of the doors. From our point of view their being interchangeable has been a general convenience, and, taking into consideration the fact that we have 3000 doors in this building, this is no small matter. More success to you.

**The ARCHITECT says:**

We are very glad to endorse the above letter.

**The FINANCIER and OWNER says:**

The Schlage Locks used on the 1400 Lake Shore Drive, are proving very satisfactory. We find them less trouble than those we had been using. Their doing away with inside keys has proven quite a convenience both to ourselves and our apartment owners.

You know that you can depend upon the judgment of men responsible for buildings like this. *1400 Lake Shore Drive* is said to be the largest and finest Co-operative Apartment House in the world. Over 2,000 SCHLAGE Locks add the final touch of modern charm and convenience. And, from Architect to Sales Agent, the men on the job are unanimous in commending this "Modern Lock for Modern Buildings." Thousands of experiences like this, in every section of the country, prove that you can cut installation cost and make buildings more attractive to buyers and tenants with SCHLAGE unit-type Button Locks.

Specify them on your next job. 11 types, new pin-tumbler cylinder model, and period designs.

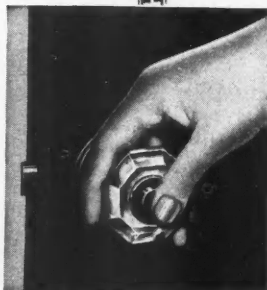


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**To lock**  
just press the  
button in the knob

**To un-lock**  
just turn the knob



**MAIL THIS COUPON NOW-**  
to SCHLAGE LOCK CO., SAN FRANCISCO,  
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City \_\_\_\_\_  
State \_\_\_\_\_ Business \_\_\_\_\_

**THE MODERN LOCK FOR MODERN BUILDINGS**

# SANITAS MODERN WALL COVERING



## Introduced 25 years ago and used throughout the world

Sanitas was the first ready painted, ready decorated wall fabric made, ready to paste on walls and ceilings.

Sanitas is now being used in every civilized country in the world. It is the leader in its field, both at home and abroad.

We state this simple fact merely as a reminder so that you will not be fooled by unknown grades of coated wall fabrics, whose chief appeal seems to be "cheaper than Sanitas".

Free Sample Book containing the complete line of 150 styles will be sent to any architect, builder or contractor. Write on your letterhead please.

You use standard materials in all of your building operations because it pays you. It will pay you also to use Sanitas, the original washable cloth wall covering, because for 25 years it has proved its right to be called the modern wall covering.

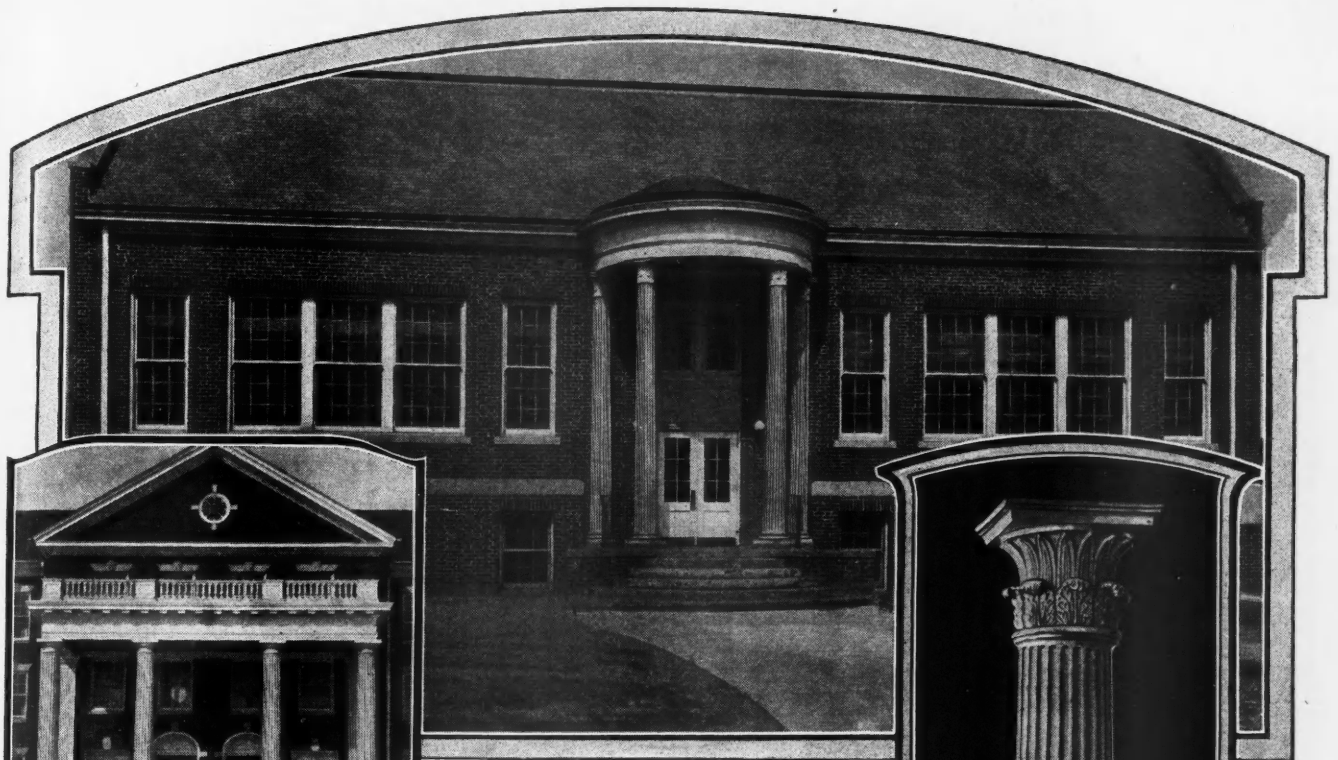
Sanitas comes in styles for every room in the house. Can be hung as soon as plaster is dry. Wall cracks will not show through it. Won't fade or peel.



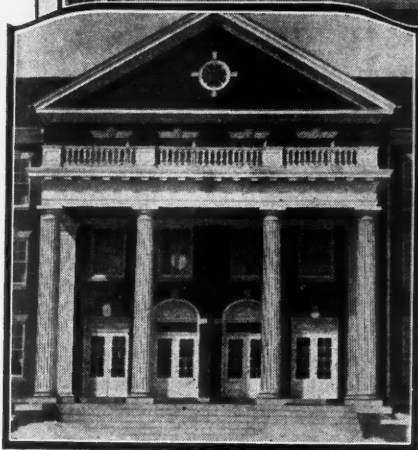
**THE STANDARD TEXTILE PRODUCTS CO.**  
320 BROADWAY, NEW YORK  
Dept. 51



*Send for this Sample Book*



Above — Courtland School, East Omaha, Neb.,  
Union Metal Columns, Design No. 213.



At left — Art Building of Penn Hall, School for Girls  
at Chambersburg, Pa., Architect, H. G. Kilmer,  
Chambersburg, Pa. Union Metal Columns, Design  
No. 246.

## Old—Yet Ever New

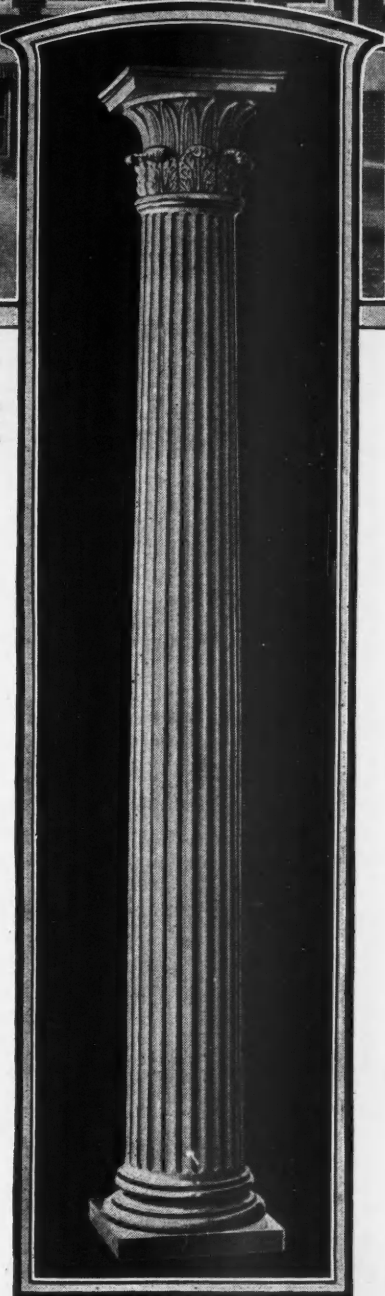
One of the oldest of architectural devices, the classical column of antiquity, is still a favorite for the ornamentation of school buildings. In keeping with the modern trend toward more durable, yet economical, construction these columns are now reproduced in enduring steel.

Union Metal Fluted Steel Columns are written into the specifications of so many school buildings because they assure freedom from splitting, rotting, and warping troubles, because they preserve their original appearance throughout years and years of service, because they are fire-safe, and because they are economical.

For the same reasons they are selected for small or large residences, churches, and all manner of public buildings. They represent the modern method of adopting an ancient device for present-day use.

THE UNION METAL MANUFACTURING COMPANY  
General Offices and Factory, Canton, Ohio  
Branches — New York, Chicago, Philadelphia, Cleveland,  
Pittsburgh, St. Louis, Los Angeles, San Francisco, Jacksonville.

# UNION METAL COLUMNS



Union Metal Design No. 213  
— Temple of the Winds. One  
of ten classical designs made  
in diameters from 8" to 42"  
and heights 5' to 35'.



THIS FINE FLOOR BEAUTIFIES A KITCHEN

Now that beauty has entered the kitchen, you will find in Goodyear Rubber Tiling a floor material precisely suited to the modern need. Its beauty is not all on the surface. Built into it is the beauty of laboratory cleanliness.

Its immaculate surface is impervious to moisture. It is silent and resilient under foot. It is durable under hard and continuous wear.

Goodyear Rubber Tiling provides a range of attractive colors and patterns

adaptable to any scheme of decoration. Because of this variety in design, you will find it *suitable for any room in the house*. Quality considered, the cost is low.

Complete architectural data will be gladly forwarded upon request. Goodyear offers also without obligation, expert consulting service with reference to installation of modern, sanitary floors. Outline your requirements. Address Goodyear, Akron, Ohio, or Los Angeles, California.

*The Greatest Name in Rubber*

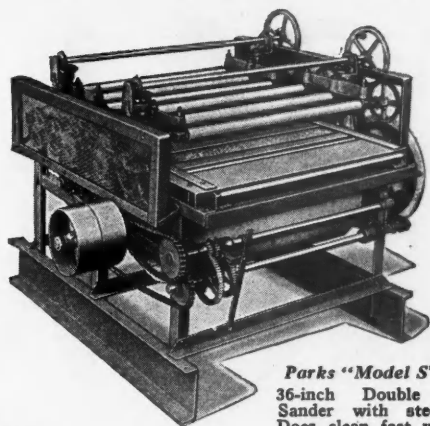
**GOODYEAR**

Copyright 1928, by The Goodyear Tire & Rubber Co., Inc.

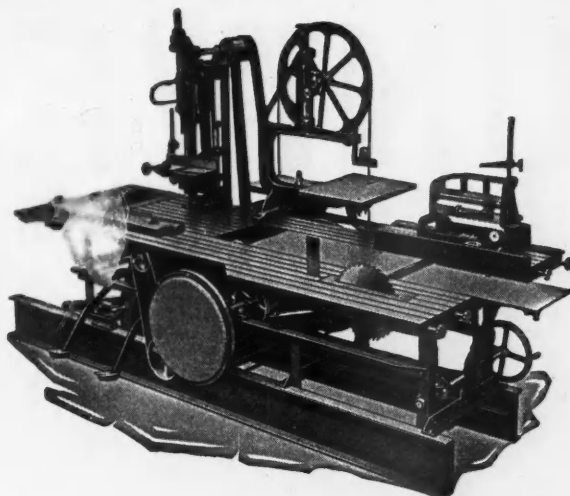
**RUBBER TILING**

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE



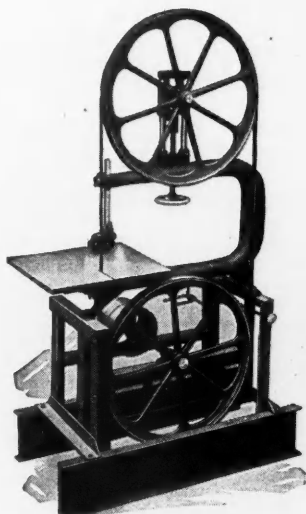


**Parks "Model S" \$450**  
36-inch Double Drum Sander with steel bed. Does clean fast work on material as thin as one-eighth inch and as short as eight inches. Also 24-inch single drum size, \$225.

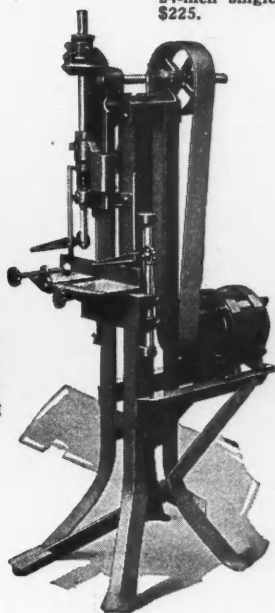


**Parks "Planing Mill Special" \$590**

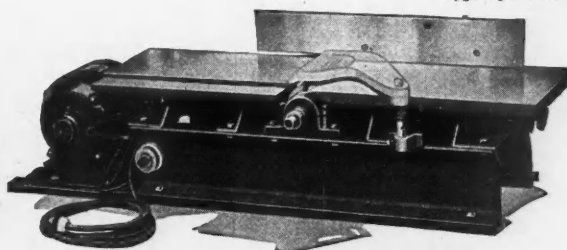
Thousands in use. Standard of value for 40 years. Eight essential machines in one. Capacity equal to any work a carpenter has. A complete shop in itself. 7½ h.p. runs everything.



**Parks "Century" \$100**  
30-inch Band Saw. Also 16, 22, and 36-inch sizes from \$50 to \$125, all built for real work.



**Parks "New Rapid" \$170**  
Upright Hollow Chisel Mortiser and Borer, with motor. \$110 without motor. Large mortise capacity. Adjustable to take in 12 inches below point of bit. Powerful, fast and easy foot-lever control.



**Parks "Daisy" \$135**

9-inch bench jointer with motor, without motor, \$75. Round safety cutter head, high speed knives. You can't afford the time to push a plane these days!

## Cut your shop costs with a Parks!

Cut shop costs! Just another way of saying, "make more money." That is, if you don't sacrifice your quantity or quality of work.

When you get a Parks you cut labor-time and machine costs to the minimum—yet you actually increase the work you can turn out and improve its quality!

The Parks you need is built heavy and strong enough for all your work, with every operating convenience. But not a nickel of needless expense goes into it. The cost to you is kept down to rock bottom. If you're in business to make money, get a Parks, and pay yourself a profit in more real work, in less time, at lower costs!

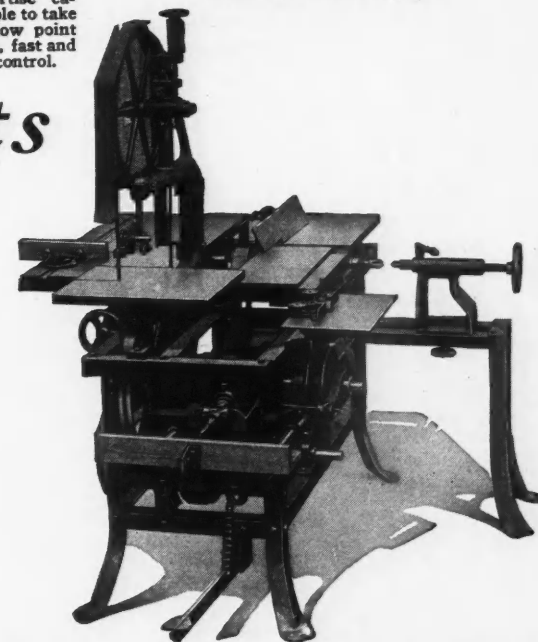
*For more real work—Get a Parks!*

THE PARKS WOODWORKING MACHINE COMPANY  
Fergus & C. H. & D. Cincinnati, Ohio  
Canadian factory: 338 Notre Dame East, Montreal

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**Parks "Carpenter Shop Special" \$495**

Circular Saw, jointer, band saw, lathe, shaper, mortiser. Ball Bearings throughout. Independent drive on every unit. 2 h.p. motor included. Smooth running, complete, convenient. All newest improvements and one of the most popular machines in the Parks big line of variety woodworkers.

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## *the Leading Coal Window Value*

A MARK OF  Quality

THE Majestic Coal Window is a sign and seal of quality in a home—evidence of value in those small but important details of construction. It is the choice of home builders and buyers because it is the leading coal window value. A Majestic really protects the home—it stands up undamaged when coal is thrown against it—all because it is guaranteed break-proof—rust-proofed throughout—and built to last. See that you get the Majestic in the home you buy or build. Write for the Majestic catalog of coal windows and other products for the modern home.

THE MAJESTIC CO.  
100 Erie Street  
Huntington, Indiana

**Majestic Coal Window**



GENUINE merit and consistent national advertising have established the Majestic as the leader of all coal windows—a specialty that progressive builders are putting into the homes they build. The Majestic Coal Window is a mark of a modern home and the source of permanent satisfaction. The frame and hinges are of Certified Malleable Iron—the door of heavy, pressed steel—the body and hopper of Keystone Copper Steel—rust-proofed throughout—and guaranteed break-proof. Because of their popularity with builders and home-buyers, more Majestic Coal Windows are used each year than all other coal windows combined. Whether you build on contract or build to sell, it will pay you to use the Majestic on every job. Mail the coupon for more information about this and other popular building specialties.

THE MAJESTIC COMPANY  
300 ERIE STREET HUNTINGTON, IND.

This and other Majestic advertisements in The Literary Digest and Better Homes and Gardens point out the many advantages of Majestic products to your clients and buyers.

**Majestic Coal Window**  
*The Mark of a Modern Home*

THE MAJESTIC COMPANY  
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Huntington, Indiana

Please send catalog on Majestic Coal Windows—also Milk and package Receivers, Underground and Built-In Garbage Receivers and other Majestic specialties that home buyers want.

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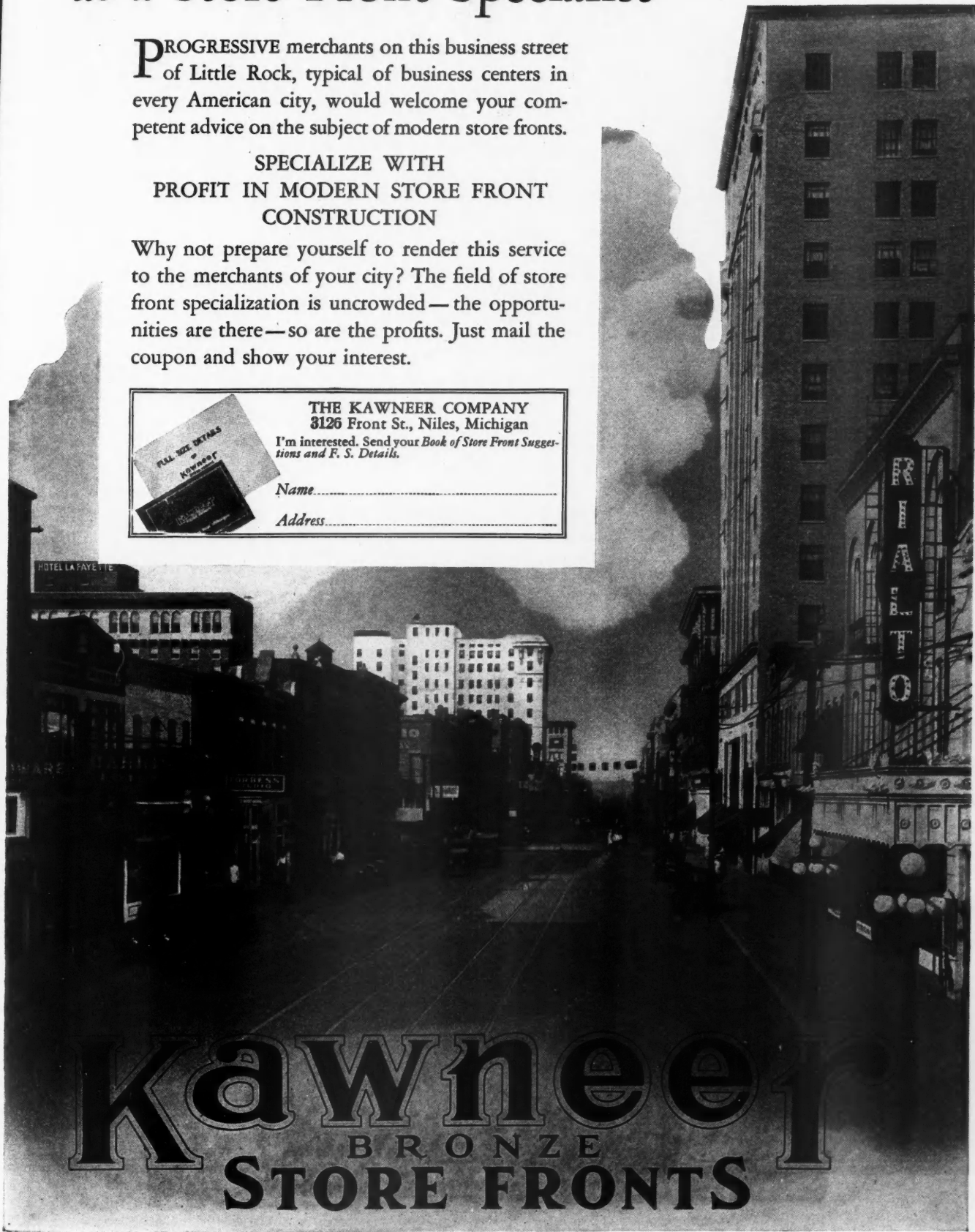
# Some Contractor in Little Rock Can Make a Name for Himself as a Store Front Specialist

PROGRESSIVE merchants on this business street of Little Rock, typical of business centers in every American city, would welcome your competent advice on the subject of modern store fronts.

SPECIALIZE WITH  
PROFIT IN MODERN STORE FRONT  
CONSTRUCTION

Why not prepare yourself to render this service to the merchants of your city? The field of store front specialization is uncrowded—the opportunities are there—so are the profits. Just mail the coupon and show your interest.

	<p><b>THE KAWNEER COMPANY</b> 3126 Front St., Niles, Michigan</p> <p>I'm interested. Send your <i>Book of Store Front Suggestions and F. S. Details.</i></p>
	<p>Name.....</p> <p>Address.....</p>



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STORE FRONTS



Residence of R. W. Norton, Shreveport, La. Architect:  
Clarence W. King. Insulated with Masonite

## Let Masonite help you sell more homes

**A**LERT builders everywhere know that insulated homes sell quicker and easier than those which are not insulated. This is especially true of Masonite, the thermostatic wood for *structural* insulation.

Because Masonite is a genuine structural material as well as an efficient insulator, it adds little, or nothing, to the cost of con-

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Dept. 1108, 111 W. Washington St., Chicago, Ill.  
Mills: Laurel, Mississippi

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THERMOSTATIC WOOD FOR  
**STRUCTURAL INSULATION**

Made by the makers of MASONITE PRESWOOD  
REG. U.S. PAT. OFF.

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# PURE LEAD - *most beautiful and enduring of materials - is now available for Metalwork in Inexpensive and Workable form*

## PROFIT by this DISCOVERY!

FOR years builders and sheet metal men have looked on pure lead as the ideal sheet for building metalwork—provided it could be amalgamated to a stronger and more workable base of steel. The means to secure a firm amalgamation were discovered in this company's Canton, Ohio, plant and put to commercial use as "Superior Lead-Sealed" sheets.

### The Best Test

As roofing and siding on industrial plants, exposed to strong smoke, acids and salt air, Lead-Sealed has withstood years of the most severe test that metalwork can undergo. Sealed between heavy surfaces of imperishable lead, it shows no signs of deteriorating where more costly metal sheets have proved unsatisfactory.

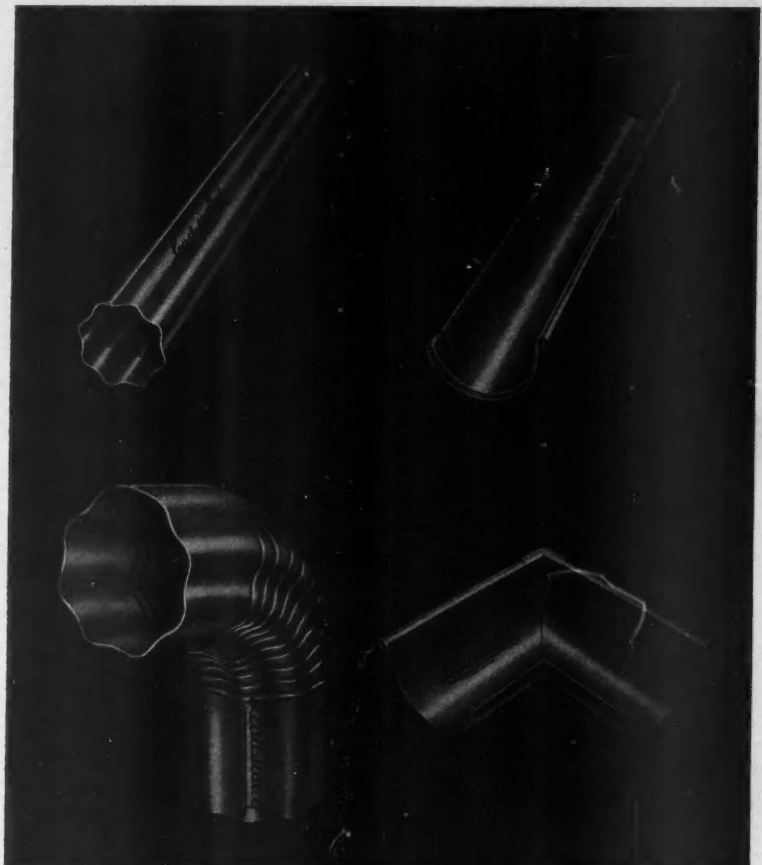
An additional investment of about ten dollars will equip the average house with Superior Lead-Sealed metalwork. Being soft, level and of high ductility, it is readily formed into flash-

ing, conductor pipe, eaves-trough, gutters, etc., without breaking or peeling of the protective lead. Any competent sheet metal worker can install it.

### Adds Known Value

The increased value to your

building far exceeds the cost of using Lead-Sealed metalwork. Send for and examine a sample. We will gladly furnish you with complete information including costs, availability and use. Pin the coupon to your letterhead and mail, today.



THE SUPERIOR SHEET STEEL CO., Canton, O., Division of Continental Steel Corp  
—Makers of *Supex-Metal*, *Galvannealed*, Galvanized and Long Terne Sheets



Two surfaces of Pure Lead seal a core of special analysis, copper content steel.

*Superior*  
**Lead-sealed**

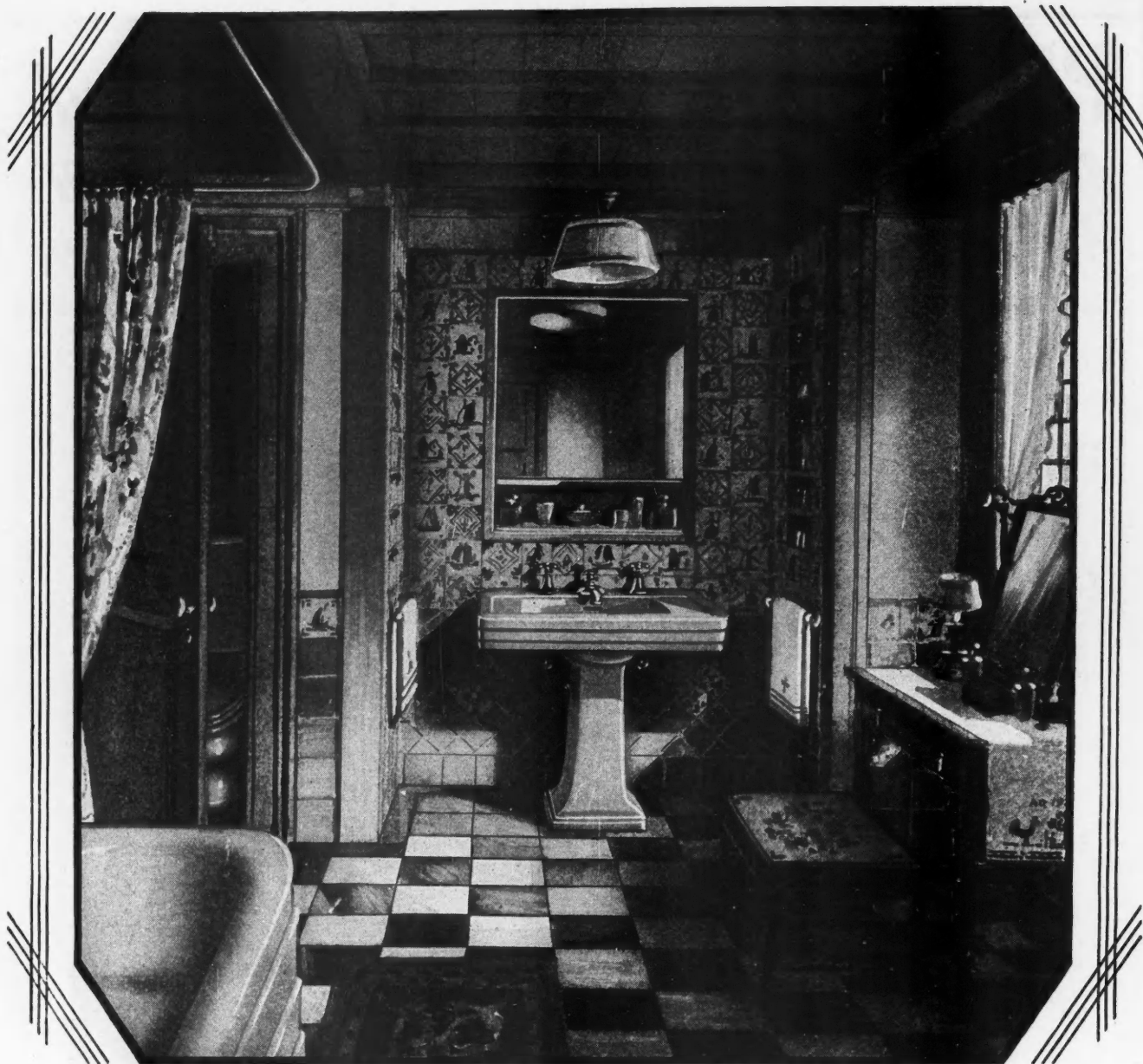
The Superior Sheet Steel Co., Canton, O., Division of Continental Steel Corp. —Makers of Super-Metal, Galvannealed, Galvanized and Long Terne Sheets.

Please send sample and detailed information on Superior Lead-Sealed.

Name.....

Address.....

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QUITE as much in thriftiness as in quaint charm, this bathroom is typically Dutch; and to both these characteristics Crane fixtures have contributed. The Venetian blue of the *Corwith* bath and lavatory concord with the color of the Delft tile wainscoting and the waterproofed wallpaper above. Their chaste dignity of line is in keeping with the raftered ceiling. In price, like all Crane fixtures, they are no higher

than substitutes would cost; while, even to the piping and valves hidden behind the walls, there is in them an honesty of materials that bespeaks a lifetime of frugal service. Other interesting decorative schemes are illustrated in *New Ideas for Bathrooms*, a book with color perspectives, floor plans, and wall elevations, from which many contractors are selling bathrooms to their clients. A copy will gladly be sent you on request.

# CRANE

FIXTURES, VALVES, FITTINGS, AND PIPING, FOR DOMESTIC AND INDUSTRIAL USE

Crane Co., General Offices, 836 S. Michigan Ave., Chicago + 23 W. 44th St., New York + Branches and sales offices in one hundred and sixty-six cities

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# "Holland Heating Helps Sell Homes"

*- Says General Motors Builder*



Built for General Motors Corporation by W. R. Houser, Flint, Mich.

**H**ERE is a letter that points the way to quicker and more profitable sales for you. Read it and let us tell you the experiences of successful builders in hundreds of other cities. Holland helps the builder in more ways than one. Our salesmen call on thousands of home owners everywhere every day. They know who plan to build or buy—who are logical prospects for the Holland-heated homes you build. Get the facts. Use the coupon.

**W. R. HOUSER**  
Builder  
1125 Chevrolet Avenue  
FLINT, MICHIGAN

August 24, 1926.

Holland Furnace Company,  
Holland, Michigan.

Gentlemen:

Holland Vaporaire Heating is installed in all houses built by me in Flint under contracts let by the Modern Housing Corporation -- a subsidiary of General Motors, which is providing large numbers of attractive well-built homes for its employees.

Experience has taught me that the Holland is a permanent solution of the heating problem for the average home -- a lifetime system that gives satisfaction and entirely relieves the builder of all responsibility. I am never bothered with complaints and your local branch is faithful in giving immediate attention, day or night, to service calls that are rarely made. I have also found your Advisory Plan Service an important help in avoiding structural conditions that reduce heating efficiency.

Home buyers are familiar with the superiority of Holland Heating. They want the heating system engineered the Holland way to meet the individual requirements of their home -- they want quick, direct response, constant and automatic circulation of moist, warm air and the cleanliness, economy and convenience for which Holland systems are noted.

I am firmly convinced that from the builder's standpoint, as well as the home owner's, the Holland well warrants the unequalled popularity that it enjoys. It helps sell homes and what is equally important -- it keeps them sold.

*Very truly yours,  
W. R. Houser*

## HOLLAND Vaporaire HEATING

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# AMBLER Asbestos Shingles SCORE AGAIN



A striking illustration of the fire menace of an inflammable type of construction and the remarkable resistance to the spread of fire presented by Ambler Asbestos Shingles

A resident of Ocean City, N. J., had covered the sides and roof of his house FIFTEEN YEARS AGO with Ambler Asbestos Shingles for the economy of "no future paint" as well as for "FIRE PROTECTION." When the large frame Normandie Hotel fell prey to the fire fiend recently, the Fire Protection of Amber Asbestos Shingles was demonstrated as shown above. The wood window frames, porch posts, cornice and exposed woodwork caught fire from exposure, but the Ambler Asbestos Shingles not only saved the house, but acted as a fire stop or wall and prevented the burning of two frame buildings beyond.

## Ambler Asbestos Shingles

Need No Repairs

Never Require Painting

Cannot Burn

*Sold Everywhere*

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SHINGLE, SLATE & SHEATHING  
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only  
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cash, f.o.b. factory, for 210 gallon size complete with motor for 60 cycles or direct current. \$100 for 420 gallon per hour size.

# Put WATER IN at this new low cost

City water service—full city water convenience—for homes beyond city mains! Here is the water system that has brought this vital, value-increasing improvement within the reach of everybody's pocketbook. A water system built by the builders of equipment for large municipal water plants. Priced low—has big capacity—yet as finely built as the dependable F-M plants that preceded it!

A completely modern home water system that sums up the best features developed during Fairbanks-Morse's long experience in water plant building. Compact. Clean-cut in design. Automatic. Capacity of 210 gallons per hour—enough water for the whole family's use. Finished in delft blue automobile lacquer—reflecting the quality-building found in every detail.

Quickly installed by simply making two pipe connections.

Due to Fairbanks-Morse quantity production of water systems, highly organized manufacturing efficiency and world-wide distribution, the new 210 gallon per hour system can be offered at a price that today marks this unit as the outstanding value of all home water plant values.

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Only \$20 down, with easy monthly payments, puts this modern system in any home, under the Fairbanks-Morse Finance Plan. Send for special circular covering the F-M Home Water System in detail; also, special water service booklet telling how easily water under pressure is now supplied to homes beyond the city limits.



Here are unmatched F-M features

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- 2 Compact—19" in diameter, 21" high.
- 3 Big capacity—210 and 420 gallons per hour.
- 4 Entirely automatic—starts itself—stops itself.
- 5 Easy to install—only two pipe connections.
- 6 Completely equipped, including electric motor, automatic switch, pump and tank.
- 7 Quickly accessible—simply lift hood. The removal of one stud bolt exposes valves.
- 8 Quiet and exceptionally smooth running.
- 9 Self-oiling.
- 10 Supplies steady, full stream without pulsation.
- 11 Fresh water connection with every pump at no extra charge.
- 12 Can be used with large storage tank when desired.
- 13 Genuine F-M unit throughout. Fully guaranteed—the biggest home water system value ever offered.

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900 S. Wabasha Avenue, Chicago  
Send your FREE Home Water Service Booklets and Special Circular giving full details about the New F-M Home Electric System.

Name.....  
Address.....  
Town..... County..... State..... R. F. D.....  
My source of water supply is:  
 Shallow Well  Lake  
 Deep Well  Spring  Stream  
 Cistern

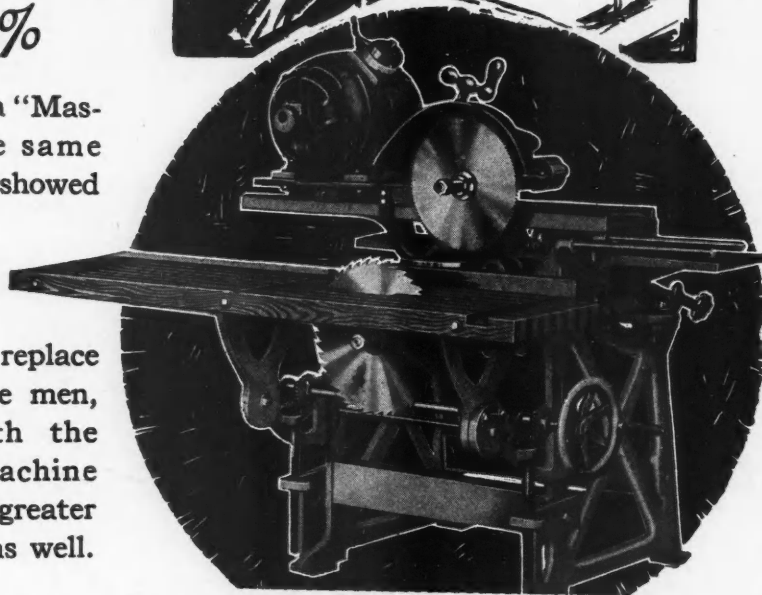
# A MAN WITH A "MASTER" is never without work

That's what users of the "Master Woodworker" say. By having this handy helper on the job, they are able to build quicker, do their work better, save tremendously on the cost and, as a result, beat competitors' prices and enjoy a steady business. One builder informed us that his

**Business  
Increased  
100%**

after he bought a "Master," and at the same time his payroll showed a decided decrease.

The "Master" will actually replace the work of five men, not only with the advantage of machine speed, but with greater accuracy as well.



Practically every wood-working operation in building a house can be done on the "Master." The machine is compact, easily moved, quickly adjusted. It takes up but little floor space. Changes from one kind of work to another made quickly. The work is always in plain sight.

**A Little  
Factory In  
Itself**

The "Master" is more than a saw rig. It is 12 MACHINES IN ONE. Pictured is the No. 12. Driven by electric motor or gasoline engine. Also three other models. Sold for a small payment down, then it will pay for itself from profits earned. Send the coupon now.

**IT KEEPS THE PROFITS ROLLING IN**

**The "Master  
WOODWORKER"**

Congress & Brush Sts., Detroit, Michigan (Est. 1917)

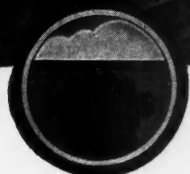
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Please send me FREE BOOK  
"Master Woodworker"  
Name.....  
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PLASTERING IS 90% OF THE VISIBLE INTERIOR OF THE HOME

ARCHITECTS KNOW

# Hydrated LIME

*has no substitute in better plastering*



**PLASTER with LIME**

*Plaster is a word too often used in a broad sense. There are many kinds of plaster. Specify LIME plaster for this very important building item.*

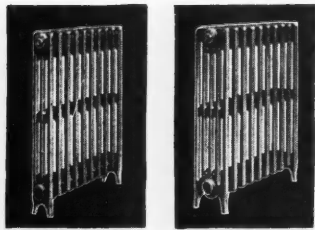
The present trend toward period design demands authentic wall and ceiling treatment in complete harmony with the spirit of the exterior. Architects naturally think of lime plaster because of its ready adaptability to their plans... Use lime, the assured base for decorating or papering. Specify Gibsonburg, Ohio's Super-Finish... snow-white, pure, easily worked, uniform. Equally effective over wood or metal lath.

THE GIBSONBURG LIME PRODUCTS COMPANY : GIBSONBURG : OHIO

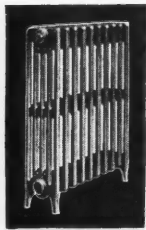
# Gibsonburg

## *Finishing Lime*

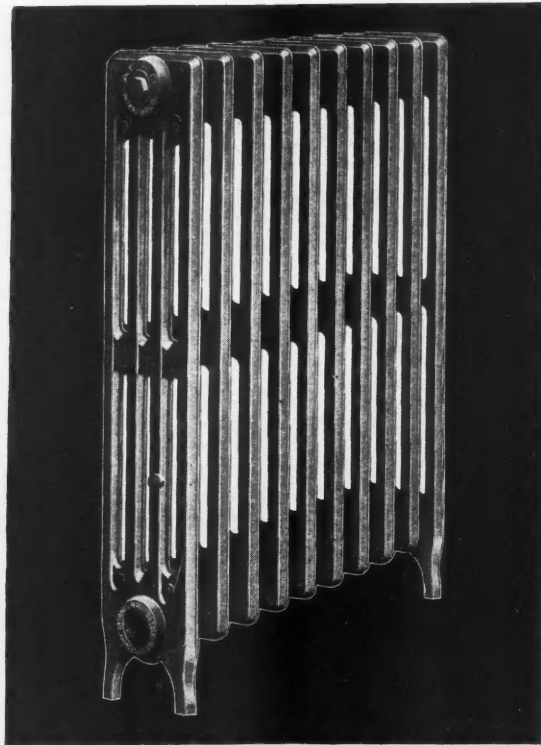
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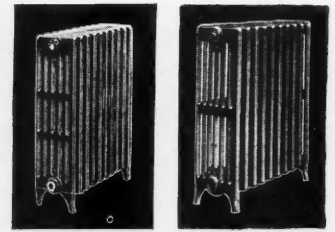
Three Tube Aero Radiator. Graceful, and pleasing, it is particularly adapted to narrow corridors, and rooms where space is at a premium.



Five Tube Aero Radiator. This model finds its field of use in all general applications: Homes, schools, apartments, offices and everywhere.



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Aero, the National Radiator, was the first to successfully combine beauty and efficiency, and revolutionized the cast iron radiator industry. Aero created a new appreciation of what radiators should be. Aero pioneered in standardization, introducing—in five models—a type and style for every application.

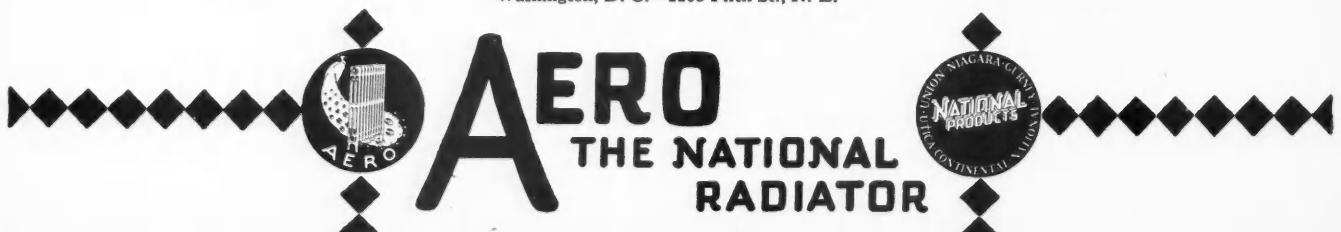
For more than six years, Aero, the National Radiator, has led the field consistently. Imitated and followed, today it is the only tube type radiator whose value and dependability have been proven over a period of years in all types of buildings all over the nation. Aero, a National Product, is the National Radiator.

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# Big Money For You



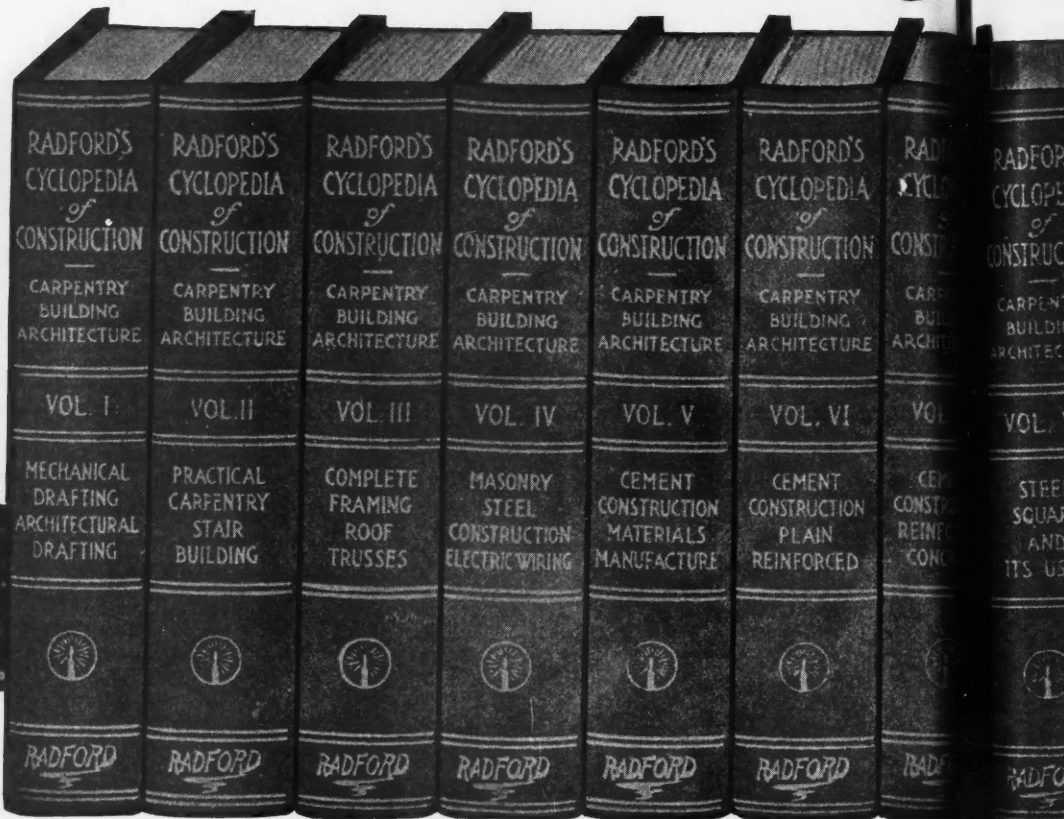
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*John Radford*

President and Editor-in-Chief.

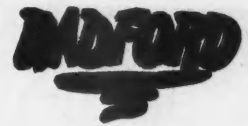
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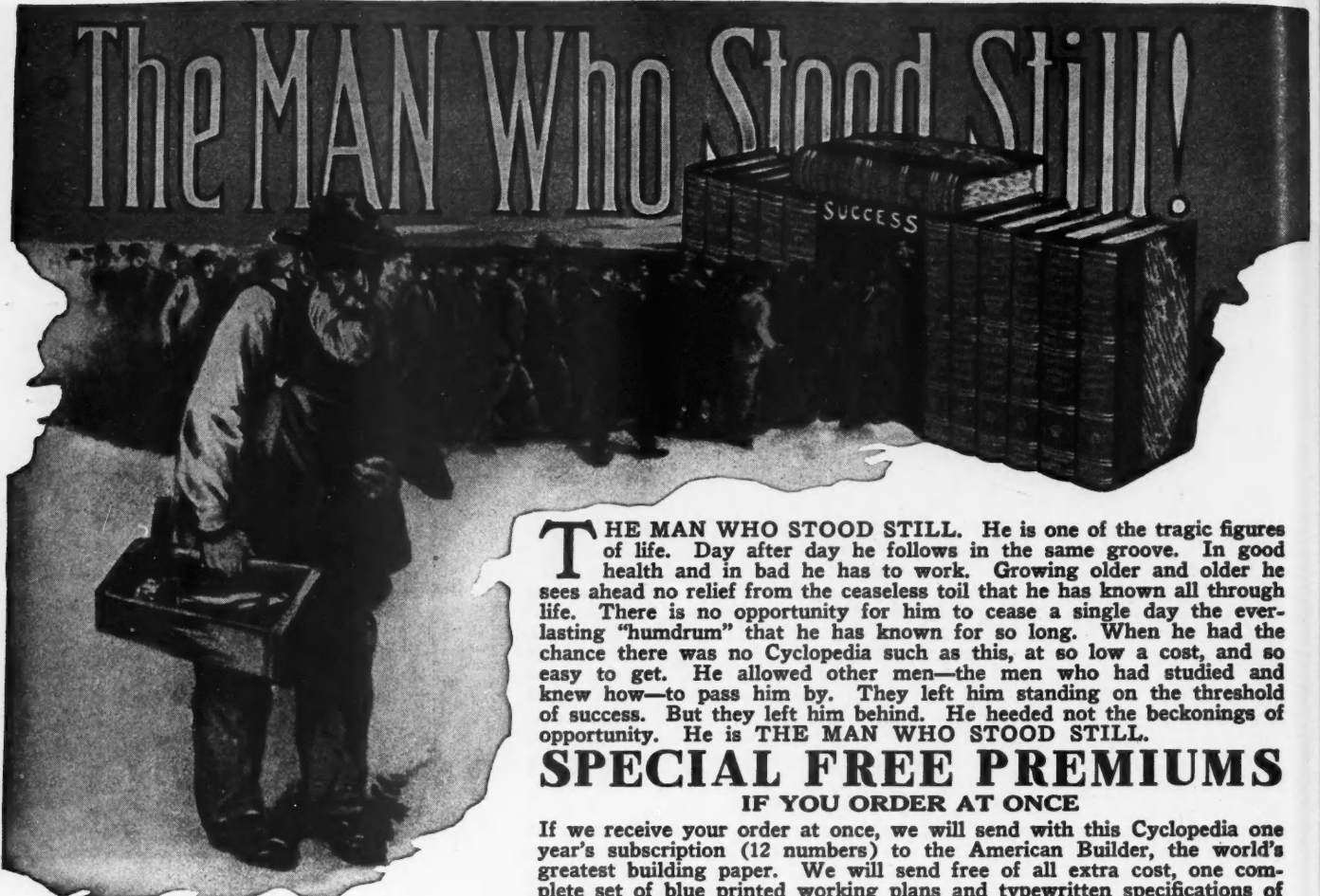
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All you have to do is to write your name and address plainly on the coupon at the bottom of the next page, pin check, money order or draft to it and mail it to us. We trust you as a member of the building trade and send you the entire set of books 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 \$5.00 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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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 Cyclopaedia we are willing to give the benefit. Without American Builder \$1.00 less.

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**NO-RISK GUARANTEE COUPON**

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Please send me, express prepaid, your 12-volume Cyclopaedia of Construction, for five days' free examination, with privilege of return at your expense. I enclose \$5.00 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.

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A.B. 10-28



# "Character, inside and out, sells these houses"



Note how wood is used to make these beautiful interiors unique and attractive

No wonder these houses sell easily and quickly! Each has distinctive character of design, and wood is generously used to get the results

"PUTTING character into the design of every house we build brings us the buyers . . . using Standard Materials inside and out, shows construction economies that return us a generous profit."

Mr. C. C. Merritt, the architect and head of the Merard Holding Co., Inc., Larchmont, N. Y., thus tells how he found a ready market for houses that by their design and construction, appeal to the best instincts of the buyer.

"Wood puts character into the design of every one of these houses," he says. "Sheathing, stained shingles, rough hewn timbers, combinations of wood and other materials—all help make each house outwardly different from its neighbor, attractive to the ready buyer."

"Knotted pine, birch, and cypress wall panels, beamed ceilings, built-in corner cabinets and book shelves, planked flooring of oak, pine, and cypress all add to the unique appeal of the interior." (Douglas Fir, Redwood, Maple, Gum, and other woods may be used for further variety.)

"Furthermore, wood makes possible many construction economies.

The use of Standard Materials such as trim, doors, flooring, studding, shingles, speeds erection and cuts labor costs to a minimum. In this way we find it possible to put distinctive selling character into the designs of these houses and still leave the margin of profit we want."

You, too, will find it profitable to build houses that have a quick selling appeal. To put character into the design . . . to use American Standard Lumber and other standard material is to your advantage.

The proper use of wood in the design of the houses you build brings the buyer who wants "something different." American Standard Lumber allows construction economies . . . lowers erection costs . . . speeds up building . . . shows a margin of profit on your investment.

The National Lumber Manufacturers Association will gladly furnish interested builders with information about building . . . how to use lumber effectively to attract buyers . . . how to buy it to effect economies.

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Use it—Nature renews it



NL MA

## Use American Standard LUMBER

The National Lumber Manufacturers Association is actively fostering the distribution of superior lumber manufactured in accordance with American Lumber Standards, as endorsed by the Departments of Commerce and Agriculture. Bulletins describing the standards followed in the production of this lumber are available from the Association.

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Gentlemen: Kindly send me, FREE, copies of the booklets checked below:

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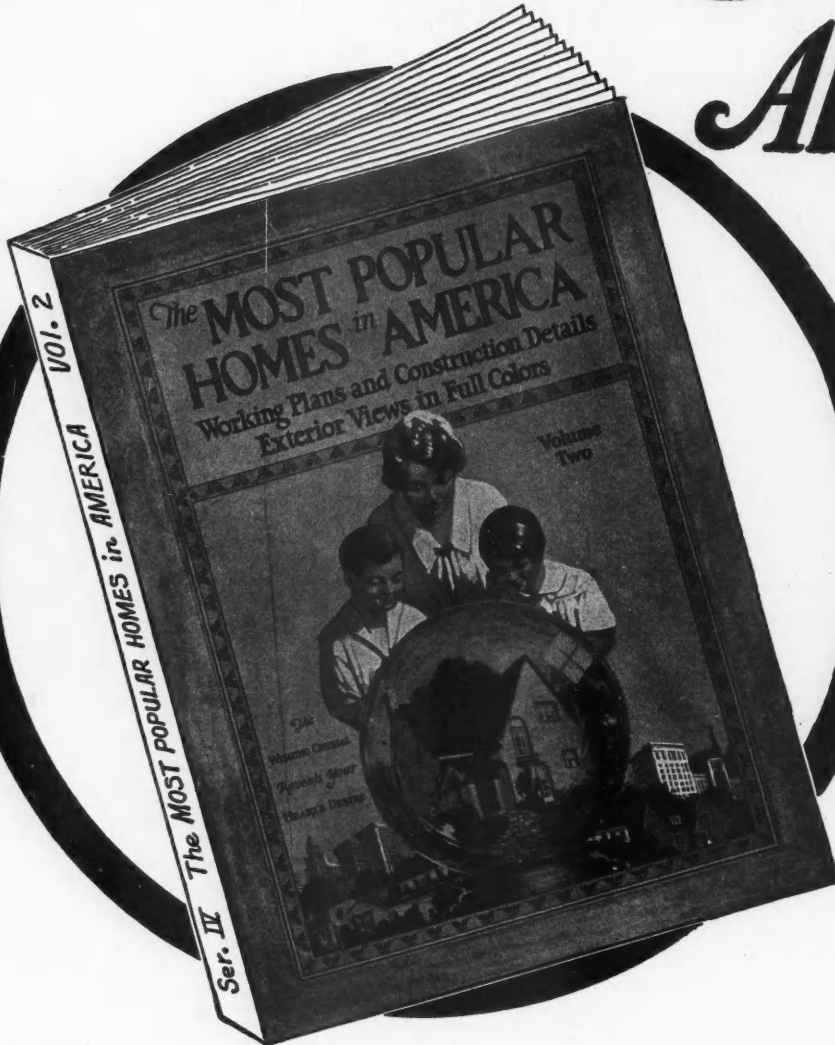
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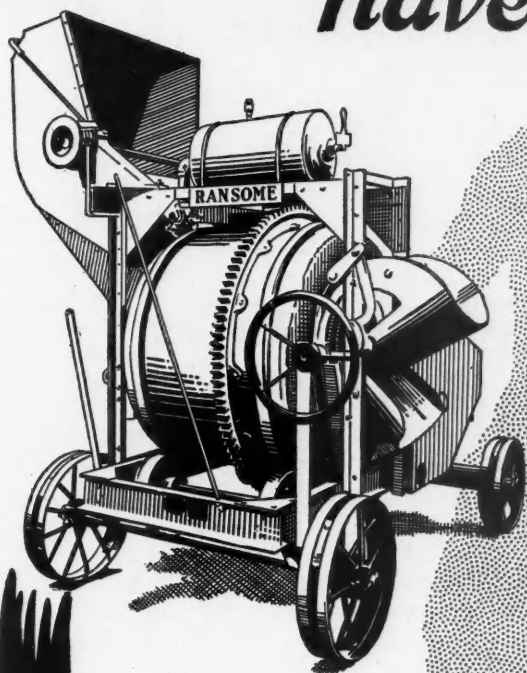
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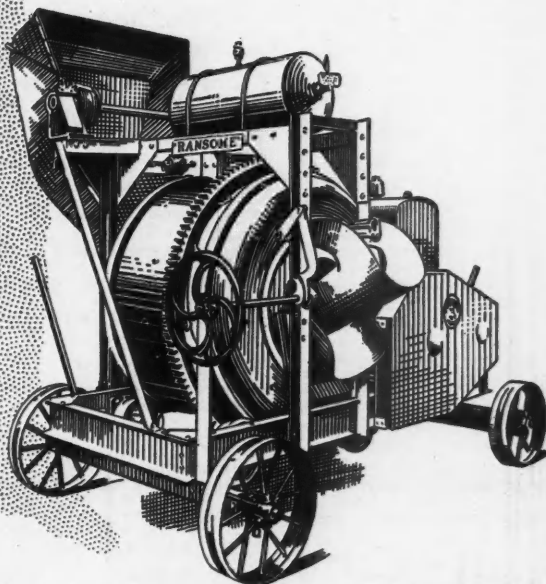


**FRONT AXLE**—built of two 4" Channels, width  $1\frac{1}{8}$ " cold rolled stubs.  
**MAIN FRAMES**—made of two 6" Channels.  
**MAIN ROLLERS**—12" in diameter.

### In This Corner We Have The Ransome 10-S

**DRUM**—51" in diameter by 39" wide;  
**DRUM ROLLERS**—12" x 2 $\frac{1}{2}$ "—car wheel iron, Timken Roller Bearings on Drum Rollers.  
**CONTROL**—One set of levers located at drum end of mixer.  
**GASOLINE ENGINE**—LeRoi or Novo—4 cylinder.  
**WATER MEASURING TANK**—16" x 40"—capacity, 37 gallons.

*Ransome—the first mixer in the ring  
—the last to enter the repair shop.*



Fast, rugged mixers that knock out the work in record time—that is the general reputation of Ransome 7-S and 10-S among mixer "fans". Look over the measurements of the 7-S—then you'll see why it has the "guts" to stand up and "take" it.

**DRUM**—45" in diameter by 35 $\frac{1}{2}$ " wide.  
**DRUM ROLLER TRACKS**—2" wide— $1\frac{1}{8}$ " thick, forged rolled and turned from solid billets of locomotive tire steel.

Mail this Coupon!



**Ransome Concrete Machinery Company**  
 Dunellen 1850—Service for 78 Years—1928 New Jersey

Ransome Concrete Machinery Company,  
 Dunellen, N. J.—Dept. A. B.

Without obligation, send me full information about the Ransome  
 7-S Mixer,  10-S Mixer.

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GANNON &amp; MITCHELL, Inc., Architects

## Store Front Bronze in Modernistic Treatment

The Extruded Bronze material was fabricated in this instance in strict accordance with the Architect's requirements in modernistic design.

Both the cresting and the frieze of the cornice member are fabricated in duotone bronze and are typical of stock sections ready for immediate delivery.

The Extruded Bronze sash section is of the Key Set or concealed screw type. No screws appear on the face moulding to mar its beauty.

Our new full size details, consisting of nine sheets for architectural use, are now being distributed — make certain you get your copy.

### Modern Bronze Store Front Company

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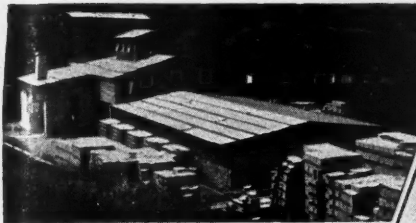
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Plants Like This—

Lind Brothers, of Altoona, Pa., started manufacturing Duntile five years ago on an investment of \$1,750. Recently they refused \$100,000.00 for their plant.



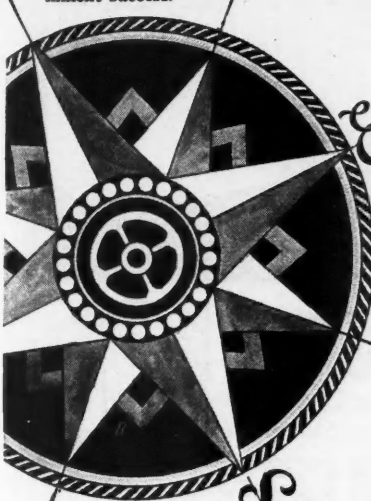
Wm. J. Lyons, a contractor of Norwalk, Conn., felt the increased competition in contracting — studied the trend of permanent construction — decided on Duntile and has met eminent success.



NORTH—SOUTH—EAST—WEST—

They've Found MANUFACTURING INDEPENDENCE

Can it be pure luck when man after man succeeds each taking the same identical steps?



If you want to get out of a monotonous low pay job, if you are a contractor seeking less competitive enterprise or a business man anxious to expand into one of the nation's greatest markets, building materials, you will be interested in learning how to accomplish your ambitions.

Frank K. Coffeen and Frank F. Thompson, contractors and masons, of La Porte, Indiana, found that the gambles and uncertainties of contracting left them every year about where they started. They heard of Duntile. Skeptically they investigated. Learning what others had done, they decided they could do as well; got a little money together, and started. Following the proven methods of such Duntile manufacturers as Lind, Frauenfelder, and others, they soon saw they were on the right track. The low cost of building Duntile made it possible to underbid on permanent masonry building jobs, to even meet the low cost of frame construction, and yet make a good profit. Color possibilities of Mat Glazing gave them a market greater than they anticipated. Every building they erected became a conspicuous advertisement and salesman. After a comparatively short space of time they are in a particularly good position. Machinery paid for, and a ready market, they plan large expansions. They have purchased 2 1/2 acres between Nickel Plate and New York Central tracks for a full-scale industrial plant, providing volume of production that will by many times multiply their present earnings.

DUNTILE THE PERFECTED ALL-PURPOSE CONCRETE BUILDING TILE.

Working Specifications in "Sweet's"

Another manufacturer, the Altoona Duntile Company, started five years ago with an investment of \$1,700. A short time ago they refused \$100,000.00 for their business. The Kansas City Duntile Company has grown from a \$3,000 investment to thirty-three times this amount in three years. So it goes, success after success, one after another.

There is no "luck" in this. Success resulted from these two things:

- 1. A superior product. Strong, easy to lay, permanent, beautiful texture and colors, low in cost and therefore enjoying a large market.
2. Proven ways to follow. Everything carefully worked out from advertising to plant methods. No experimenting, no uncertainty.

The country needs more Duntile plants. Only 400 in a nation where there are over 7,000 cities and many more towns and villages. Investigate this opportunity. Send for book, "Basic Facts." Use coupon.



"FOUND MYSELF"

—says Sewall

"I like Duntile because it fits in with the whole trend of building today—permanence at cost within everyone's reach."

There are hundreds of towns that need a Duntile plant today. If you have the urge to succeed—take your pen, sign and send the coupon for "Basic Facts."



This Book Tells How

W. E. DUNN MFG. CO., 415 W. 23rd St., Holland, Mich.,

10-28

- Show me how I can become the owner of an exclusive Duntile manufacturing plan in my community. Explain how Duntile can be produced at a profit of 30-60% and still make possible building masonry walls at cost of frame.
Contractors and Builders: Learn how you can make more money for yourself by supplying permanent masonry construction with Duntile at cost of frame.

Name.....
Address.....

W. E. DUNN MANUFACTURING COMPANY 415 W. 23rd Street Holland, Michigan

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# An innovation a year ago... an established favorite today!

**A**N insistent demand for an attractive, structural tile which would lay up in an interior load-bearing or partition wall with one or both faces finished, was recognized—and Natco Vitritile was developed to meet it. Its acceptance was immediate—its popularity amazing.

Natco Vitritile is furnished in several shades, ranging from a light buff to a rich dark brown. Its beautiful, glazed, sanitary finish is easily cleaned and kept clean, and requires no plaster, painting or maintenance.

Its field of use is in subways, basements, corridors, gymnasiums, garages and auto sales rooms, hospitals, laundries, laboratories, natatoriums, restaurants, substations and similar applications. Proper units for both 3-3/4 and 8" walls are available for wainscoting, lintels, bullnose corners, etc., making possible practically any desired form of construction. Units are also furnished kerfed or split for furring.

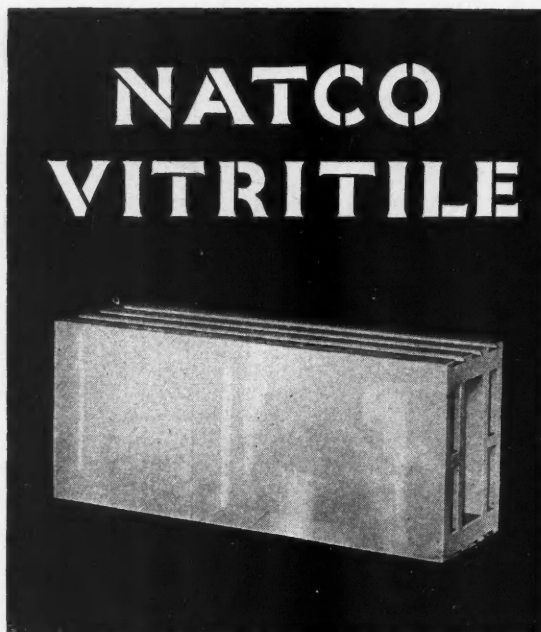
Natco Vitritile is shipped in corrugated wrappers, assuring its arrival in perfect condition. A folder showing sizes, shapes and shade ranges available will be sent on request.

## NATIONAL FIRE PROOFING COMPANY

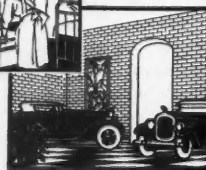
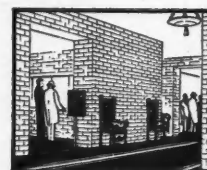
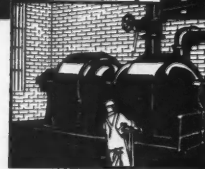
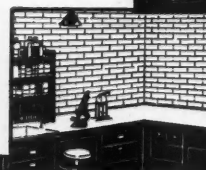
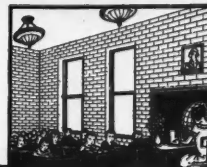
General Offices: Fulton Building, Pittsburgh, Pa.

Branch Offices: New York, Flatiron Bldg; Chicago, Builders Bldg; Philadelphia, Land Title Bldg; Boston, Textile Bldg.

In Canada: National Fire Proofing Co. of Canada, Ltd., Toronto, Ontario



The standard grade of Natco Vitritile is first quality material and comprises a pleasing blending of all shades from a light buff to a dark rich brown.



Individual shade ranges may be obtained in the select grade. They are approved by samples before shipments are made.

# NATCO

## NATCO

THE COMPLETE LINE OF  
HOLLOW BUILDING TILE

# HOLLOW BUILDING TILE

Laminex doors are now being manufactured of Philippine Hardwood as well as of Douglas Fir

# How could moisture possibly warp this door?

Now that's a funny question to ask about a door, when everybody knows that moisture warps a door quicker than almost anything else. But here's a door that moisture simply can't warp—the famous Laminex door—scientifically built up to neutralize the destructive forces that cause this trouble in ordinary doors.

### Scientific construction

Laminex scientific construction takes advantage of the fact that wood, when wet, expands in width, but not in length. So we cross the grain of adjoining sections of a Laminex door in such a manner, that any tendency of one piece to swell in width is immediately neutralized by forces in the opposite direction, exerted by neighboring pieces. All parts of a Laminex door are welded together permanently with Laminex cement—a secret compound that is absolutely waterproof and actually stronger than wood.

### Ask your dealer

Progressive lumber and millwork dealers can supply you promptly with popular designs of Laminex doors at reasonable prices. The success of Laminex has tempted other manufacturers to offer veneered doors, outwardly resembling Laminex doors, but lacking the moisture-



The famous Laminex door soaking test, that dealers make publicly in all parts of the country, proves that dampness can never make a Laminex door warp, split or come apart.



resistance that only Laminex waterproof cement can give. For your own protection, insist on doors that bear the yellow replacement guarantee label and the name "LAMINEX."

### Mail the coupon today

The coupon will bring you our new book explaining the scientific construction of Laminex doors. You should have this book in your files, together with instructions about the most modern methods of finishing Laminex doors. Mail the coupon today.

# LAMINEX DOORS

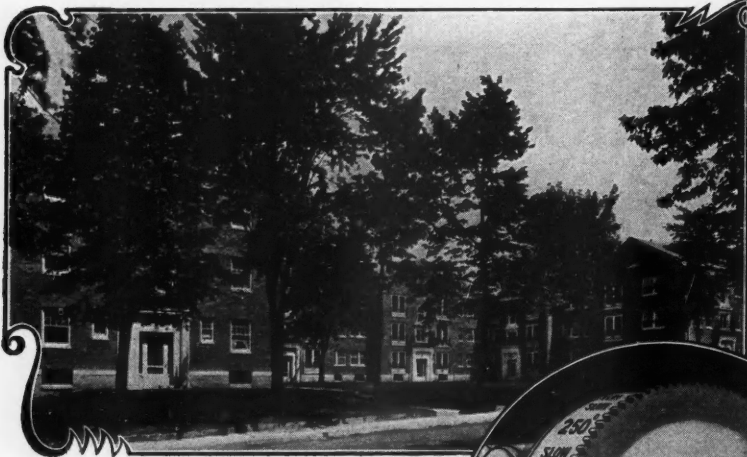
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*Will not shrink, swell or warp*

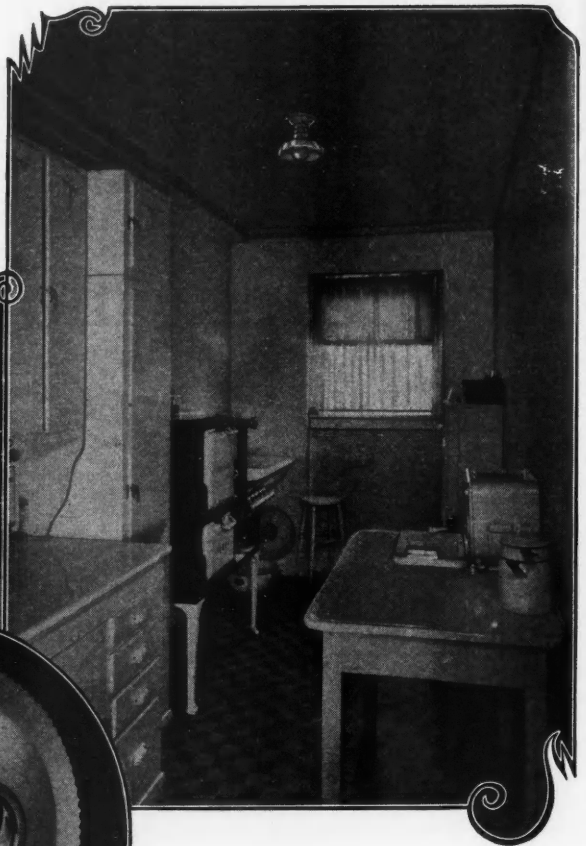
THE WHEELER, OSGOOD COMPANY, Tacoma, Washington  
 Gentlemen: Please send me your new Laminex book and instructions on finishing doors. L1208

NAME \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_  
 I buy \_\_\_\_\_ doors per year

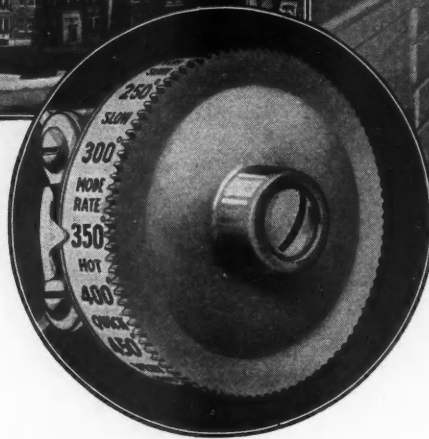
# Insure "Tenant-satisfaction" for Your Clients



Delaware Court Apartments, Anderson, Indiana. Architect, E. F. Miller; Builders, The Baynam Company, Indianapolis, Indiana; Owners, Delaware Court Apartment Company, Anderson, Ind. (At right) Representative Kitchen in Delaware Court Apartment showing Reliable Red Wheel-equipped Gas Range as installed.



Unless the Gas Range has a RED WHEEL it is NOT a LORAIN



**N**ATURALLY you build homes with the idea of pleasing your client. Part of your service is to insure that in so far as possible the prospective tenants of every client are satisfied with the equipment—from bathroom faucets to kitchen stove.

A great deal of the satisfaction which tenants derive from their homes centers around ideal cookery equipment. With three meals a day to be prepared for a family, mediocre cookery equipment is apt to make a tenant dissatisfied more quickly than any other feature. It is a mistake, therefore, to install anything but the best cooking equipment available.

Most architects are aware of this important factor and are placing in their kitchens the most modern and most efficient cookery appliances—Gas Ranges equipped with the Lorain Red Wheel.

They know that the women of America are familiar with the Red Wheel Gas Ranges because these famous stoves have been widely advertised in leading national magazines for the past nine years.

They also realize that Red Wheel Gas Ranges are used in more than 2500 schools and colleges to teach the art of cookery. In these schools and colleges are thousands of students—the housewives of Tomorrow. When they seek homes of their own, they'll insist that the kitchen have a Red Wheel Gas Range. Are you, in the homes that

you build, preparing to meet that future demand?

These six famous makes of gas ranges are equipped with the Lorain Red Wheel: Clark Jewel, Dangler, Direct Action, New Process, Quick Meal and Reliable.

Each of these makes offers an extensive variety of sizes, styles and finishes suitable for the kitchens of houses, apartments, schools, churches, clubs, lodges and other buildings where cookery is to be done. For specific data see Sweet's Catalog, 22nd Edition, Pages C3245-54 inclusive.

AMERICAN STOVE COMPANY, 233 Chouteau Avenue, St. Louis, Mo.  
LARGEST MAKERS OF GAS RANGES IN THE WORLD

1928

# LORAIN RED WHEEL





This is the kind of advertising that helps you get this repair business.

# 2 Ways To Fix A Leaky Roof!

- 1 Show your prospect *Genuine Ruberoid Shingles and Roofings* in the style, weight and color that suits his taste and fits his pocketbook. Then Re-roof.
- 2 If it's a patching job use Ruberoid Roll-roofing, Ruberoid Plastic and Ruberoid Roof-coating as outlined in our Roof Repair Manual.

The shingle samples and the repair manual are free. Get both while Fall repair and up-keep work is at its peak.

The RUBEROID Co., New York and Chicago  
Offices and Warehouses in Principal Cities

The RUBEROID Co., (Dept. 5), 95 Madison Ave., New York, N. Y.

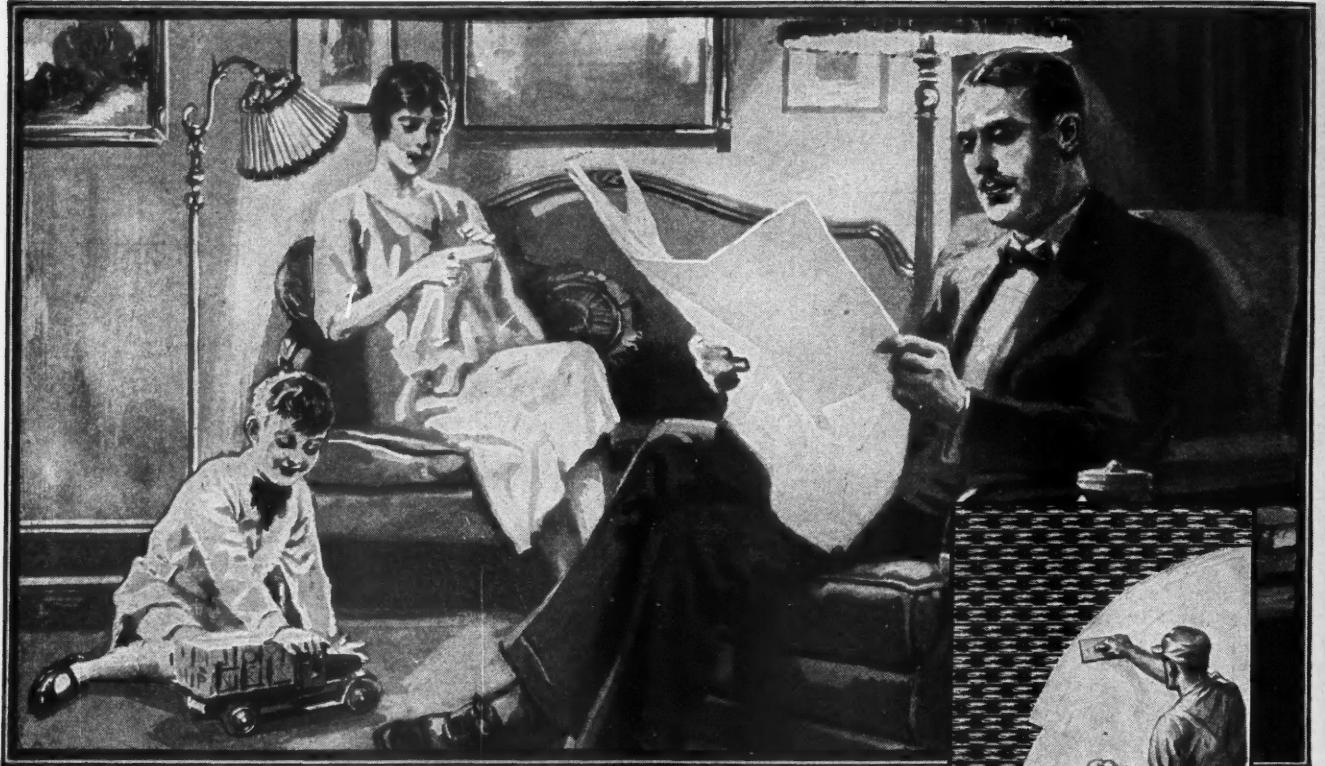
Please send me samples of *Genuine Ruberoid Shingles and Roofings* as checked below. Also send me a copy of the Roof Repair Manual.

Ruberoid Strip-shingles       Ruberoid Unit Shingles       Ruberoid Roll-roofing  
 Octagonal    Square    Hexagonal    Massive    Standard    Lock-down    Slate surfaced    Smooth surfaced

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# Sell Arch Lath and You Get Repeat Orders



Arch Lath is nationally promoted by our own Field Engineers and by Advertisements in the most widely read periodicals, such as Saturday Evening Post, Small Homes, Architectural Record, Architecture, American Builder, National Real Estate Journal and other mediums which reach the Prospective Home Builder, the Contractor and Architect.

No matter in what part of the United States or Canada your business is located, your customers are being reached by our promotional activity. Don't lose them because you are not able to supply

their demand, but put in a stock of Arch Lath and share in the business we are creating for you. Not only do you add to your profits when you sell ARCH LATH,

but you create the best kind of advertising for your own business.

DEALERS, write our nearest branch for details of our dealer proposition

WHEELING CORRUGATING COMPANY, Wheeling, West Virginia  
 Branches: New York, Philadelphia, Chicago, Minneapolis, St. Louis, Kansas City, Chattanooga, Richmond, Des Moines, Columbus, Ohio

The solid wall of Wheeling Arch Lath minimizes possibilities of plaster cracking. It assures a comfortable protected home—protected from fire and decay.



For Weather-proof Roofs of Distinction—  
 Wheeling Spanish Metal Tile

Wheeling Spanish Metal Tile is a beautiful roofing with an atmosphere. It is low in cost. Rust-proof, leak-proof and lightning-proof. It will give enduring service for many years—a permanent installation. Attractive, artistic at moderate cost.

Write for full information

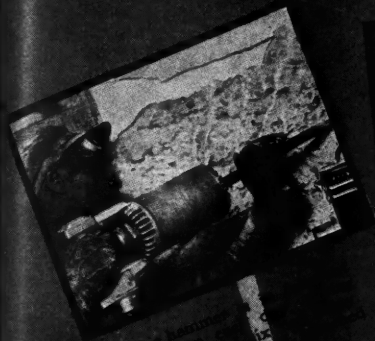


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# Contractors are *Enthusiastic!*

Any contractor who has a SYNTRON Portable Electric Hammer will tell you how useful a machine it is. It saves time and labor costs, saves 90% in cost and enables you to do the job faster. It is the only machine that gets the job done. Equip your crew with SYNTRONS and you will give them the ability to do better work with less energy and yet they'll make a greater profit than ever before.

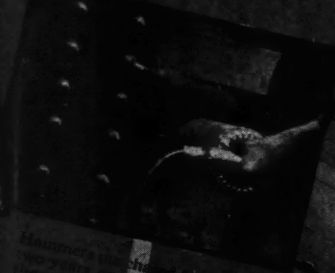
Read what our contractors say about the SYNTRON. And we have cash letters from hundreds of



This machine has saved me a great deal of money. I have used it for all my masonry work. It is the best thing I have ever used.



We are very satisfied with the SYNTRON. It is a very handy machine and it has saved me a great deal of money. I have used it for all my masonry work. It is the best thing I have ever used.



Mr. J. H. Smith, General Contractor, New Orleans, La.



The SYNTRON has saved me a great deal of money. I have used it for all my masonry work. It is the best thing I have ever used.

**FOR EVERY TYPE OF  
DRILLING, CHIPPING  
AND CHANNELING**

No wonder contractors everywhere are so enthusiastic about the SYNTRON Portable Hammer. It is the only practical, economical way to drill, chip or channel masonry, brick, stone or concrete. It operates from any light socket, delivers 3600 speedy, powerful blows a minute, has fewer parts than any other electric hammer, is easily held by the operator, does its work smoothly, evenly and accurately and, above all, is extremely low in cost. There is a SYNTRON model for as little as \$9.00 and for small jobs you can easily rent one.

*Saves*  
**TIME, WORK  
WORRY AND MONEY**

Get the facts about electric hammers. Fill in the coupon below and mail at once. It will bring you complete descriptive bulletins, prices, etc., and will explain the SYNTRON Rental Plan. No obligation whatever.

**Mail this Coupon NOW!**



**PORTABLE ELECTRIC  
SYNTRON  
CONTRACTORS' HAMMERS**

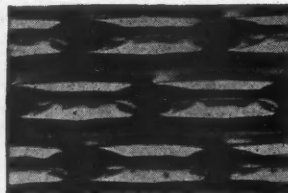
**SYNTRON COMPANY, Lexington Ave., Pittsburgh, Pa.**  
Send me complete data on SYNTRON Hammers and explain rental plan. No obligation.  
Name .....  
Address.....  
.....  
.....

A-10

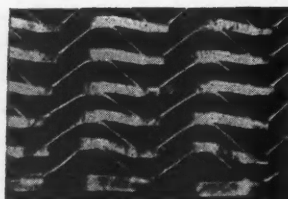
# More Profits For the Contractor —On Every Job

## Kalman's Line of Products For Building

3/4" Rib Kalmanlath  
 Diamond Mesh Kalmanlath  
 Cup Kalmanlath  
 Troff Sheet Kalmanlath  
 Flatrib Kalmanlath  
 3/4" Stayrib Kalmanlath  
 Cold Rolled Channels  
 Hot Rolled Channels  
 Pencil Channels  
 Box Channels  
 Expanded Corner Bead  
 Perfection Corner Bead  
 Wing Bead  
 Rail Bead (With Clips)  
 One Wing Bead  
 Bull Nose Bead  
 Curved Point Base Screed  
 Base Bead  
 Concealed Picture Mould  
 Kornerite  
 Kalmanlath Strips  
 Corner Bead Clips  
 Stucco Reinforcement  
 Stucco Reinforcement Nails  
 Expanded Metal  
 Dome Dampers  
 Wall Ties and Plugs  
 Chimney Thimbles  
 Coal Chute Doors  
 Ash Dumps  
 Ash Pit and Flue Cleanout  
 Doors  
 Basement Windows  
 Structural Steel Angles for  
 Lintels  
 Crimp Metal Furring  
 Hanger Rods  
 Tie Wire  
 Staples  
 Nails  
 Hot Rolled Flats  
 Hot Rolled Angles  
 Metal Trim  
 Kalmantrim  
 Fabric  
 Hanger Inserts  
 Adjustable Inserts  
 Sleeper Anchor  
 Screed Chair  
 Forms for Concrete  
 Reinforcing Bars and Spirals  
 Bar Supports and Spacers  
 Road Reinforcement  
 Wire Shapes  
 Steel Buck and Bead  
 Kalmantruss Joists



*Troff Kalmanlath*



*Cup Kalmanlath*



*Kalman  
Expansion Corner Bead*



*Kalman  
Wing Corner Bead*

In these days of close bidding with a small margin of profit to work on, the contractor must be even more cautious than ever when buying his materials.

The money-saving advantages common to Kalman products are often the difference between a profit and a loss.

Kalman products help to speed up erection—often making it possible to use fewer men or to transfer men to some other part of the job. They also save on materials when plastering—they avoid plaster waste.

And with all these money-saving advantages you get high quality products. The Kalman line of building products are built to give the contractor more profits on every job.

In addition you can get delivery when and where you want it—your job need never be held up.

### KALMAN STEEL COMPANY

Chicago  
 New York  
 Buffalo  
 (Export Office—New York)

Detroit  
 Boston  
 Baltimore

Pittsburgh  
 Syracuse  
 Milwaukee  
 Newark

#### Plants or Offices at

Philadelphia  
 St. Paul  
 Atlanta  
 Houston

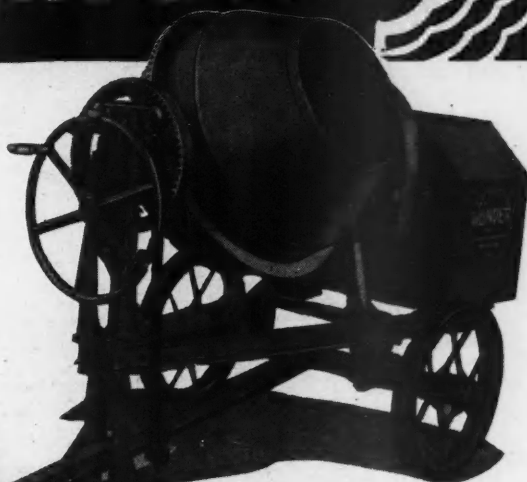
Kansas City  
 Dayton  
 Minneapolis  
 Columbus

Youngstown  
 Charlotte  
 Niles  
 St. Louis

# KALMANLATH

# More For Your Mixer Dollar any way you figure it

We don't have to tell you about Wonder or Marsh-Capron Mixer Quality and Features. We don't have to mention their Speed and Dependability. You know what they are from actual use or from what you have heard users say. The only difficulty we have ever experienced in selling Wonder and Marsh-Capron Mixers has been a FALSE IMPRESSION that they are high priced, when, in fact, THEY ARE LOWER PRICED than some mixers and no higher than other standard makes.



WONDER  
3 1/2-S TRAILER

The combination of Wonder Tilting Mixers and Marsh-Capron Drum Type Mixers places us in even a stronger position than ever before to furnish the contractor with mixing equipment to produce "Better Concrete at a Lower Cost." You will find in this line more for your Mixer Dollar any way you figure it.



MARSH-CAPRON  
7-S



## WONDER Marsh-Capron

**CONSTRUCTION  
MACHINERY COMPANY**

103 VINTON STREET

WATERLOO, IOWA

PLANTS AT WATERLOO AND CHICAGO HEIGHTS, ILL.

Construction Machinery Company,  
103 Vinton St.,  
Waterloo, Iowa.

Mail the facts on the following:

- |   |  |
|---|--|
| <input type="checkbox"/> Tilting Mixers   | <input type="checkbox"/> Hoists          |
| <input type="checkbox"/> Drum Type Mixers | <input type="checkbox"/> Saw Rigs        |
| <input type="checkbox"/> Plaster Mixers   | <input type="checkbox"/> Diaphragm Pumps |

Name.....

Address.....

City.....

# INTERNATIONAL CASEMENTS



Residence, Shaker Heights, Ohio

MUNROE WALKER COPPER, JR., Architect

## COTSWOLD—A Metal Casement of Moderate Cost

**A** MOST important factor in profitable investment building is prompt turnover — a quick sale or rental. If in showing a house, you can call attention to certain features which are sure to appeal to a home-seeker, your property will move. International Cotswold Casements, which are made in all standard shapes and sizes, and are moderate in cost, provide a detail which is most effective as a talking point. When installed by International erectors, the Cotswold Casement is guaranteed weatherproof.

*Send for our descriptive literature*

INTERNATIONAL CASEMENT CO. INC.

JAMESTOWN, NEW YORK

AGENTS IN PRINCIPAL CITIES

# FACE BRICK

... ENDLESS BLENDS OF EVERLASTING COLOR

## Developer Finds Sales Easiest in Additions Restricted to Fire-Safe Homes

THE John C. Ryan Land Company, pioneer in developments restricted to fire-resistive materials, has been signally successful in its Fort Worth operations. Referring to the experience of this Company, Mr. John C. Ryan, President, says in a recent letter:

"Here is a profitable idea in subdivisions—new in many places—that has thoroughly proved its value in the Southwest. This is the addition restricted to materials that won't burn.

"Today all the higher grade suburban developments in Fort Worth and Dallas permit only Face Brick or other masonry for house exteriors.

"The result has been the building of very pleasing groups of homes, 90 to 95 per cent of them Face Brick. Experience here has

shown that any architectural style can be rendered suitably in Face Brick.

"The subdivider finds that lots in such developments are much easier to sell. The builder makes better profits because of the high type of homes. And the stable values, attractive appearance, low insurance and small upkeep expense resulting from masonry construction, are very effective as sales appeals."

Builders everywhere are having the same experiences. Many of them build exclusively of Face Brick. All reports give evidence of easier and more profitable sales.

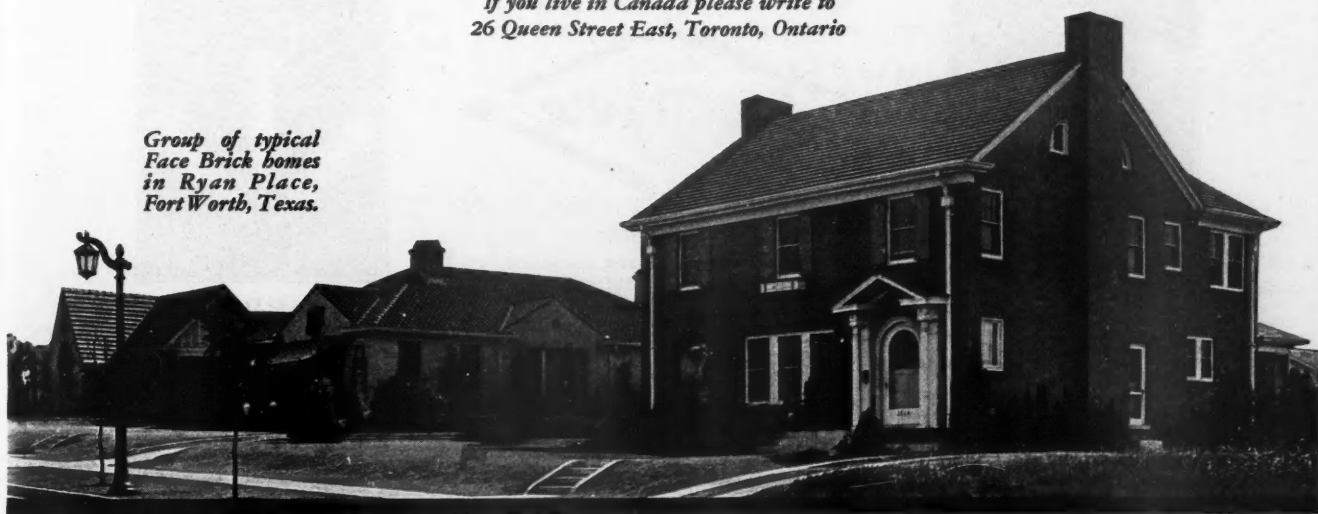
May we send you information about this Association's booklets and house plans which help in building and selling? Send your letterhead to

### THE AMERICAN FACE BRICK ASSOCIATION

2163 City State Bank Building, Chicago, Illinois

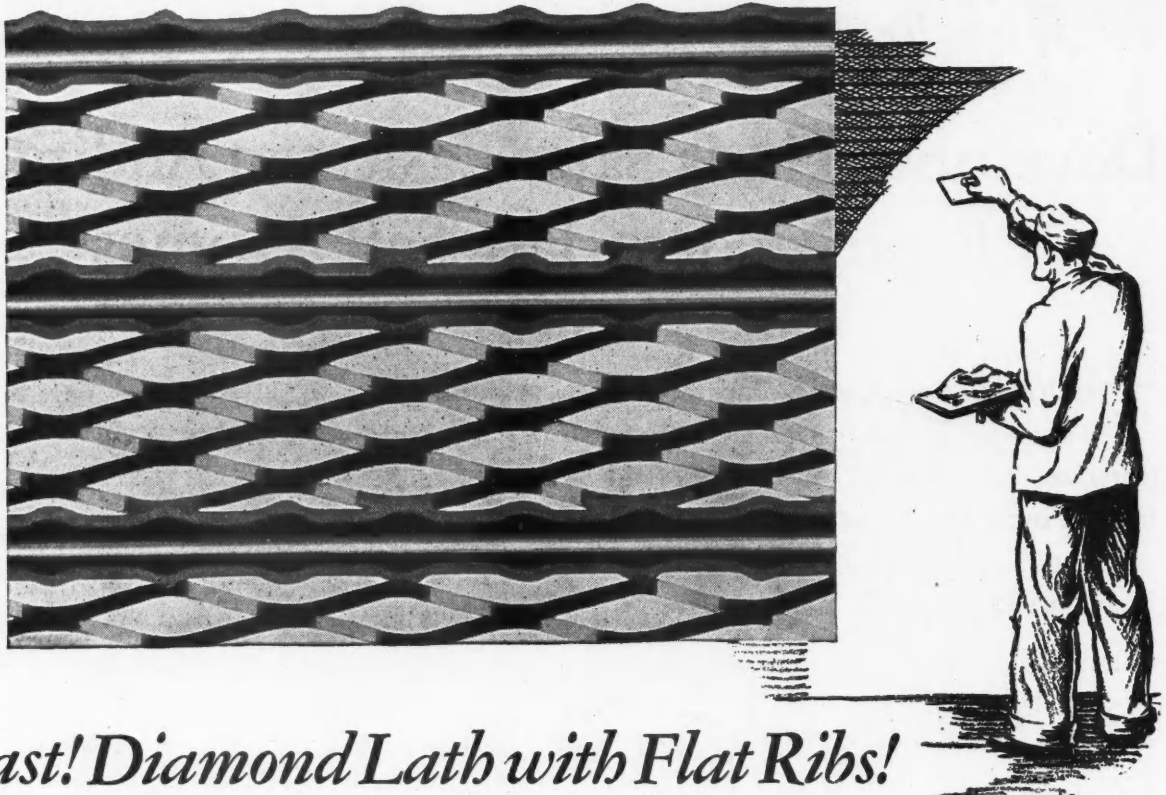
*If you live in Canada please write to  
26 Queen Street East, Toronto, Ontario*

*Group of typical  
Face Brick homes  
in Ryan Place,  
Fort Worth, Texas.*



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

# Steelcrete Diamond Flat Rib Lath



## At last! Diamond Lath with Flat Ribs!

A POPULAR type of plaster base because of superior mechanical bond, Diamond Mesh Lath *now* becomes an overwhelming favorite with the trade. The combination of Steelcrete Diamond Mesh with a Flat Rib, producing a plaster base of exceptional merit—both as a plaster saver and as a reinforcement.

This new product known as Steelcrete Diamond Flat Rib Lath is easy to plaster, easy to erect and requires less plaster per square yard than ordinary metal lath. The rib design sets up a resistance against the entire field of lath and prevents an excess of plaster from

squeezing through the mesh. This rib also serves to give unusual strength to the entire sheet of lath and acts as a guide for the plasterer.

The sheets of Diamond Flat Rib Lath are fully expanded from end to end and corner to corner. They are *clean* and will not cut the hands, facilitating quick erection. Let us send you samples and prices. Write us today.

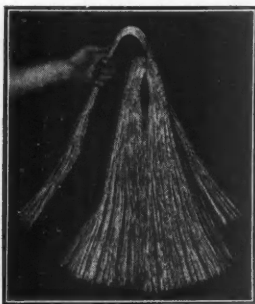
*Specifications:*

Size of sheet 24"x96". Packed 9 sheets per bundle, 16 square yards. Weight painted 3.4 lbs. per square yard.

Consolidated Expanded Metal Companies, Wheeling, W. Va.

Steelcrete Building, Wheeling, West Va.

Atlanta Boston Cleveland Philadelphia Pittsburgh  
Chicago New York Buffalo



**Steelcrete Lathers Tie Wire**

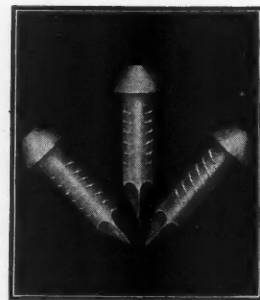
Here is a Tie Wire designed for the Lather. A product of unusual strength, yet soft and pliable for quick and efficient workmanship. Wrapped in sanitary packages, a safeguard to the Lather like sterilized nails. Supplied in hanks 25 lbs. each.



*Sample Offer*

You may obtain on request, samples of the Steelcrete Time Tested Building Products described in this advertisement and complete information on other Steelcrete Products, including Arch Lath, Diamond Lath, Rib Lath, Wall Ties, Cornerite, Metal Base Ground, Curved Point Base Screed, Metal Picture Mould, Cold Rolled Channels, Corner Bead, T-Rail Bead, Bull Nose Bead and Expanded Bead.

*Write to us today*



**Steelcrete Stub Nails**

Here is the Nail you can drive into Concrete without bending, breaking or blunting the point. Heavily zinc coated. Comes packed 1000 to the bag; also in 100 lb. kegs. The ideal nail for securing corner beads, metal lath and hangers.



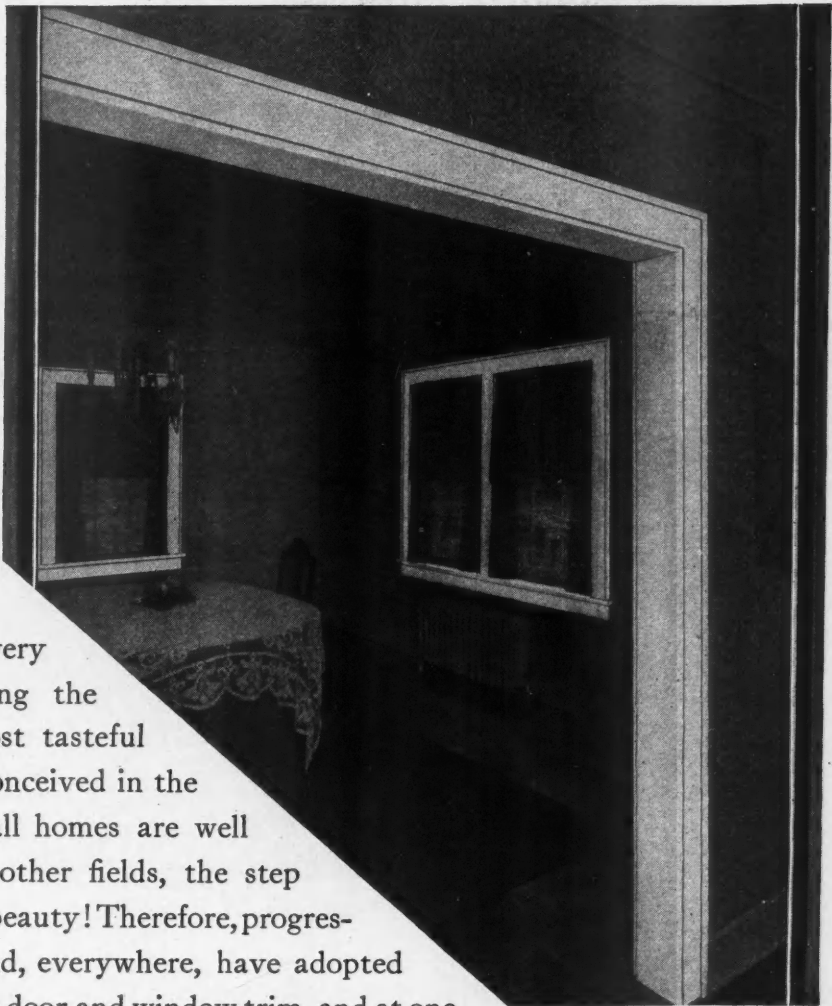
# Beautiful trim in *every* home you build — with TrimPak

Constant quality rigidly maintained means uniform excellence on every job where TrimPak, finest interior trim for doors and windows, is used.

## Beauty

is the greatest sales  
appeal in homes today

Successful builders today are capitalizing beauty in every home they build, answering the public's demand for the most tasteful and attractive homes ever conceived in the modern world. Practically all homes are well built nowadays — so, as in other fields, the step *ahead* of your competition is beauty! Therefore, progressive builders by the thousand, everywhere, have adopted TrimPak for all their interior door and window trim, and at one stroke save money, speed completion, and get uniformly beautiful, durable jobs.



## Good trim helps sell good homes — and costs no more

Pondosa Pine, Fir, Whitewood, Basswood, Yellow Pine, Oak, Chestnut, Cypress, Tupelo, Red Gum, Sap Gum, Birch, Arkansas Soft Pine and Philippine Mahogany.



Do you know the value of properly-dried lumber?

Use coupon below for leaflet describing its importance.

Ask your lumber dealer about TrimPak, or use coupon below

## TrimPak Corporation

44 Whitehall St., New York, N. Y.  
624 S. Michigan Ave., Chicago, Ill.

TRIMPAK CORPORATION, 44 Whitehall Street, New York, N. Y. AB-10

Please send complete information on TrimPak, and the story of properly-dried lumber.

Name \_\_\_\_\_

Address \_\_\_\_\_

Please check the square that identifies you, so we may reply most intelligently:

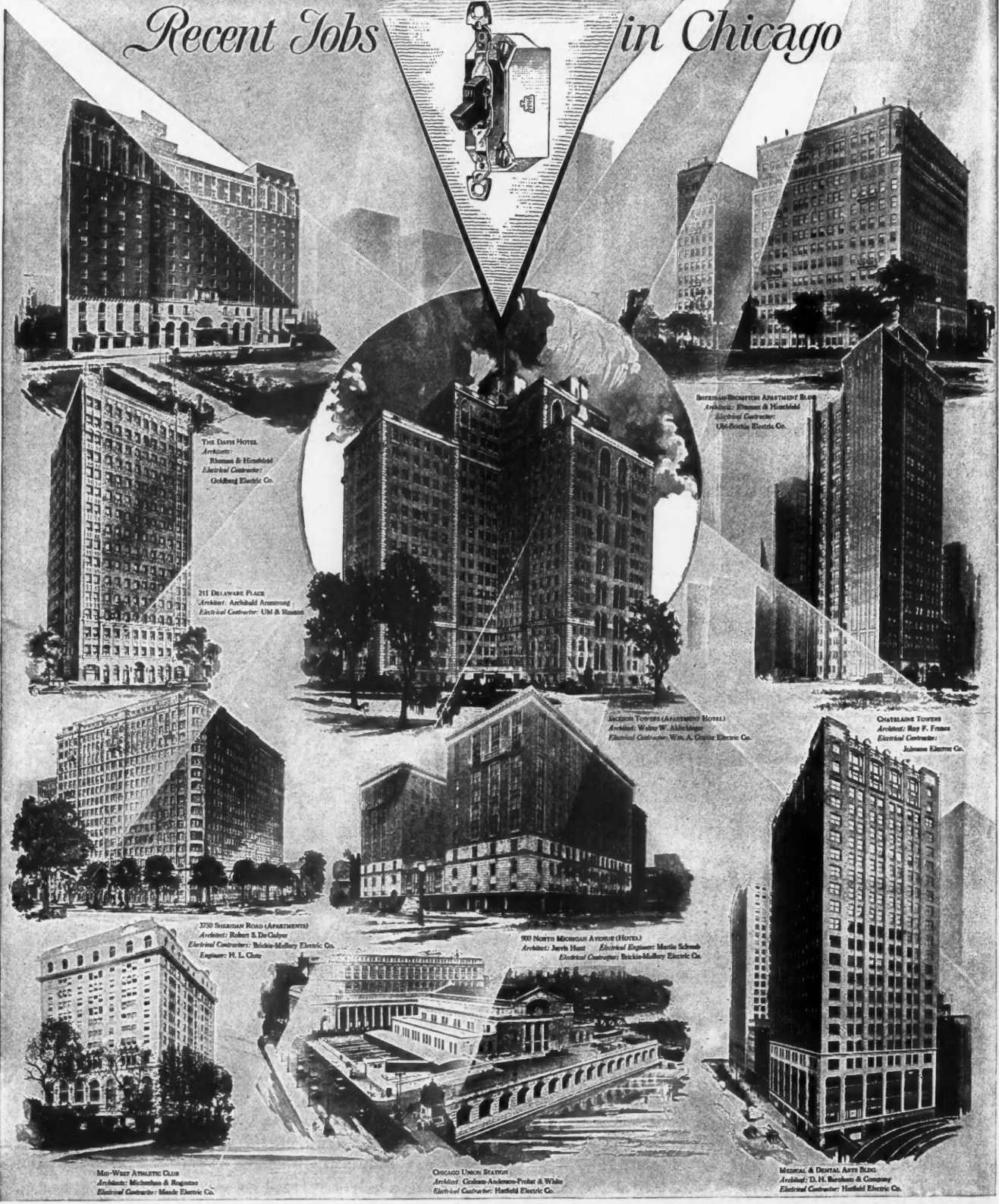
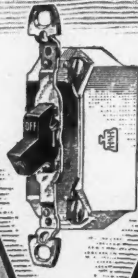
Architect  Builder  Contractor  Retail Lumber Dealer  Home Builder

Copyright, 1928, TrimPak Corporation

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

# H & H Switch Installations

## Recent Jobs in Chicago



**THE DAVIS HOTEL**  
Architect: Rhoman & Hirschfeld  
Electrical Contractor: Goldberg Electric Co.

**211 DELAWARE PLACE**  
Architect: Archibald Cunningham  
Electrical Contractor: UM & Blum

**BERNARD-BROOKTON APARTMENT HOUSE**  
Architect: Fennell & Henshild  
Electrical Contractor: UM-Buckie Electric Co.

**JACKSON TOWERS (APARTMENT HOTEL)**  
Architect: Walter W. Alschlager  
Electrical Contractor: Wm. A. Davis Electric Co.

**CHATELAIN TOWERS**  
Architect: Roy F. France  
Electrical Contractor: Johnson Electric Co.

**3730 SHELDON ROAD (APARTMENTS)**  
Architect: Robert S. De Cady  
Electrical Contractor: Beckie-Mallory Electric Co.  
Engineer: H. L. Clark

**900 NORTH MICHIGAN AVENUE (HOTEL)**  
Architect: Jervis Hunt  
Electrical Engineer: Martin Schuch  
Electrical Contractor: Beckie-Mallory Electric Co.

**MAN-WIFE ATHLETIC CLUB**  
Architect: Michelson & Rogerson  
Electrical Contractor: Meade Electric Co.

**CHICAGO UNION STATION**  
Architect: Graham-Anderson-Probst & White  
Electrical Contractor: Hatfield Electric Co.

**MEDICAL & DENTAL ARTS BLDG.**  
Architect: D. H. Burdick & Company  
Electrical Contractor: Hatfield Electric Co.

# THE HART & HEGEMAN MFG. CO.

HARTFORD, CONN. MAKERS OF ELECTRIC SWITCHES SINCE 1890

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

# Count the cost over a period of years ~

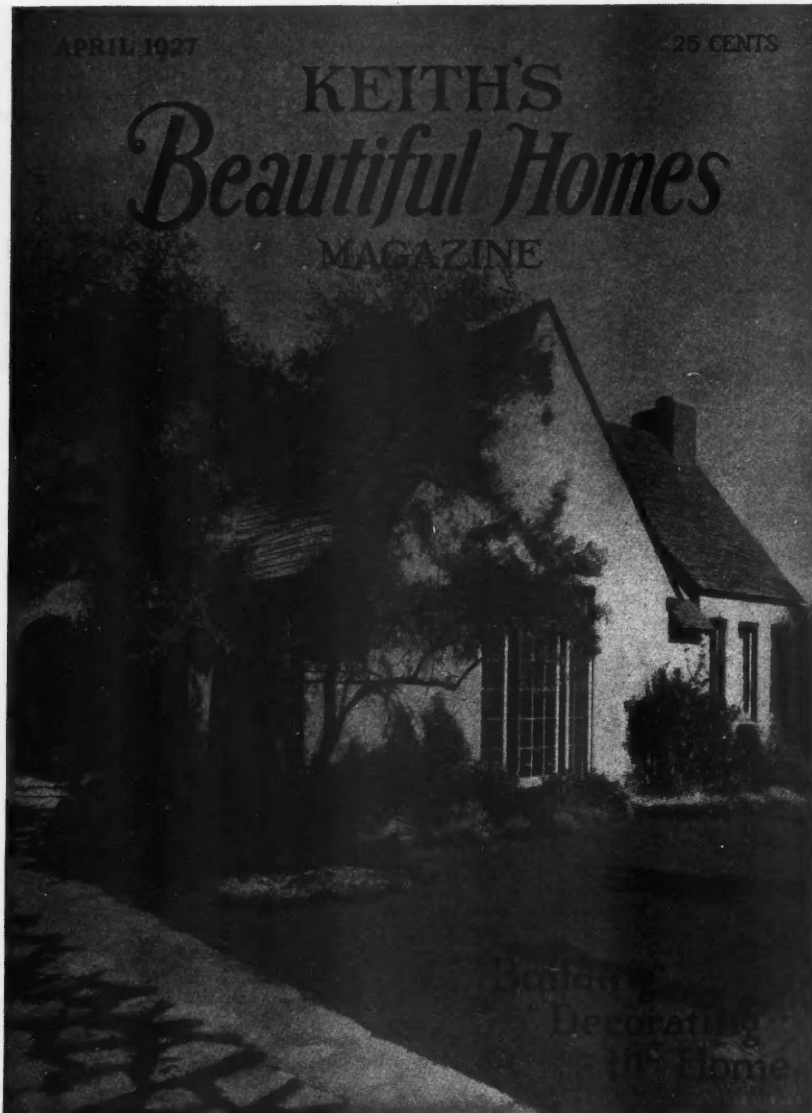
*and* you will buy all your Cement and Plaster in Bates Multi-Wall Paper Bags ~ ~ ~ ~

Bates Multi-Wall Paper Bags are made exclusively by the Bates Valve Bag Corporation in 8 modern plants throughout the country.  
BATES VALVE BAG CORPORATION  
General Offices: 35 East Wacker Drive, Chicago, Ill.



## BATES *Multi-Wall* PAPER BAGS

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



\$1.00 a year  
 —  
 Gives  
 you  
 New  
 Ideas  
 —  
 \$1.00 a year

Established in 1899

# Special Fall Offer

We offer to send you this magazine the last three months of this year and the twelve months of 1929, a total of fifteen numbers, and also send you postpaid, a copy of our big plan book, deluxe edition—

## 200 BEAUTIFUL HOMES ~ All for \$2.00

Keith's Beautiful Homes Magazine  
100 North 7th St., Minneapolis, Minn.

Gentlemen:—

Under your Special Fall Offer, send me Keith's famous plan book, 200 Beautiful Homes and Keith's Beautiful Homes Magazine for fifteen months for which \$2.00 is enclosed.

NAME .....

ADDRESS .....

CITY ..... STATE ..... AB-10-28

"Keith's" is one of the best nationally known magazines in the building field. It has helped many a building contractor.

*Mr. E. L. Nelson, of Newton, Iowa, writes in this month as follows: "I built from a Keith plan and Keith's service is standard and much used in this state."*

Take advantage of this offer today

**KEITH CORPORATION**  
100 No. 7th Street Minneapolis, Minn.

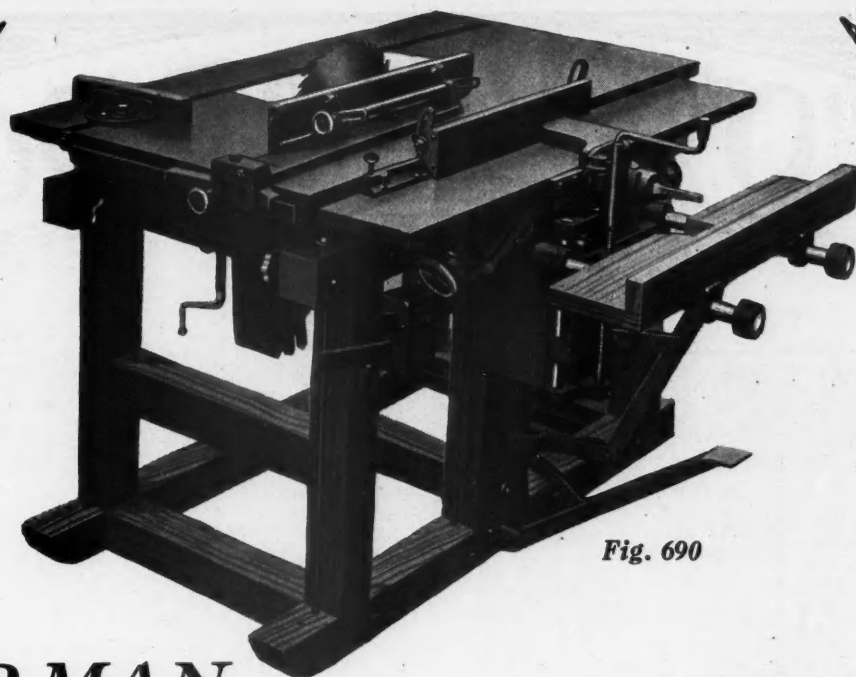


Fig. 690

**FOUR MAN**  
*Portable Variety Woodworker*  
**SAVES ITS PRICE ON ONE JOB!**

**No. X-24** —  
 A revolutionary new machine. Tilting Arbor Saw Bench — Sturdy, compact, self-contained. Motor built in; saw completely guarded. Investigate this modern woodworking machine. Circular on request.



**H**ERE'S a complete wood-working plant all in one machine. Can be used by four men at the same time, performing four different operations without the least interference to each other. *Compact, self-contained . . . without power . . . or with gasoline engine or electric motor. Easy to move, easy to operate, more than equal to every occasion.*

A Rip Saw, a Cut-off Saw, a Mitre Saw, a Dado Machine, a Gaining Machine, a Grooving Machine, a Rabbetting Machine, a Tenoning Machine, a Jointer or Planer, a Boring Machine, a Matcher, a Molder, a Sander, a Hollow Chisel Mortiser.

—and MONARCH qualities that ensure outstanding performance, permanency and profits for contractors and lumber yards. Let us quote you prices and tell you how the MONARCH Woodworker saves its price on one job.

**No. X-23** — Portability, lightness, strength, power, adaptability, and low price combine to make this Contractors' Treadle Saw one of the fastest-selling woodworking machines on the market. Descriptive circular on request.

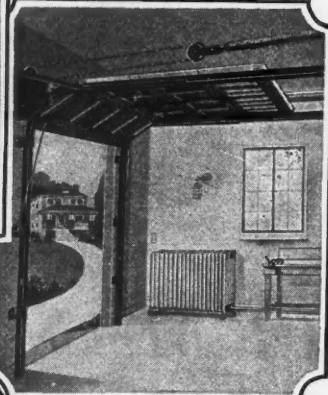
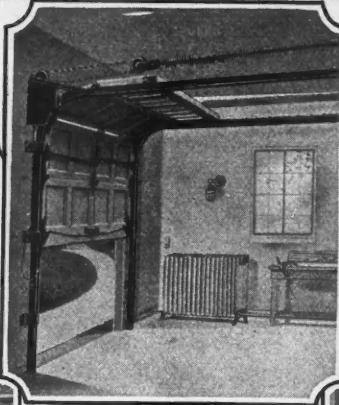
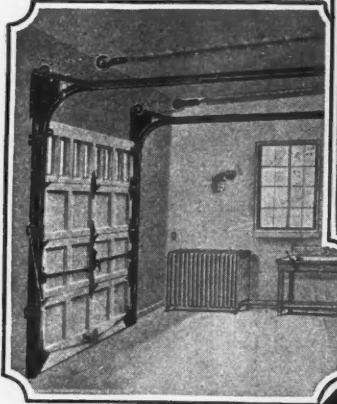


**AMERICAN SAW MILL MACHINERY CO.**

60 Main St., Hackettstown, N. J.

*Manufacturers of a complete line of Woodworking and Saw Mill Machinery*

# The "OVERHEAD DOOR"



THE "OVERHEAD DOOR" consists of horizontal panels hinged together with our combination fixture hinges. The fixture hinges are assembled with a sleeve tubing through which the floating shaft of the ball-bearing roller floats. The rollers are engaged within the walls of our special steel track, and cannot come out of the track as is often experienced with other doors. The door is perfectly counterbalanced in all positions, with oil-tempered springs of large capacity, insuring a reliable source of power. The weight of the door is carried by chains attached at each bottom corner, thereby eliminating all strain on the hinges and upper panels. These chains pass over ball-bearing pulleys, one of which is attached to each spring, forming a unique counter balance as shown in the detail above.



## OPENS!

*out of  
the way*

*There's an Overhead Door Company  
in your state, an Overhead  
engineer in your  
community*

**OVERHEAD DOOR CORP.**  
KICKAPOO STREET  
HARTFORD CITY, INDIANA

THE "OVERHEAD DOOR" is beautiful. It may be purchased to harmonize, or to contrast, with any type of architecture. So far as we know it is the first garage door to be designed by master architects, to receive the touch of the artist. It is made in a wide variety of designs, from the Moorish motif of the Temple of Granada to the English manor house, the donjon keep, the New England Colonial. THE "OVERHEAD DOOR" would sell on beauty alone, but beauty is not its chief claim to your consideration. For the chief advantage in Overhead Doors is that they always work PERFECTLY. A touch, and they are up, out of the way. They require no room, they operate quietly, they are not disturbed by wind or rain or sleet or snow. They close tightly and easily. They can be made to fit any garage opening. They are built for the needs of today.



***Build for Year-Round Comfort;  
See that INSULITE is specified***

The achievement of real comfort is a function of building no less than the achievement of good design, arrangement and beauty.

Comfort—one of the unseen qualities of home-building—is one of the very important qualities; one of the most practical. And so easily obtained today.

A house built so that sounds are deadened—so that dampness is avoided—so that winter cold and summer heat do not easily penetrate the

walls and roof—has the genuine unseen quality of comfort.

INSULITE contributes to this in a very large measure. It is a double-purpose insulating material—a sturdy, all-wood-fiber board of great structural strength.

For sheathing, plaster base, wall board, roof insulation, attic and garage lining, and many other uses.

Write for free copy of interesting booklet—“Increasing Home Enjoyment.”

**INSULITE**  
*the Wood-Fiber Insulating Board*

**THE INSULITE COMPANY**

1202 Builders Exchange

Dept. No. 2, - Minneapolis, Minn.

THE INSULITE CO.,  
1202 Builders Exchange, Dept. 2,  
Minneapolis, Minn.

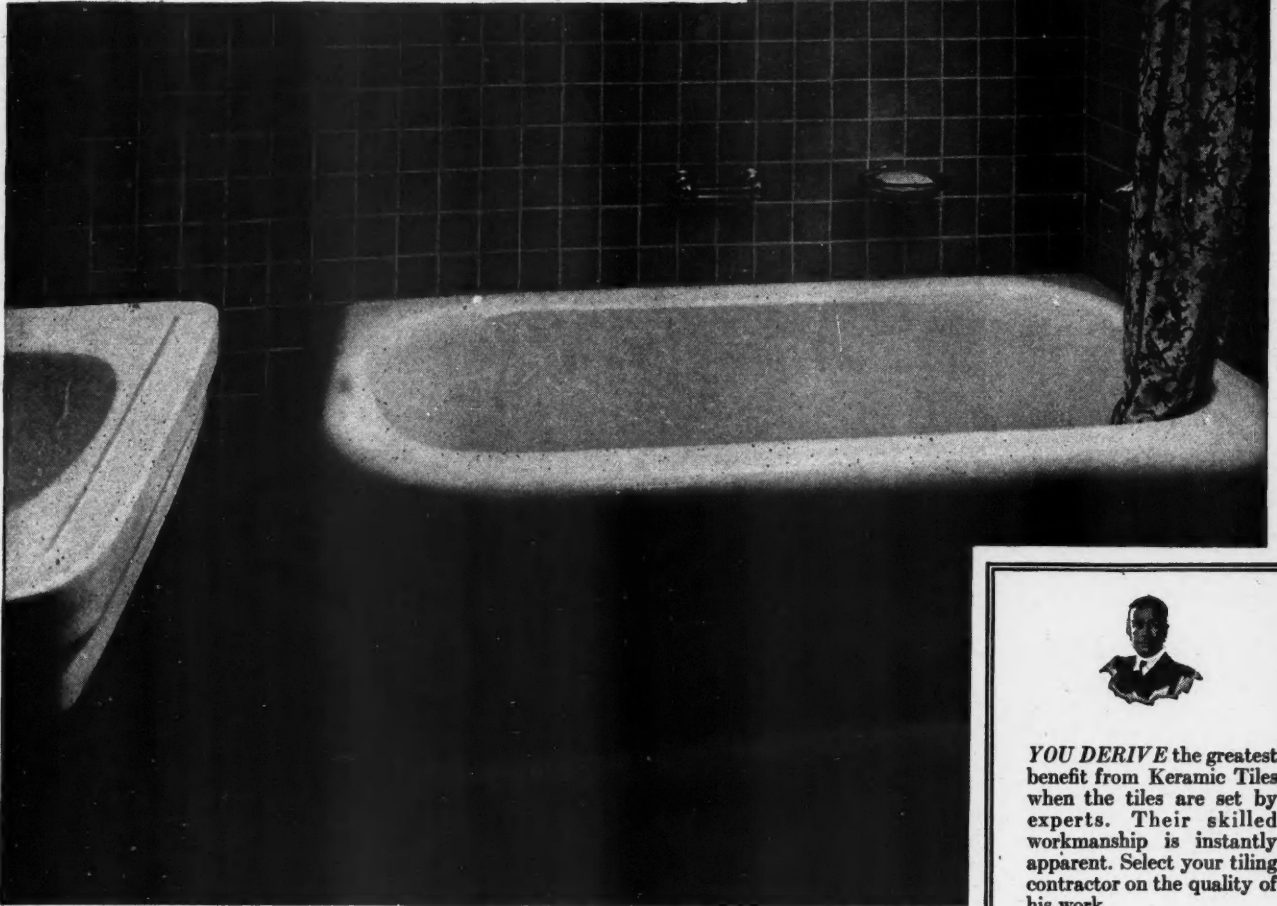
Please send samples and booklet to

Name .....

Address .....

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

# House buyers respond quickly to the appeal of rooms like this . . .



*YOU DERIVE* the greatest benefit from Ceramic Tiles when the tiles are set by experts. Their skilled workmanship is instantly apparent. Select your tiling contractor on the quality of his work.

**B**UYERS are as eager as ever in their search for homes with distinctive touches. And today it is color that catches the eye—color upstairs, color down—color in the kitchen and in the bath.

Your houses sell faster when you cater to this new demand with rooms made bright and cheerful with Ceramic Tiles—real tiles. Here, for instance, is a bath in gay and charming pattern. In just the same way Ceramic Tiles can

brighten the kitchen, the sun parlor, the dining room . . . give them all the extra distinction that gets your price quickly.

Easily cleaned, lastingly colorful, as durable as the foundation itself—Ceramic Tiles more than repay their cost. No other material so immediately assures your buyers that you have built well. No other material so easily lifts your houses above the average run. See your local tiling contractor and let him show you how much real tiles can do for you.

**ASSOCIATED TILE MANUFACTURERS, 420 Lexington Avenue, New York, N. Y.**

ALHAMBRA TILE CO.  
AMERICAN ENCAUSTIC TILING CO., Ltd.  
CAMBRIDGE TILE MANUFACTURING CO.  
FEDERAL TILE COMPANY  
GRUEBY FAIENCE & TILE CO.  
MATAWAN TILE CO.

THE MOSAIC TILE CO.  
NATIONAL TILE CO.  
OLEAN TILE CO.  
THE C. PARDEE WORKS  
ROSSMAN CORPORATION  
FRANKLIN POTTERY

STANDARD TILE CO.  
THE SPARTA CERAMIC CO.  
UNITED STATES ENCAUSTIC TILE WORKS  
UNITED STATES QUARRY TILE CO.  
WHEATLEY TILE & POTTERY CO.  
WHEELING TILE CO.

**K E R A M I C T I L E S**

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE



# New BLACK & DECKER

## *Half-Inch Special*



BALL BEARING

**The BLACK & DECKER MFG. CO.**

TOWSON, MD., U. S. A.

Black & Decker Mfg. Co., Limited,  
Toronto, Ontario

Black & Decker, Limited,  
Slough, Bucks, England



# simple as ABC

The (A)rchitect wants strength. The (B)ricklayer wants a smooth, easy-working mortar. The (C)ontractor wants to save time, labor and money. One part BRIXMENT, three parts sand will satisfy all three! Costs less to buy, less to mix, less to use. No lime. No slaking. No portland.

Ask for your copies of the new handbooks, "BRIXMENT for Perfect Mortar" and "BRIXMENT for Stucco".

LOUISVILLE CEMENT CO., Incorporated  
General Offices: LOUISVILLE, KY.  
Mills: Brixment, N. Y. and Speed, Ind.

DISTRICT SALES OFFICES  
1610 Builders Building, Chicago  
602 Murphy Building, Detroit  
1015 Chestnut Street, Philadelphia  
301 Rose Building, Cleveland



# BRIXMENT

for Masonry and Stucco

# AROUND *the* FAMILY TABLE



## Business Is Good

The farmer sells a load of wheat, and all the world grows fair and sweet;  
 He hums a couple of cheerful tunes, and pays the grocer for his prunes.  
 The grocer, who has had the blues, now buys his wife a pair of shoes.  
 That ten the shoe-man thinks God-sent, and runs and pays it on the rent.  
 Next day the rent man hands the bill to Doctor Eakins for a pill.  
 And Doctor Eakins tells his frau, that business is improving now,  
 And cheers her up and says: "My dear, you've been quite feeble for a year, I'm thinking you should take a rest; you'd better take a trip out West."  
 And in a couple of days the frau is on the farm of Joshua Howe.  
 She pays her board to farmer Howe, who takes the bill any says "I swow!  
 Here's something that just can't be beat, this bill's the one I got for wheat."  
 He hums a couple of cheerful tunes, and goes and buys a lot more prunes.  
 —Fort William-Port Arthur (Ont.) Rotary Elevator.



## Ads Don't Lie

"Doctor, I'm going to die."  
 "What makes you think so?"  
 "My lifetime fountain pen just broke."—*Jack o' Lantern.*



## Did She?

Junior partner to pretty stenographer—"Are you doing anything on Sunday evening, Miss Dale?"  
 Steno (hopefully)—"No, not a thing."  
 "Then try to be at the office earlier on Monday morning, will you?"—*Lafayette Lyre.*

## Noah Too

When Noah sailed the water blue  
 He had his troubles, same as you.  
 For forty days he drove the Ark,  
 Before he found a place to park.

## It Won't Be Long Now

A bricklayer said to a foreman on a new job: "I'd like to work here, but I can't find a place to park my car."  
 The foreman replied: "I guess you won't do. This is a high class job and we want only bricklayers who have chauffeurs."



## It Certainly Is

"Bridget, didn't I hear you quarreling with the milkman?"  
 "Nope. I just inquired after the health of his sweetie."  
 "Yes, and how—"  
 "I says—'How's the milkmaid? An' he got in a temper and said, 'That's a trade secret!'"



## Right Up-to-Date

"Does she approve of color in the kitchen?"  
 "I should say she did! Her new cook is as black as coal."  
 —William Ludlum.

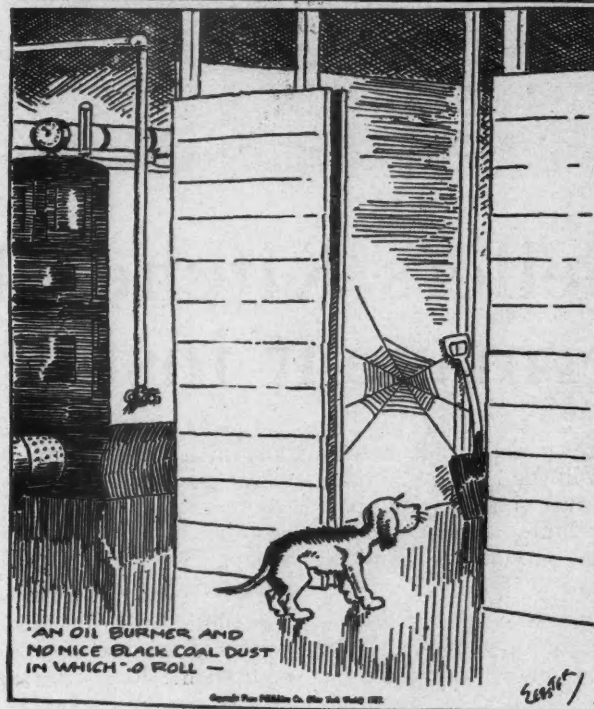


## Finis

Solicitor—"For the last time I ask you for that \$12.50."  
 Dead Beat—"Thank God that is over."



Life's Darkest Moment - - - - - By H. T. Webster



[Reprinted by permission of the New York World.]

## Names Is Names

Irene Thomas, pretty typist,  
 Really made a hit  
 With her new boss, Dave A. Mayer,  
 But she had to quit  
 When he noticed on each letter,  
 She had signed—DAM-IT.



## She'll Teach Him

Her Father: "So you want to marry my daughter? Do you know much about business?"  
 Her Victim: "Not much, sir."  
 Her Father: "Do you know the difference between an asset and a liability?"  
 Her Victim: "I regret to say I don't."  
 Her Father: "Well, you will after you marry my daughter."—*Copper's Weekly.*

Note to the right the units making up the beautiful installation illustrated. No. 1 is a broom closet. No. 2 is a china closet. No. 3 is upper section of cabinet with flour bin and "KlearFront." No. 4 is a cabinet base with porcelain work table. No. 5 is a storage cabinet. No. 6 is a refrigerator for natural ice or mechanical refrigeration. This is only one of almost unlimited combinations possible for kitchens of every size.



## Colorful Sellers Kitchen Furniture for permanent installation

A happy, colorful kitchen sells more homes than any other room in the house. Women love to tarry in the beautiful Sellers equipped kitchen. It is so youthful—a joyful spot of never-tiring color and pronounced convenience.

And how your salesmen will concentrate on selling in the Sellers equipped kitchen! It will be a room packed full of selling points. A room to **close** in.

You'll like Sellers Kitchen Furniture, too, because of its surprisingly low installation cost. Set the sections in place and tighten a few bolts. A simple quarter round finishes the job.

For Sellers Sectional Kitchen Furniture is built in a furniture factory. It has the long-wearing, quality finish—the accurate joinery—the sturdy construction—the fine cabinet work produced

only in the best furniture factories. Like other good furniture, it is made entirely from hardwood thoroughly seasoned and kiln-dried. It will not warp. No doors to rehang. No sticking drawers to repair. No hardware to buy. No painting to do.

The illustration in the upper right hand corner shows the flexibility of this popular equipment. Fifty-four separate Sellers units enable you to **correctly** equip the largest or smallest kitchen.

Millions of dollars judiciously invested in national advertising over a long period of years has made the name Sellers a most valuable asset to any dwelling. Write today for full information on this modern kitchen equipment.

G. I. Sellers & Sons Co.  
Dept. 810  
Elwood, Indiana



Sent free upon request. Complete information on the nationally advertised line of colorful Sellers Kitchen Furniture.

# SELLERS

## SECTIONAL KITCHEN UNITS

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

# AMERICAN BUILDER



Formerly AMERICAN CARPENTER AND BUILDER

1827 Prairie Ave., Chicago—120 West 42nd St., New York City

## Sales Loss and the Income Tax

THE National Association of Real Estate Boards has called the attention of property owners and purchasers to a matter of considerable importance to them in a recent decision of the Supreme Court of the United States bearing on the deductibility from income tax returns of income tax deductions in the case of the sale of residential property.

The association calls attention to the fact that the Supreme Court has decided that whenever residential property is no longer used by its owner for that purpose but instead has been turned to rental purposes, any loss sustained in a subsequent sale of the property may be deducted by the tax payer in determining his net income.

The decision of the Supreme Court shows clearly that if the owner sells his residential property while he is occupying it as a residence he may not deduct any loss he may sustain in the sale.

If the owner of residential property using it for a residence has in mind the sale of the property at a time when a loss probably would be sustained in such a sale, the association points out that it would be a matter of good business for him to arrange, if possible, to give up use of the property for his own residence and make some effort to rent it before making the sale.

In a late decision of the District Court for the Western District of New York, which went even farther than the Supreme Court decision, if due diligence is exercised in the effort to rent the property, the loss sustained from the sale may be deducted.



## Why Grade-Marked Lumber?

IN reporting to the recent annual meeting of the Southern Pine Association, C. C. Sheppard, chairman of the committee on grade-marking, pointed the following 15 reasons why the lumber manufacturers should favor grade-marking.

1. It encourages more careful and uniform grade marking.
2. It improves the trimming and gives the lumber a better appearance.
3. It identifies the grade from manufacturer to ultimate consumer and is a potent factor in establishing confidence in all concerned.
4. It distinguishes lumber that is well manufactured, properly seasoned and carefully graded, from "just lumber."
5. In case of official inspection or reinspection, the responsibility of the manufacturer can be determined readily.
6. It forms a sound basis for advertising and trade extension work.
7. It is a guarantee of American lumber standards.
8. It is a certificate of quality, assuring integrity of grade.
9. It is a powerful weapon against substitutes.
10. It saves the dealer the expense of regrading his stock.
11. It will educate the public that good lumber can still be obtained.
12. It will simplify architect's specifications and assure his

getting what he specifies, thus extending the use of lumber.

13. If dealers generally would handle trade-marked, grade-marked lumber, it would be a powerful influence to help stabilize their market and would lift their competition up to a higher plane of service.

14. It would be a tremendous influence for better built homes and buildings.

15. It will be the means by which the industry can avoid a "pure food law" by Congress or some of the legislatures.



## 1928 Construction Still Ahead of Last Year

CONSTRUCTION contracts to the amount of \$516,970,-200 were awarded last month in the 37 states east of the Rocky Mountains, according to F. W. Dodge Corporation. These states include about 91 per cent of the total construction volume of the country. The decline from July of this year was about \$66,000,000, or 11 per cent. The decrease from August of last year was about \$35,000,000, or 6 per cent. The New England States and the Northwest were the only two districts showing increases over their July, 1928, records, and the Central West, Northwest and Southeastern States were the districts showing increases over their August, 1927, records.

Last month's record brought the amount of new building and engineering work started in these 37 states since the first of the year up to \$4,545,270,100, as compared with \$4,274,871,100 for the corresponding period of last year, the increase being 6 per cent.

Analysis of the August building record showed the following important classes of work: \$213,705,400, or 41 per cent of all construction, for residential buildings; \$118,890,400, or 23 per cent, for public works and utilities; \$58,910,500, or 11 per cent, for commercial buildings; and \$42,606,700, or 8 per cent, for industrial projects.

New work contemplated in August in the 37 Eastern States, amounted to \$612,340,100. There was a loss of 5 per cent from the amount reported in the preceding month and there was a drop of 11 per cent from the amount reported in August of last year.

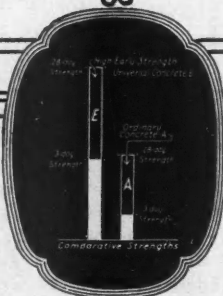


## Timber Tax Law is Effective

RECENT reports state that timber growing in Wisconsin has been greatly stimulated as a result of the recently enacted forest crop law of that state. Since the law became effective, last November, 66 corporations and individuals have filed applications with the conservation commission to list a total of 172,975 acres under the law. Included in this listing are properties owned by the Goodman Lumber Company, the Yawkey Bissell Lumber Company and the Connor Lumber Company. Under the law, forest areas may be set aside for timber growing on the basis of a 10 per cent yield tax and a 10 cent per acre per annum tax. In addition to Wisconsin, about 16 states have enacted legislation of this nature.

# ... answering your Questions regarding High-Early-Strength Concrete

QUESTION	ANSWER
1—What is High-Early-Strength Universal Concrete?	Concrete with a 3-day strength equal to the 28-day strength of ordinary concrete.
2—Are special materials and equipment needed?	No. It is made with the <i>usual</i> materials, <i>usual</i> labor, <i>usual</i> equipment and standard Universal cement, all applied according to thoroly tested methods.
3—What is its chief advantage?	Saves time! Concrete for foundations, buildings, sidewalks, pavements and improvements of all kinds is made ready for use in 3 days instead of 3 weeks.
4—Is there any additional important advantage?	Yes. Such concrete not only has a higher <i>early</i> strength, but also a greater <i>ultimate</i> strength and therefore is <i>permanently</i> better and stronger than ordinary concrete. (See diagram.)
5—Is its use restricted to certain kinds of jobs?	No. Because it may be made as workable as desired, High-Early-Strength Universal Concrete is used for any and all kinds of concrete work.
6—Has High-Early-Strength Universal Concrete been fully tested?	Yes. Thousands of laboratory tests, years of experiment and hundreds of actual jobs prove the value of High-Early-Strength Universal Concrete.
7—What other advantages does High-Early-Strength Universal Concrete offer?	It is unnecessary to stock extra brand of material as High-Early-Strength concrete is obtained with the <i>usual</i> materials, <i>usual</i> labor, <i>usual</i> equipment and the same quality Universal cement as used for ordinary construction.
8—Where can I get detailed information on High-Early-Strength Universal Concrete?	Full details for use on any concrete work will be sent promptly on receipt of the coupon below.



(Copyright U. P. C. Co. All rights reserved)

High-Early-Strength concrete "E" made by using special methods and standard Universal cement is *permanently* better and stronger than con-

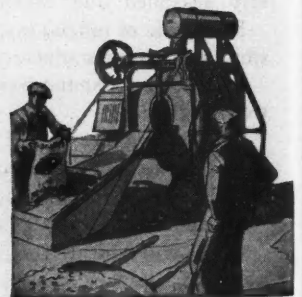
crete as ordinarily produced as shown in the diagram. More detailed information furnished promptly on request. Just use the coupon.

Name \_\_\_\_\_

Address \_\_\_\_\_

UNIVERSAL PORTLAND CEMENT CO.  
 208 South La Salle Street, Chicago  
 Without obligation, please send me detailed information on methods of securing strong concrete in 3 days with the usual materials and equipment.  
 AB 10-28

**Universal Portland Cement Co.**  
 Chicago Pittsburgh Minneapolis Duluth Cleveland Columbus New York  
**Concrete for Permanence**



# EVERYBODY'S BUSINESS



## Our Critics Reviewed

By FLOYD W. PARSONS

SCIENCE has come in lately for a lot of criticism. We are told that it has carried us part way up a blind alley. It has given us a purely materialistic interpretation of the universe, and to many it has become hardly less than a dogmatic religion.

The fact is that the benefits from science have been so great in recent years we are prone to regard it as a universal cure-all. We are inclined to blame science for all the shortcomings of human nature. We insist that because it destroyed our belief in a burning hell and a heaven paved with golden streets, it must go still further and give us a satisfying explanation of man's nature and that of the universe into which he was born.

We are assuming too much when we expect that science will eventually annihilate practically all of the laws of Nature. There is real danger in our adopting outright some of the present popular conceptions of life's values as outlined by certain enthusiastic advocates of the purely scientific viewpoint. We may as well dismiss the notion that we can step aside from "creation's scheme," and separate ourselves from the common order of things. Deep-lying instincts tell us that man has a personality, and that the drama of our individual lives has significance.

Disaster would overtake us in a hurry if we attempted to go ahead in the belief that personality is a myth, freedom of action a dream and that all of us are merely a succession of states of mind having no lasting meaning. Science never has and never will devise anything to take the place of the natural and instinctive longing for things spiritual and moral. Nor will it ever rid us of the overwhelming desire for an answer to the everlasting question, "Why?"

We might as well get it straight in our minds that there is no chance whatever for science to reach success in the form of a religious cult. Its appeal must always be founded on things materialistic. It must be regarded as the most useful and most indispensable tool ever placed in human hands. But the technical mind gets out of its proper sphere when it proposes to be the final authority for what man can and cannot believe about himself and his environment.

Even if scientific analysis were to succeed in sweeping away our appreciation and acceptance of such human

values as beauty, duty, love, faith and loyalty, we may be sure that history would quickly repeat itself and in a short time we would find these vital fundamentals again entering into our existence through some new door. Scientific thought may twist and turn and theorize to its heart's content, but it will never dispel the feeling of humanity that there is a mystery and a meaning hidden in the universe. When our great materialistic monuments have piled up in decay we will find man still insisting that there are intangible values which surpass in importance many of those now considered so supremely essential.

Science is making it possible for us to build a superior civilization, but there is no evidence to indicate that it will give us a new philosophy of life. This is true because we are more than our minds, and our instincts are stronger than our reason.

What we need most right now is a balanced point of view with respect to our machine civilization which is being roundly criticized by the world at large. A few people overseas are commencing to grasp the truth that Europe and America represent two different civilizations that are highly competitive. One of these great peoples is destined to assume the leadership of the white race. Because of our greater use of mechanical devices the population of America has multiplied by twenty while that of Europe has tripled. We lack somewhat in the matter of a historical background, but we have established our life on economic foundations and forces that serve as a satisfactory substitute for Europe's political organism.

We have turned from romanticism to realism. In 1914 fiction was 40,000,000 copies out of 175,000,000 books printed. In 1925 fiction was only 30,000,000 out of nearly 425,000,000 copies. Here is proof positive that America has gone in for serious reading.

Only time will tell whether we have built up merely a society, or a sound nation having that unity of thought and ideals which is so essential to national cohesion. Many insist that our immigrants of this last generation would lose their attachment for their adopted country if material prosperity in the United States disappeared. Others say we are carrying the worship of business to an undesirable extreme—living so far beyond our means that we are



© Ewing Galloway

Looking Back to Johann Gutenberg's  
Fifteenth Century Printshop.

compelled to concentrate unduly upon the job of gathering in the dollars.

We have developed our unmatched resources so rapidly and built up our great industries in such a hurry that it is only natural some of our institutions lack permanency of character. We cannot expect to keep up the present acceleration of business growth in America indefinitely. A protective tariff cannot forever safeguard our standard of life on a level far higher than that of other nations, unless we are willing to let down the bars and go back to the old plan of unrestricted immigration.

Our exercise of ingenuity in the field of imitation has reached a point where we must consider the matter with great care. Some of our modern buildings are now being constructed almost entirely of substitute materials. Things that look like stone, timber, tile and brick are merely imitations made of waste products. Some of these products are highly useful and desirable, but others represent only an excuse for stock-selling promotional schemes. Durable and serviceable synthetic materials are to be highly commended so long as they do not make price alone the paramount issue and become mere tools in the hands of irresponsible speculative interests.

It will do us no harm to see ourselves as others see us. Over-confidence is no less a danger than is a complete lack of self-assurance. America is richer than any nation ever was before. Our standards of living are above those of any period in the past. Waste of effort and material has been greatly reduced. But new conditions bring new problems, and it is pertinent to inquire whether with our acquisition of wealth we have also acquired the necessary discipline.

The careless flinging about of money by bootleggers, gunmen, gamblers and the nouveau riche quickly develops a public viewpoint that leads to crime and the exercise of offensive human traits. But these people do not represent nearly as great a threat today as does the system of high-powered salesmanship now being built up by so-called big business. There is cause for apprehension in the comparatively new notion that every available dollar we get must be spent immediately for something or other so that we may go ahead with our rapid expansion of trade. Here is an unproved philosophy that may end in depriving us of freedom of thought and action.

Our present plan of forced distribution is aimed to create a keen desire to buy, even if the consumer does not actually need the article. Sensible economy in many places is subjected to ridicule. False pride has become a common characteristic of our population clear on down to the child in the public school. So effectively has this policy been carried out that one must have moral courage to wear last season's hat or drive a car two years old.

As a result our record-breaking salaries and wages are insufficient. We find it difficult to deny the charge of our critics that we have made poverty of wealth. The family with an income of \$5,000 lives on a \$6,000 scale. Driven deep in our minds is the thought that we are not playing

fair with some other fellow if we wear out an article. The practice of installment selling has been given authoritative approval, but no mention was made of the added strain and worry which result from the constant pressure of bills overdue. We have been made part of an economic scheme that compels us to buy more than we can afford, and that threatens dire calamity if we refuse to co-operate in a sales program that draws no line between luxuries and necessities and that regards high wages as merely an important essential in the expansion of home markets.

We must free ourselves of the baneful influence of illogical extremists. We must note that American industry still lacks uniformity and that poverty surrounds us on every side. Science has served us so well in the conduct of business that we are disinclined to turn our attention to the betterment of conditions in the fields where human nature itself is a factor of prime importance.

Every human consideration must not be subordinated to that of the machine. The pathway from poverty to power must be kept open. We are far from any social Utopia so long as we have unemployment and so long as the annual bill of the American taxpayer continues to increase at the rate of a billion dollars a year in spite of the economies of a careful and conservative administration. Due largely to dishonesty and laxity in state and municipal expenditure, it is a startling fact that every wage earner, salaried worker or professional man in the United States with a family of four dependent upon him has to find \$500 for the tax collector before he starts to meet the ordinary necessities of life, to say nothing of providing reasonable comfort and a few minor luxuries.

We are pursuing a fallacy when we try to hold to the notion that our advance can go on continuously in a straight line. We will not be able to climb to higher levels by merely increasing the dimensions of what we have and at the same time stimulating consumption. Our civilization will continue to be lopsided until science temporarily slows up on the construction of more and greater machines and the expansion of present production facilities, and gives a bit of attention to reshaping human nature so it will fit our highly automatized era.

A great many of our business men figure that it is more economical to pay an annual tax of several hundred dollars to cover their share of the cost of crime and corruption than it is to give a number of days of valuable time to the work of bettering the situation. This is why government in America has been turned over so largely to incompetents. Is wealth to be created in our country only for the purpose of having street-cleaning departments and hundreds of their counterparts in our civic life squander millions of dollars without any display of conscience or any exercise of personal responsibility?

Have we been caught up in a system of industrial development that will bind us to slavery in a narrow life instead of opening the way to the wider freedom we hear so much about? Maybe our overseas critics are right.



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**Modern Printing Machines, Spokesmen of Efficiency and Speed.**



# Twin Office Building in Memphis

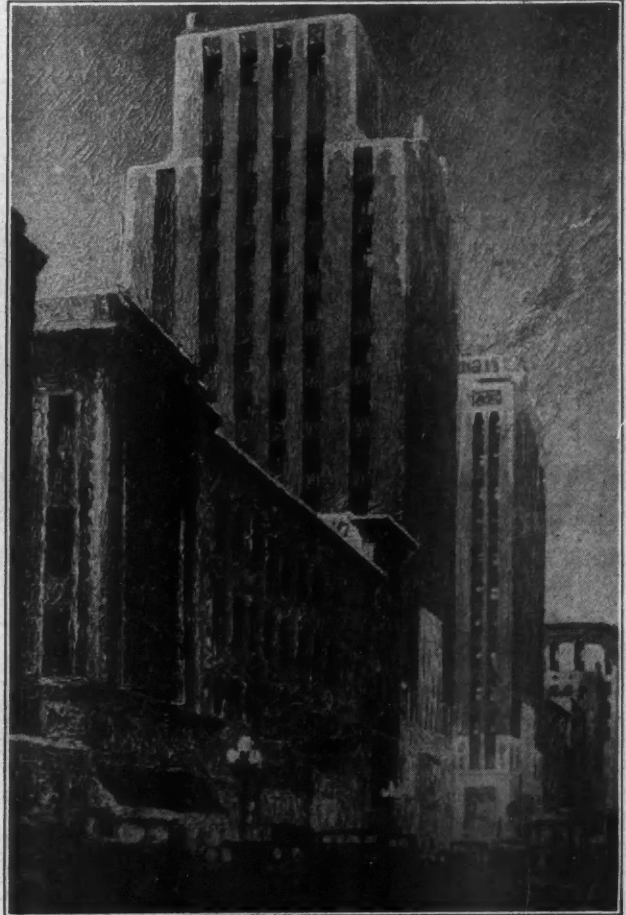
First of Two Identical Structure, to Stand on Opposite Corners Has Been Completed

E. L. HARRISON, Architect and Engineer

**M**EMPHIS, Tenn., is carrying out an innovation in office building construction. Twin structures are to face each other on Main Street and Union Avenue. The first of the two, known as the Farnsworth Building, was completed recently at a cost of \$600,000. It is located on the northwest corner of Union Avenue and Main Street. The twin building will be erected on the southwest corner at a cost of another \$600,000. The owners plan to duplicate the present Farnsworth Building in every detail in the twin structure.

The Farnsworth Building, a 12-story structure, was built throughout by Memphis contractors. E. L. Harrison, Union & Planters Bank Building, was the architect and engineer. All structural steel in the building was fabricated and erected by the Pidgeon-Thomas Iron Company, twenty-five days being the erection time. The H. J. Gilbertson Company was the general contractor.

The building is designed along modern American set-back architectural lines. A special feature is the shading of the face brick from dark brown at the bottom to light buff at the top. The trim is terra cotta and limestone. The window casements and frames are of steel. Floors throughout



An Architect's Perspective, Showing the Twin Buildings as They Will Appear When the Present Farnsworth Building Has Been Duplicated on the Opposite Corner.



The Present, Recently Completely Farnsworth Building, a 12-Story Office Building in the Business District of Memphis, Tenn. E. L. Harrison, of Memphis, Was the Architect and Engineer.

the building are of terrazzo—in fact all of the equipment is of the finest type available.

Some of the special features of the building are underground ventilation shaft from basement to elevator shaft; special hydraulic freight elevator to carry freight and furniture from sidewalk to special runway in basement leading to elevators so that none will be moved in main corridor.

The main lobby is veined gray Tennessee marble to the ceiling, trimmed with green and black marble. The front revolving door is gold bronze.

A noteworthy feature of the engineering design is the extra long span construction. Contractors started work January 1, 1927, and finished October 1, 1927. Owing to the short time available and the congested corner, ready mixed concrete was used throughout. All concrete tested from 2,200 to 2,800 pounds, the highest compression being required for the large floor panels in center of building, which were 15 by 30 feet each.

The foundations are of the spread type, with cantilever footings under north line of columns. The ground is of sandy clay, testing satisfactorily for 5,000 pounds per foot, the calculated load.

The building was designed by the architect to resist a wind velocity of 120 miles per hour, figured against twisting as well as straight gales.

# The Church Beautiful

Saint James Church is an Exact Design of the Early Tudor Period

SCHMIDT, BOUCHER & OVEREND, Architects



One of the Few Churches of This Country, Copied After a Standard European Style, in which Has Been Maintained the Finer Points of the Pure Architectural Design from Which It Was Taken.

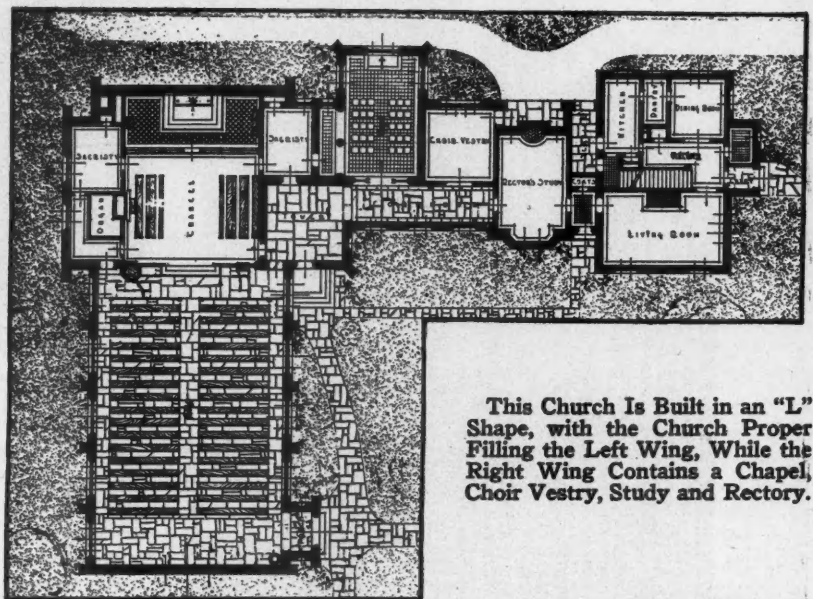
**C**HURCHES of the present time have lost much in architectural beauty since the greater number are vague copies of standard European styles which have missed in the transitional stage the finer points of pure architectural design, but instead have modified and mixed the different types until a conglomeration of these have been brought into use in a single church building. It is rarely that one sees a European church type used in this country that has faithfully maintained the fundamental architectural form.

Beauty, artistic arrangement, finesse of detail, strength of architectural line with strict adherence to the period style used were the pronounced points achieved in the building of Saint James Episcopal Church, Wichita, Kan.

The church is of early Tudor period architecture (about 1490). Built in L shape of cream-colored native Kansas stone laid in random-ashlar style, it is relieved on the right wing by the use of English half timber effect, while the roof is of deep blue Pennsylvania slate of iridescent tinting. The church proper fills the left wing and faces to the east. While the exterior of the church is of rough chipped stone, the interior walls are of the same stone, rough diamond sawed, thus giving it character of surface. No plaster finish is used in the church interior.

The flooring of the nave is of slate flagging in dull light maroon, green and purple shades in perfect harmonic agreement with the leaded glass windows. The ceiling of the church proper which follows the roof line is spanned by heavy trussed oak beams placed 16 inches apart, while a rough textured fiber board was used as a background material. At the base of each beam is a shield which carries a heraldic design depicting the history of the church, while each of the 12 window groups portray one of the successive events in the life of Christ.

Just below the stained oak beams of the chancel a space



This Church Is Built in an "L" Shape, with the Church Proper Filling the Left Wing, While the Right Wing Contains a Chapel, Choir Vestry, Study and Rectory.

7 feet in height has been left for a mural decoration of Biblical theme which will fill the wall length on both sides.

The two organ chambers are built on either side of the chancel. The pipe-organ has two consoles, one of which is in the chancel and connects with both the great organ and the echo organ, while the other console is placed in the "Chapel of the Holy Innocents" and connects with the echo organ only.

So perfectly have the acoustics been worked out that an ordinary speaking voice used in the chancel may be heard with perfect distinctness at the farthest point in the rear of the church without the use of amplifiers.

Connecting with the church proper and running the length of the right wing is the "Battle Cloister," solid oak panelled and beamed and with maroon mission tiled floor. It was named from the four sets of stained glass windows commemorating the great wars of this country.

Just off the church proper and with entrance from the



Running the Entire Length of the Right Wing of Saint James Church Is the "Battle Cloister," Oak Panelled and Beamed and Tile Floored, Which Takes Its Name from Four Sets of Stained Glass Windows, Commemorating the Great Wars of This Country.

cloister is the "Chapel of the Holy Innocents." Cathedral beamed and with cream stone walls, maroon tiled floor and carved oak altar in which is set a large oil painting of Rafael's "Madonna and Child," this chapel is impressive with its peace, loveliness and dignity. While built primarily for a children's church, it is also used as a mortuary chapel. The echo organ is played from the console here.

Unique in the lantern pattern used, yet typifying "the Light of the World," are the magnificent chandeliers and side lighting fixtures. These, along with the door pulls and strap hinges, are all hand wrought iron in the antique rust finish.

The grape design, symbolic of the church, has been used as a decorative motif on all the lighting fixtures as well as on the altar and in the beautiful chiseled banding which appears just below the beams on the stone walls of the nave. Here again the thematic line has been given very careful consideration, for in the use of the grape design is carried out the Biblical thought, "I am the vine, ye are the branches," etc.

No substitute materials have been used in any way in the erection of this church. Pure copper has been used wherever a sheet metal was necessary.

A strictly modern basement in which is the automatic furnace, two large kitchens adjoining a banquet room, which may also be used for Sunday school purposes, is below the ground surface. Yet so complete is the ventilating system that a wide current of air is in circulation at all times.

Both the rector of Saint James Episcopal Church and H. G. Overend, the architect, spent much time in the study of European church architecture during the World War and following it, especially the early Episcopal churches of England. Four years were given to perfecting the plans of Saint James Church before the building began that it might be exact in the most minute detail.

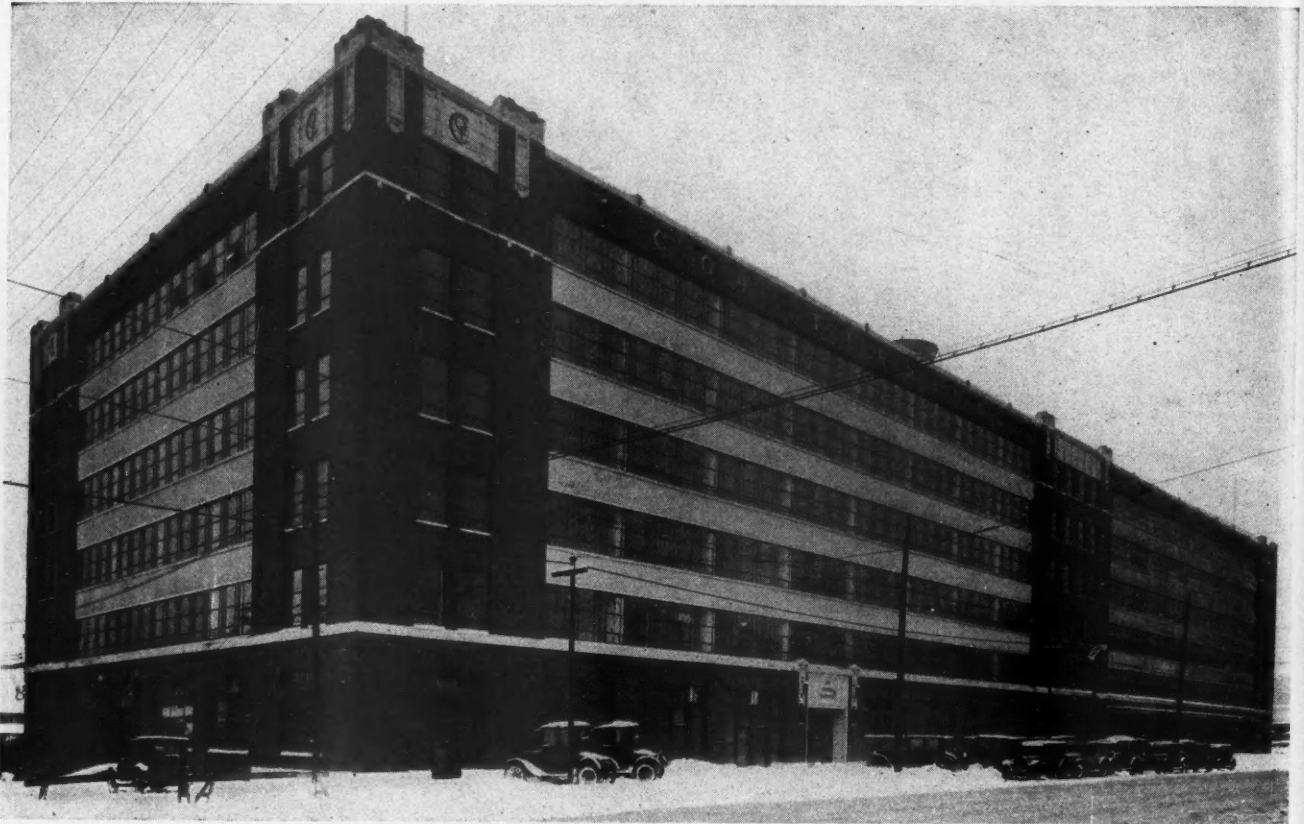
No memorials in the way of windows, etc., are accepted for this church without the approval of the rector and the architect, thus insuring against any conglomerate mass of unharmonizing material for furnishing.

N. E. CALHOUN.

# Coe Terminal Warehouse Offers Unusual Facilities

A Combination Office, Display and Warehouse Building

S. SCOTT JOY, Architect

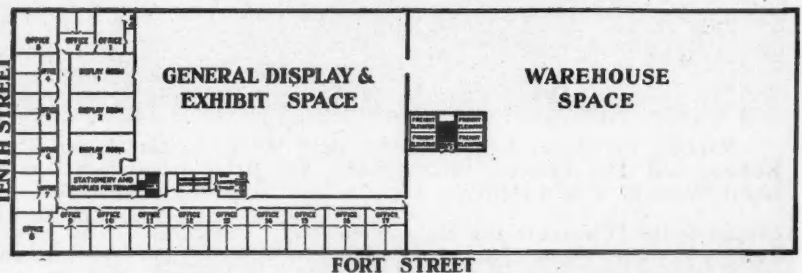


This Modern Warehouse Is Not Only Designed to Offer Unusual Service to Its Tenants, but Also to Add to the Appearance of Its Locality, and Is Thus Typical of the New Idea in Commercial and Industrial Architecture. It was designed by S. Scott Joy, architect, of Chicago.

SEVERAL unique services offered by the new \$1,205,000 Coe Terminal Warehouse at Detroit, Mich., stamp it as the last word in warehouse construction and operation.

The site is in a strategic location, on the main line of the Michigan Central Railroad with a private siding whose capacity is 28 cars and in the heart of the wholesale and jobbing district.

The building is 405 feet long and 150 feet wide and consists of six stories and basement. It is of reinforced concrete, thoroughly fireproof, with deep red face brick, handsome white terra cotta trimmings, and windows of plate glass. The basement is on a freight car level, which makes it possible to receive incoming merchandise with the greatest convenience. Outbound merchandise is delivered at wagon bed level on the Fort Street side. A large covered unloading platform having a capacity of seven cars at one setting furnishes ideal facilities for pool car distribution. The building is completely equipped with sprinkler systems and night watch service is maintained so that the danger of losses is minimized and low insurance rates secured. The window frames are of metal, giving 10 per cent more light. All windows have specially designed ventilators which assure perfect



A Typical Floor Plan Showing How Each Tenant of This Modern Warehouse Building Can Have Office, Display and Warehouse Space All on the Same Floor.

ventilation and operate so easily that a finger pressure on the side is sufficient to raise or lower them. Their construction eliminates draft, while providing for a constant circulation of air.

The entrance is finished in white terra cotta flanked on either side by rich red face brick.

The ground floor contains a bank, telegraph office, cigar store, barber shop, restaurant and sandwich shop, and the general offices of the building. These features make the building practically self-contained, enabling those who use its facilities to have at hand complete service for meeting their daily needs and transacting their business quickly and efficiently.

H. L. SPOONER.

# Hinsdale War Memorial to be Fine Municipal Building

EDWIN H. CLARK, CHICAGO, Architect

**H**INSDALE'S War Memorial takes the very practical form of a combined community and municipal building, the funds for which were raised by popular subscription among the citizens of this high class Chicago suburb.

As shown by the architect's perspective drawing, the design of the building takes its inspiration from the best American tradition—the Colonial. Five leading architects were asked to submit plans and Mr. Clark's design was selected as being the most suitable. The first prize was \$300, with second and third prizes of \$150 and \$100, respectively. The jury was composed of Hinsdale citizens, including two local architects, the contest being conducted under the rules of the American Institute of Architects. When the jury examined the drawings, they were unsigned and unidentified.

Mr. Clark, the successful architect, has a national reputation and is the designer of the new Administration Building, the Aquarium Building in Lincoln Park, Chicago, and other public buildings. He, at present, holds a commission from the Cook County Board to design the building of the new zoological gardens to be erected in the Forest Preserve near Riverside, Illinois.

The Hinsdale Memorial Building is to be of fireproof construction throughout, with exterior walls of red colonial face brick, trimmed with Indiana stone and having a slate roof.

The building will cost approximately \$150,000 and will stand on the beautiful hill which rises from Chicago Avenue to Maple Street and is flanked by Garfield Avenue and Wash-

ington Street. It will house the village offices, a library, memorial hall and club rooms for the American Legion and Boy and Girl Scouts. The village is to have title to the site and will maintain the building, after completion.

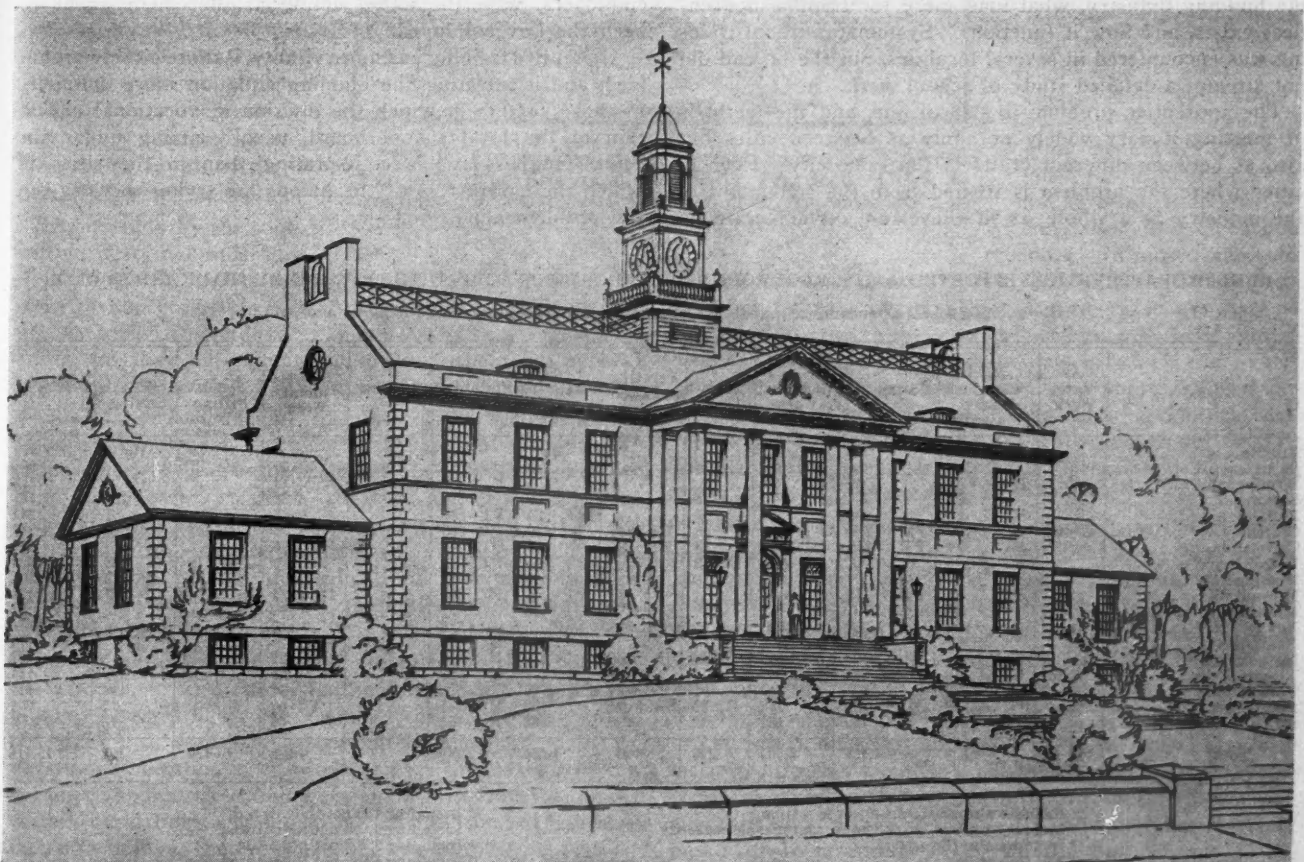
Vice-President Dawes warmly endorsed the memorial project in a letter addressed to Mr. Philip R. Clarke, chairman of the Hinsdale Memorial Committee. In this letter he stated:

"I am glad to know of the decision of the Village of Hinsdale to erect a community building as a war memorial.

"It would seem to me that the citizens of Hinsdale could not more worthily honor those who went out from the village to serve in the world war than through the erection of a building designed to serve the community. A memorial built for useful purposes, as well as to honor those in whose name it is erected, is doubly valuable. I wish the citizens of Hinsdale well in achievement of the goal they have set."

The money required for this enterprise was raised in a drive for funds which created great local interest, as \$150,000 is a lot of money to raise in a town of 6,000 people. There were band concerts, parades, public meetings and addresses by prominent citizens. The village was divided into ten districts for canvassing purposes and popular subscriptions were taken by 150 campaign committeemen. Subscriptions went over the top on the day set for closing the campaign.

Prominent citizens are serving on the building committee, including Mr. Philip R. Clarke, general chairman; S. F. Beatty, vice-chairman, and Walter M. Sheldon, secretary.



Architect's Drawing Which Shows the New War Memorial Building Now Under Construction in Hinsdale, Illinois. This is the winning design out of five submitted under A. I. A. contest rules. The building is to be a combined community and municipal building and will cost \$150,000. It is to be of fireproof construction throughout.

# APPRENTICESHIP In Building Construction



What An Investigation, by the Bureau of Labor Statistics, of the United States Department of Labor, Has shown is Being Done to Train Building Mechanics

**T**HE Bureau of Labor Statistics, of the United States Department of Labor, has made an investigation in 19 cities to determine to what extent apprenticeship is a factor in the building industry, and what effect the growing agitation for a revival of the apprentice system is having. The full results of the study have just been published and the bureau has made the following summary of the facts disclosed:

The bureau limited its study to actual apprenticeship, that is, actual contract, or some equivalent obligation extending over a stipulated period of years, by which a boy is to learn and his employer is to teach one of the building crafts.

The accompanying table shows the crafts and the cities covered in the investigation, and the number of apprentices formally indentured, registered with the unions, or bound in some manner, for each city and each craft. Charleston, S. C., in which actual apprenticeship does not exist, is not included in the table. The letter E signifies that evening-school work is provided and, theoretically at least, required. The letters PT means that part-time school training is an integral part of the apprenticeship. The expression "part time" in all cases signifies compulsory day-school work on paid-for time.

The primary purpose of the investigation was to find out what is the present trend in producing new mechanics for the building industry, what machinery for training apprentices exists, and how it functions. Systematic school training was encountered in several localities, but the bureau did not attempt a detailed study of school work.

The apprentice problem is a local one, and the methods of meeting it vary widely not only as between cities but also as between different crafts in the same city. Even in cities where the problem is treated from the standpoint of the industry as a whole, as in Cleveland, certain crafts in

the industry may be acting independently of the general plan or may be doing nothing whatever. Any attempt to generalize must be complicated with exceptions and variations. Each city covered in the bureau's survey has its own problems and its own ways of meeting them, or, perhaps, of letting them alone, and is therefore treated separately in the bulletin.

### Organized Systems in Operation

While apprenticeship by formal indenture between employer and boy is not widely practiced, there is coming into use a system which amounts to the same thing. That is the joint apprenticeship committee system. These committees are composed of representatives of employers and of journeymen and, in some cases, the city school boards. Apprentices are under agreement with the committee to serve their full time and to abide by the laws of the committee, which on its part takes the responsibility of seeing that the boy has employment and proper opportunities for training throughout his apprenticeship.

Where joint committees do not operate, the union may serve the same purpose, the apprentice being in effect indentured to the local union and governed by the terms of the working agreement between the union and the employers, with the union acting as placement agent to keep the boy employed.

Apprentice training has more vitality, is more closely organized, and is affecting the building situation more definitely in those centers in which the division of vocational education of the local school board, usually acting under the Smith-Hughes law, is co-operating than in the cities in which the contractors or the unions are trying to work out the problem alone.

NUMBER OF APPRENTICES REPORTED, AND SCHOOL WORK REQUIRED IN CONNECTION WITH TRAINING, BY TRADE AND BY CITY

[E—Evening school attendance required. PT—Part-time day school attendance required and paid for]

City	Asbestos Work	Brick, Stone, and Marble Masonry	Carpentry	Electrical Work	Lathing	Painting and Decorating	Plastering	Plumbing	Roofing	Sheet-metal Work	Steam Fitting	Tile Setting	Total
Atlanta		E 143	2				(?)	12				(?)	57
Baltimore		E 150	38	22		8		PT 23		50			291
Birmingham		E 82	50	30		4	8	E 22		12		(?)	178
Boston		E 300	425			22		PT 24		58		21	1,141
Buffalo		E 120	24				PT 90	PT 45		18			231
Chicago	E 60	E 900	PT 600	PT 650	26	PT 260	400	PT 600	26	PT 75	PT 425	45	4,067
Cleveland		PT 227	PT 218	PT 109	35	PT 86	64	PT 143	6	PT 75			366
Detroit		PT 176		PT 243	PT 12		PT 65	PT 80			PT 18	25	622
Memphis		28		75			12	60			27	2	204
Milwaukee		PT 88	PT 10	4		30	PT 46	PT 204		PT 24			17
Minneapolis		48				30	24					10	423
Newark, N. J.		400	1,300	200		80	(?)	275		115			2,370
New Orleans			100				40	E 30					170
New York		E 4,000	E 4,400	E 4,600	100	E 366	577	E 94		E 300			6,127
Niagara Falls		E, PT 16	E, PT 25			8	E, PT 13	E 27		E 25			114
Philadelphia		230				PT 24	PT 80			E 30		40	614
Pittsburgh		PT 190	E 200	110	PT 25	12	150	PT 145		PT 60		12	904
St. Louis		E 180	160	150	12	90	62	E 125		E 60		16	1,855
<b>Total</b>	<b>60</b>	<b>11 4,838</b>	<b>12 4,452</b>	<b>13 3,503</b>	<b>213</b>	<b>14 990</b>	<b>1,655</b>	<b>15 2,110</b>	<b>32</b>	<b>16 902</b>	<b>17 470</b>	<b>191</b>	<b>18 19,416</b>

<sup>1</sup> Includes also plasterers and tile setters.  
<sup>2</sup> Included under "Brick, stone, and marble masonry."  
<sup>3</sup> Includes also tile setters.  
<sup>4</sup> Not indentured.  
<sup>5</sup> Including 98 not indentured.  
<sup>6</sup> Minneapolis and St. Paul.  
<sup>7</sup> Includes also plasterers. Night school students not indentured.  
<sup>8</sup> Night school students not indentured.  
<sup>9</sup> Including 4,000 not indentured.

<sup>10</sup> Including 150 not indentured.  
<sup>11</sup> Including 2,090 not indentured.  
<sup>12</sup> Including 2,700 not indentured.  
<sup>13</sup> Including 1,950 not indentured.  
<sup>14</sup> Including 80 not indentured.  
<sup>15</sup> Including 355 not indentured.  
<sup>16</sup> Including 115 not indentured.  
<sup>17</sup> Including 18 not indentured.  
<sup>18</sup> Including 7,308 not indentured.

Apprenticeship systems designed and organized to encompass the entire building industry are found only in four cities: Cleveland, Detroit, New York City, and Niagara Falls. In none of them does the plan actually include all of the building crafts, but the organization is such that it can be expanded to cover any additional craft when the craft itself takes the necessary steps. Joint apprentice committees for individual trades are effective agents in several cities, where they operate successfully without any centralized machinery. Cleveland is the outstanding instance of successful operation under the former plan, while Chicago illustrates the method of uncorrelated craft actions.

Because the Cleveland method contains all the elements of systematic apprentice training which the bureau's investigation has found in any city visited, it will, for purposes of analysis and comparison, be treated as a standard, deviations from which in other cities will be pointed out. As already noted, Cleveland has a system structurally so devised as to cover the building industry, but the foundation of the system is the separate crafts, each functioning through a joint committee of organized workers and organized employers. Co-operating with these committees, but not actually members of them, are the trade teachers and officials of the division of vocational education of the Cleveland public-school system. These joint apprentice committees are active working bodies, which meet regularly, monthly or oftener, and which are the controlling agency of their respective crafts in all matters pertaining to apprenticeship.

Upon action by the committee a formal indenture is made which binds employer and apprentice for the full term of apprenticeship. After the expiration of a probationary period an employer may not discharge an apprentice and a boy may not change employers without the consent of the committee after a hearing.

One of the fundamental doctrines of the system is continuous employment throughout the apprentice period, in order to keep the boy in the trade. If the contractor to whom a boy is indentured runs so short of work that he cannot keep him busy, a transfer to another contractor is effected through the trade committee until such time as the original employer can resume his obligation. Responsibility for carrying the boy through his apprenticeship remains with the original employer.

All apprentices in the trades coming under the Cleveland system must attend school four hours one day a week, or one day of eight hours every other week, at the time set by the division of vocational education. While the division of vocational education is only one component element in the organized apprentice-training system in Cleveland, it enforces certain regulations which are in fact the principal cohesive factor in holding the entire scheme together.

Niagara Falls and Detroit are the only other cities covered which show the same correlation between the public schools and the industry in the training of apprentices. In each of

these cities the director of vocational education is a member of each trade committee and is in effect the head of the apprentice system. The plan used in Niagara Falls is very much the same as Cleveland's, the only important difference, besides the one just mentioned, being the amount of time spent in school. First and second year boys must attend school eight hours a week—four hours in evening school on their own time and four hours Saturday morning on the employer's time; but pay for day-school work is contingent upon night-school attendance. Third and fourth year boys must attend night school four hours a week.

The system in both Cleveland and Niagara Falls depends for successful operation upon the co-operation of unions and employers and upon the active participation of the joint apprentice committees. In Detroit the trade committees are neither so active nor so interested, and formal indenture is made in only a few trades.

Apprenticeship in the building trades in Chicago depends solely on the initiative and diligence of the craft committees representing organized workers and organized employers. The school system is a receptive, not an active, agent in apprentice training. Contact between the apprentice classes and the trade is chiefly through coordinators employed by the committees and through the trade teachers. Formal indenture is practiced in all cases and in most trades control and regulation of apprenticeship through joint committees are provided for in the joint working agreements and include compulsory part-time school work. In most trades uni-

form control is assured by the provision that only those contractors who are members of their trade associations, and hence parties to the joint agreements, may have apprentices. This is not true of carpentry, in which trade there is neither a trade agreement nor a joint apprentice committee. In the plastering trade a once active apprentice committee has become moribund and part-time school training for plasterer apprentices has been discontinued because of general lack of interest.

Under the systems thus far discussed, when a craft participates at all it does so wholly. That is to say, all the apprentices in a given trade, with possibly an occasional exception in an open shop, are included in and regulated by whatever system is followed by that trade. Only a small percentage of the contractors may be involved, but such apprenticeship as exists comes under the unified control of the organized agency.

This situation does not exist in New York, in which an apprenticeship commission, founded and fostered by the New York Building Congress, is the medium for promoting apprenticeship in the industry. The commission is composed of representatives of the Building Congress, the Building Trades Employers' Association, and those building trades unions which are identified with it. Participation in the work of the commission on the part of the unions is



"While Apprenticeship by Formal Indenture Between Employer and Boy Is Not Widely Practiced, There Is Coming Into Use a System Which Amounts to the Same Thing."

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determined by each local union of each craft. No craft in the city is identified with the commission plan to the extent of having all its local unions co-operating.

Structurally the New York Apprenticeship Commission is composed of apprentice committees of the component trades. Functionally the trade committees are weak and inactive, and the vital agency is not the craft organization but the superstructure representing the industry. The commission has no power and the trade committees exercise none. There is no formal indenture except in painting, no provision for continuous employment and no machinery for assuring it, and no part-time school training. The commission is the point of contact between the school system and those apprentices coming under the jurisdiction of the commission who are attending the night-school classes provided, either voluntarily or because of whatever pressure may be brought to bear upon them. Further than that, and its efforts to promote and encourage apprenticeship, the organized machinery in New York does not go.

One craft which is not a part of the apprenticeship commission has a joint apprenticeship committee composed of two representatives of the union and two of the contractors' association and exercises complete control over apprenticeship in the trade, that of sheet-metal work. Apprentices are formally indentured, continuous employment is assured, and attendance at night school four hours a week is compulsory.

The New York Apprenticeship Committee system furnished the pattern on which the Boston Building Congress built its joint apprenticeship commission in 1923. As in New York, the sheet-metal trade remained outside and regulated its own apprentice system through its joint trade committee under its working agreement.

The Boston commission depended upon craft committees for all activities relating to apprentice regulations and control, including the enforcement of school attendance, while it undertook to secure continuity of employment and school training. Indenture was not stressed. The tendency of the craft committees, however, was to become increasingly less active and to place more and more of the burden of carrying out the program on the officers of the commission. Founded as it was on craft support, when the craft support was completely withdrawn the superstructure collapsed and the Boston Apprenticeship Commission passed out of existence four years after its establishment. Apprentice classes in the city trade school have since been discontinued for want of pupils, since no compulsion has ever been exercised.

Joint apprentice committees composed of representatives of organized employers and organized journeymen are effectively controlling apprenticeship in some trades in cities in which real apprenticeship is perhaps not followed in any other trade. The steam-fitting trade in Memphis, Tenn., is a case in point. The plumbing trade in Pitts-

burgh is another illustration of successful prosecution of an apprentice system by a committee composed not alone of employers and journeymen, but also of materialmen and the school board.

Apprenticeship in Milwaukee is controlled by law and regulated by the apprentice department of the Wisconsin Industrial Commission. Newark, N. J., has an educational movement under the Smith-Hughes law which involves trade training but which is not actual apprenticeship in an industrial sense. It seems, nevertheless, to be working out to essentially the same ends, although it is extremely doubtful if the large number of boys reported by the various crafts as being in training both on the job and in school will complete their training and be absorbed into the industry.

Elsewhere in the field covered by the bureau nothing was found which could be considered a definite organization working toward a definite end.

### Supply of Trainees

The cry that "boys won't go into the trades" is not borne out by the investigation. On the contrary, it is quite apparent that the dearth of apprentices in the building trades is not due to a dearth of boys interested in entering those trades. The unions everywhere reported long waiting lists of applicants for apprenticeships, and joint committees agree that the problem does not lie in finding material to train.

Because of the limited opportunities for placing boys with contractors as apprentices, some unions, where they are sufficiently in control, make a practice of confining apprenticeships to the sons and other relatives of the men in the

trade. This is especially true in bricklaying and plastering. It is frequently asserted that a boy has no chance to become a bricklayer unless his father is in the trade either as contractor or journeyman, and in a number of cases that is quite true. It has been true also in plumbing in some localities. The Chicago master plumbers have broken up the practice, followed there for years, of granting apprenticeships only to sons of the men in the trade. In Pittsburgh the working agreement in the electrical trade provides that the employer shall select the apprentice one year and the union the next year, and it is tacitly understood that the union may select only sons of journeymen if it chooses to do so.

The building trades unions in St. Louis have a very definite policy of "keeping the trade in the family" and enforce it to such an extent that one contractor declared that "a boy has as good a chance to get into West Point as into the building trades unless his father or his uncle is a building craftsman."

### Apprentice Quotas

In practical application, union regulations governing the ratio of apprentices to journeymen prove to be far less a deterring factor in apprentice training than is commonly assumed. Where the highly developed systems prevail



"The Apprentice Problem Is a Local One and the Methods of Meeting It Vary Widely, Not Only Between Cities, but Also as Between Crafts in the Same City."



union regulations are apt to be abrogated entirely and the whole question of a quota is handled by the joint committee on the basis of the number of apprentices the trade can support in continuous employment.

Where the method is more desultory the union quota is not an issue for the reason that relatively few contractors have any apprentices at all and certainly have no disposition to take on more than the union agreement permits.

If union regulations were in fact responsible for restricting opportunities for apprentices, one would expect to find greater development in open-shop centers. Actually, however, it is much harder to find an apprentice in an open than in a closed shop. Only three open-shop contractors were encountered in the course of the investigation who had more apprentices than they would have been granted under union agreement.

**Attitude of Contractors**

Those most closely in touch with the situation—school authorities, members of apprenticeship committees, and contractors who are co-operating in the effort to the limit of their ability—do not hesitate to declare that the individual contractor is chiefly responsible for the shortage of apprentices and the absence of a training system. Short-sightedness, indifference, and selfishness are the charges brought against their colleagues by the contractors who are carrying the load of apprentice training for the industry.

It is conceded that the provision for continuous employment, the one element which is vitally necessary to keep the boy, is the greatest stumbling-block in the path of the contractor doing a small, or even a moderately large, business. Accordingly it is the opinion of some of the men in the industry that the problem of seasonal building will have to be met before an effective apprentice system can be evolved.

**Attitude of Unions**

As a rule, trade organizations, both of employers and of journeymen, have at least an appreciation of the needs of their respective trades in regard to apprentice training, even though they may be doing nothing constructive to promote it. And while there are exceptions, taken as a whole it is where union organization is strongest that apprentice systems function most effectively. Local unions were found here and there which definitely oppose apprenticeship, but more instances occur in which the unions are doing all that is being done to provide new mechanics. In one "closed-shop" center, on the other hand, not only strict limitations as to the number of apprentices, but dictation as to who may become apprenticed are enforced by unions strong enough to impose them upon employers. Instances of wage scale so high that few contractors can afford to pay them to learners suggest restriction by a method more indirect and probably more effective than the ratio system.

Speaking of the attitude of both contractors and unions

on the question, a prominent architect of New York who was instrumental in establishing the apprenticeship commission of the New York Building Congress, said:

"Recriminations flew thick and fast between the contractors and the labor men when we first tried to get together on a program, each side blaming the other for conditions. But that isn't going to solve the apprentice problem, and so far as I can see into the situation, both sides are tarred with the same stick."

**Training on the Job**

While it is generally admitted that an apprentice is at best a financial liability for the first year, and often longer than that, it is not that phase of the problem which is objected to so much as it is the added difficulties on the job when an apprentice is taken on. The expression most frequently

used by contractors is that they "can't be bothered with boys." Rapid building makes training on the job not only unprofitable but well-nigh impossible. Employers and journeymen agree that it is simply not possible to carry out any real program of teaching on the job. To this school authorities and lay opinion, equally interested, but not so directly involved, add that whether possible or not, there certainly is no training on the job. The boy merely "rubs off" what he can while he is working with journeymen, and where school work is part of his training the school is expected to supply, in a few hours a week, the technical and mechanical knowledge which the job cannot, or at any rate does not, provide. One authority made the unequivocal declaration that



"The Cry That 'Boys Won't Go Into the Trades' Is Not Borne Out by the Investigation. The unions everywhere reported long waiting lists of applicants for apprenticeships."

"there simply is no such thing as training apprentices on the building."

**National Programs**

As already stated, apprentice problems and methods of dealing with them vary widely in different localities and crafts, and in the various crafts in the same locality. At the same time a few craft organizations have definite national programs which are of fairly wide application.

**Tile Setting**

The most thoroughly organized machinery for apprentice training in the entire building industry is that of the tile trade. A concerted program with fixed rules has been drawn up, and in all the cities visited in which apprentices are being trained for the trade, that program is followed, except in the jurisdiction of the New York tile setters' union.

A national agreement between the Tile and Mantel Contractors' Association and the Bricklayers', Masons', and Plasterers' International Union covers "general rules and regulations governing the employment, training, and instruction of apprentices for the tile and mantel industry," and provides machinery for carrying out the terms of the agree-

ment through the joint arbitration boards of the local contractors' associations and the local unions.

Besides urging at least a minimum of technical school training for all apprentices, and providing for six months' credit on the apprenticeship term for three months' intensive trade school work, the industry supports its own trade school. The National School for Tile Setters, at Dunwoody Industrial Institute in Minneapolis, is operated jointly by the Tile and Mantel Contractors' Association and the Associated Tile Manufacturers.

The course of study has been worked out by representatives of the two associations and the teachers, both of whom are practical craftsmen, with the help of an educational adviser. An intensive course of 13 weeks' duration covers "all basic operations in tile setting," and related work in blue-print reading, drawing, and mathematics. Classes are limited to 20 students in each 13-week term. Students are apprenticed tile setters who are sent to the school by their employers. All of the operating expenses of the school, transportation of the students to and from Minneapolis, and an allowance of \$6 weekly to each boy, are paid by the Associated Tile Manufacturers and the Tile and Mantel Contractors' Association. Living expenses in addition to the \$6 allowance are generally met by the employer to whom the boy is indentured. Whether or not a contractor makes use of the school is left to his own discretion.

### Marble Setting

Apprenticeship in marble setting follows substantially the same system as that in tile setting, under a national agreement between the National Association of Marble Dealers and the Bricklayers, Masons and Plasterers' International Union. The marble dealers operate a school in Knoxville, Tenn., which gives a three months' intensive preliminary course of training similar to that at Dunwoody.

### Plumbing

The National Association of Master Plumbers has an apprentice committee which is the medium for active propaganda for the establishment of a uniform apprentice system in the heating and plumbing trades. "The problem of creating trained workers," the association declares, "is essentially an employer's problem. The training of apprentices is a duty no employer can conscientiously escape." The objective of the committee is declared in its slogan, "At least one apprentice in each shop."

This is entirely a movement of master plumbers, in which the journeymen plumbers' union as a national organization has taken no part. Locally, the plumbers' union is co-operating in some cases and opposing the program in others. However, the plumbers' union is exclusively a journeyman organization, attempting no control of apprenticeship beyond a fixed training period and the number of boys allowed in union shops. Hence the master plumbers have a fairly free hand in formulating an apprentice program. As a matter of fact, the employment and training of apprentices are

more apt to be the practice in open shops than in union shops, and it frequently happens that the master plumbers who are most active in promoting the program advocated by the national association are the open-shop men. St. Louis and Birmingham are cases in point. Except in Chicago, Cleveland and Pittsburgh, the school-training program is promoted wholly by the master plumbers without co-operation from the union. In some instances master plumbers are running the apprentice classes without help from either the unions or the local school boards. In Birmingham they meet all the expenses of their plumbing school, and in St. Louis they pay the boys' tuition in a private trade school.

In most of the cities visited the master plumbers are making some effort to promote an apprentice system and to produce qualified mechanics. This does not apply to Atlanta, New York City, Niagara Falls, or Minneapolis. In New York and Niagara Falls what little is being done to encourage apprenticeship and school training is the work of the unions and not of the employers. Master plumbers of Minneapolis started an ambitious program a few years ago but it was short-lived.

Systems in which organized plumbing employers, organized journeymen, and the school boards are co-operating are in force in Chicago, Cleveland and Pittsburgh, and are among the really effective apprentice plans in present operation. Part-time day-school courses on paid-for time, either for all or for part of the apprentice term, are found in Baltimore, Buffalo, Detroit and Milwaukee, as well as in the three cities just mentioned.

Three cities, by joint action of employers and journeymen, have substituted a well-developed apprenticeship for the "helper" system in steam fitting. In Chicago and Detroit part-time school training is given. In Memphis, while night-school work is available, it does not constitute part of the apprentice-training program, as in the other two cities. Elsewhere the custom of one helper to a fitter is practiced, although some effort is being made in Philadelphia and St. Louis to institute apprenticeship.

### Bricklaying

The bricklaying trade presents a contrast to the plumbing trade, in which it is the employers who are interested and active in promoting apprenticeship and the unions which, on the whole are indifferent or openly hostile. The indenture of apprentices is the policy and the practice of the Bricklayers', Masons' and Plasterers' International Union, a practice in which contractors, by and large, merely acquiesce. Apprenticeship of bricklayers by indenture exists in some degree in nearly every city visited. In fact, the opinion was freely expressed in several cities, not only by union officials but by representatives of building-trades employers' associations and by individual contractors, that apprenticing to the bricklaying trade is being decidedly overdone. Apprentice bricklayers are in the majority of cases sons of journeymen bricklayers.

National control is felt most effectively in the mat-

(Continued to page 126)

## FREE INFORMATION SERVICE

for

## Home Planners and Home Builders

THE ColorKeed Home Plans presented in this magazine have many special points of excellence which are of particular importance and timeliness to those of our readers who right now are facing the home building question—with its joys and its problems.

We illustrate these home designs and show the room arrangements, but our space for description is so limited that we are not able to cover all points. We know there is much additional information desired by subscribers about to build, which would be very valuable to them. Since we have all data pertaining to these ColorKeed Homes we are glad to offer our readers a free service of information, whether questions pertain to the estimated cost, the method of construction, suitable materials to use, special equipment or features, or any other information whatsoever.

Limited space in the magazine prevents publishing all this information; but if you will write AMERICAN BUILDER Home Planning Service, 1827 Prairie Ave., Chicago, we will be very glad to give you direct by mail any information desired.

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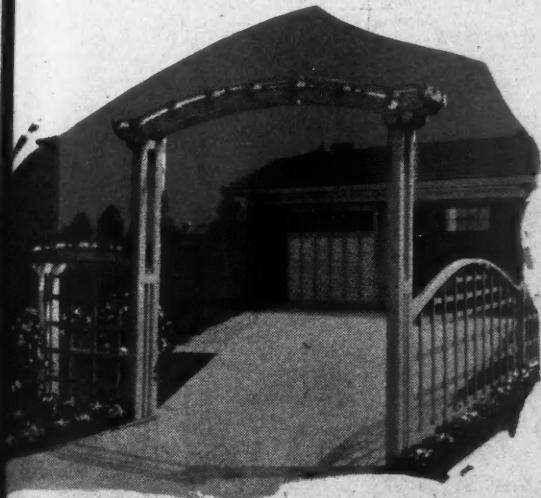
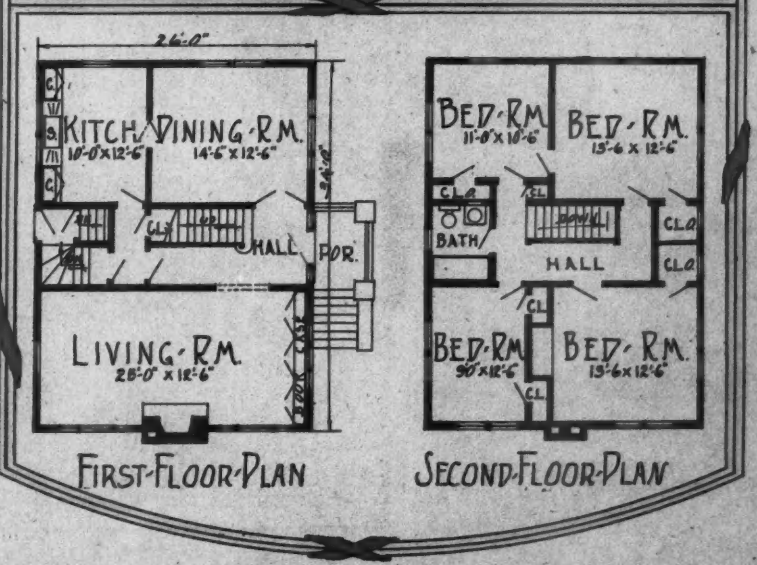
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# The ORIOLE

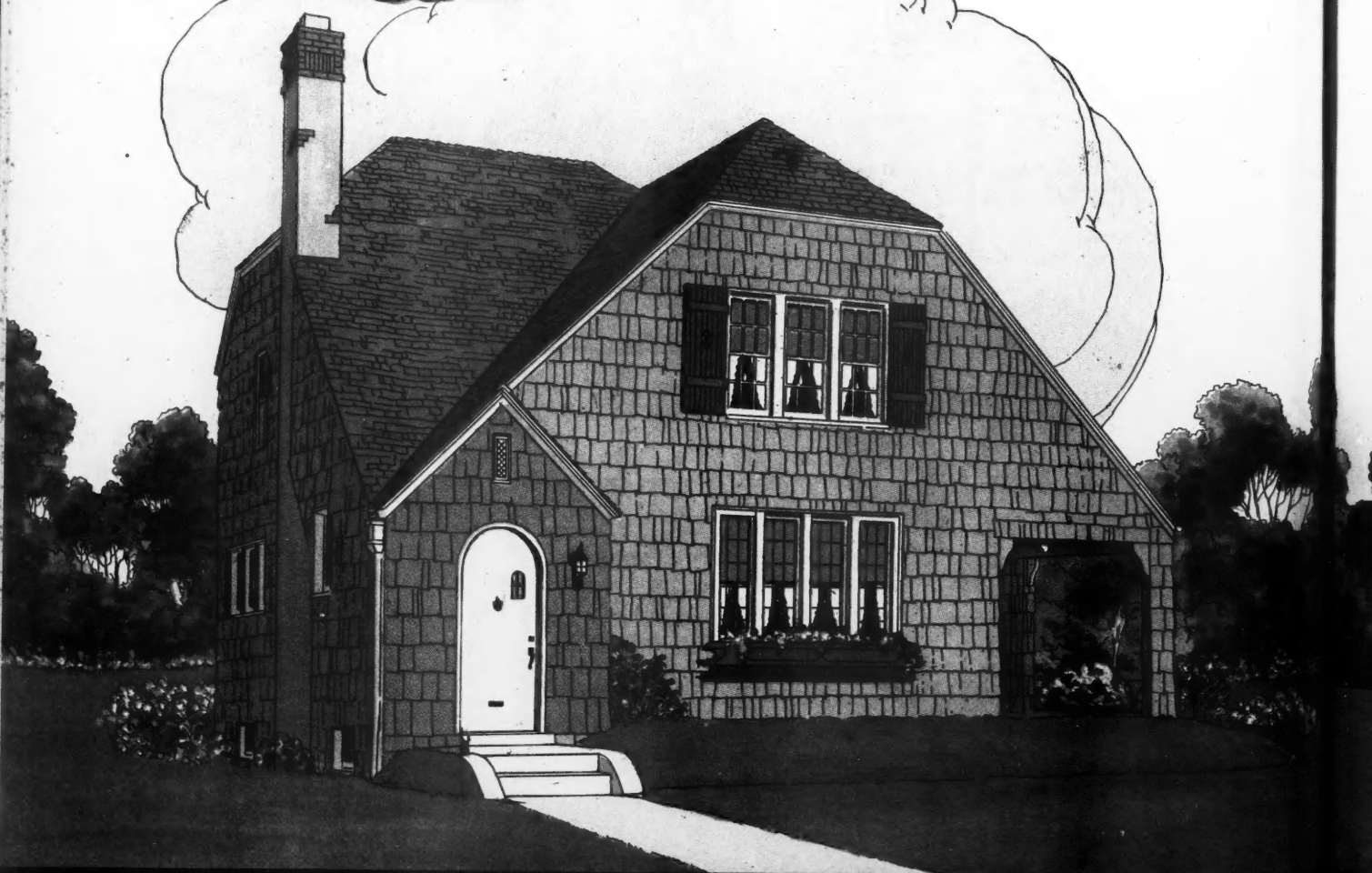
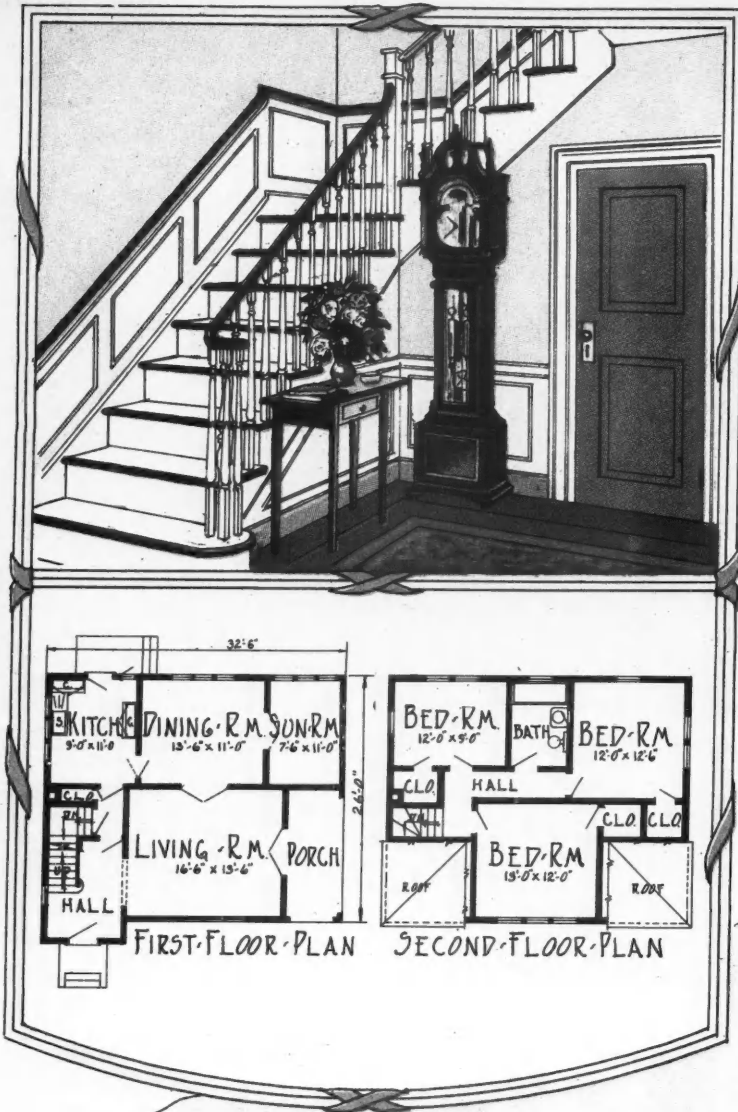
THE Dutch Colonial home with its quaint gambrel roof has a great attraction for many. This example has been planned most happily, as a study of the floor plan will show. The color sketch just above the plan suggests attractive furnishings for one of the bedrooms.

Copyright, 1928, by William A. Radford, New York and Chicago.  
Pat. March 15, 1921, and Sept. 30, 1924.  
ColorKeeD Plan Patented April 19, 1927.



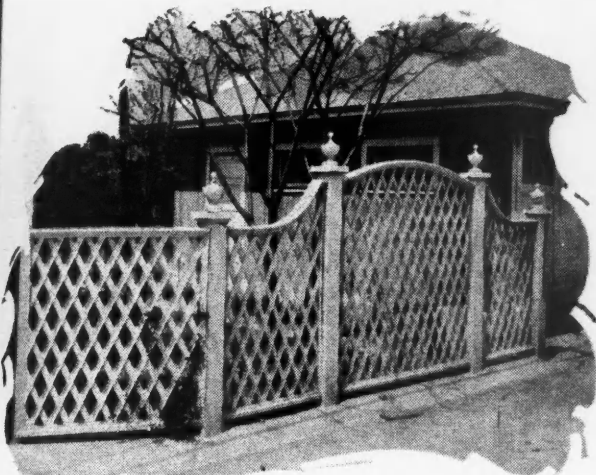
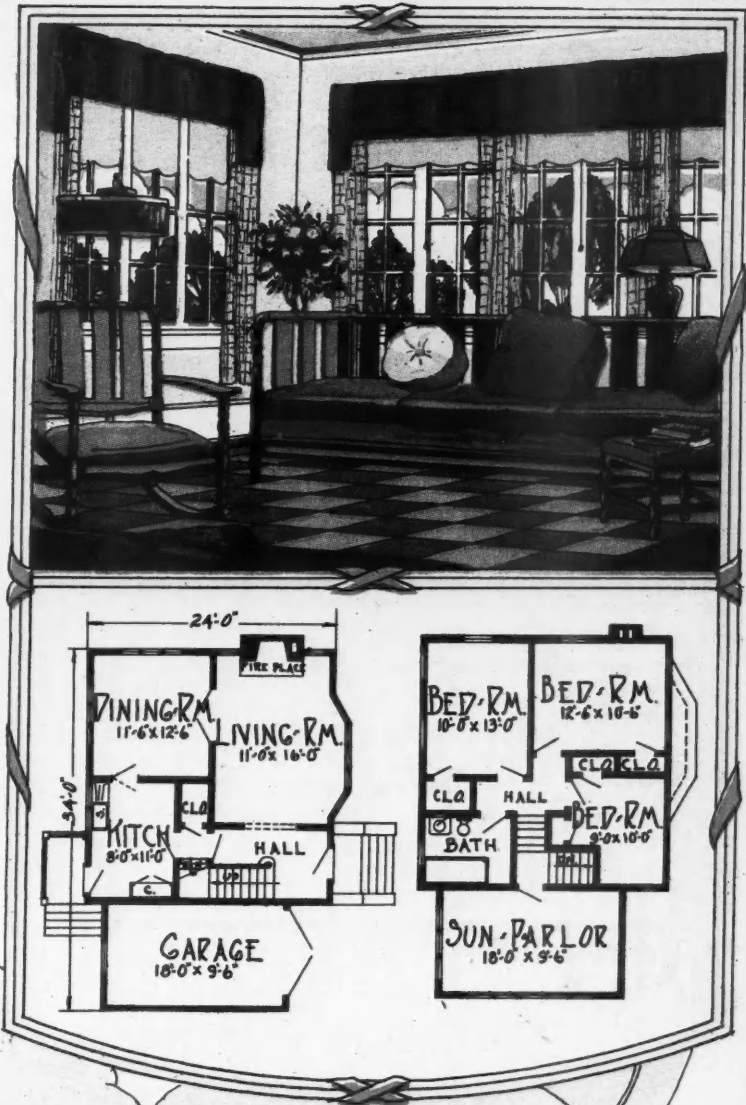
# The NORWICH

AN English Colonial cottage of large shingles laid irregularly. The house contains six fine rooms besides the big sun room opening off the dining room and the reception hall of generous dimensions illustrated in the sketch to left.



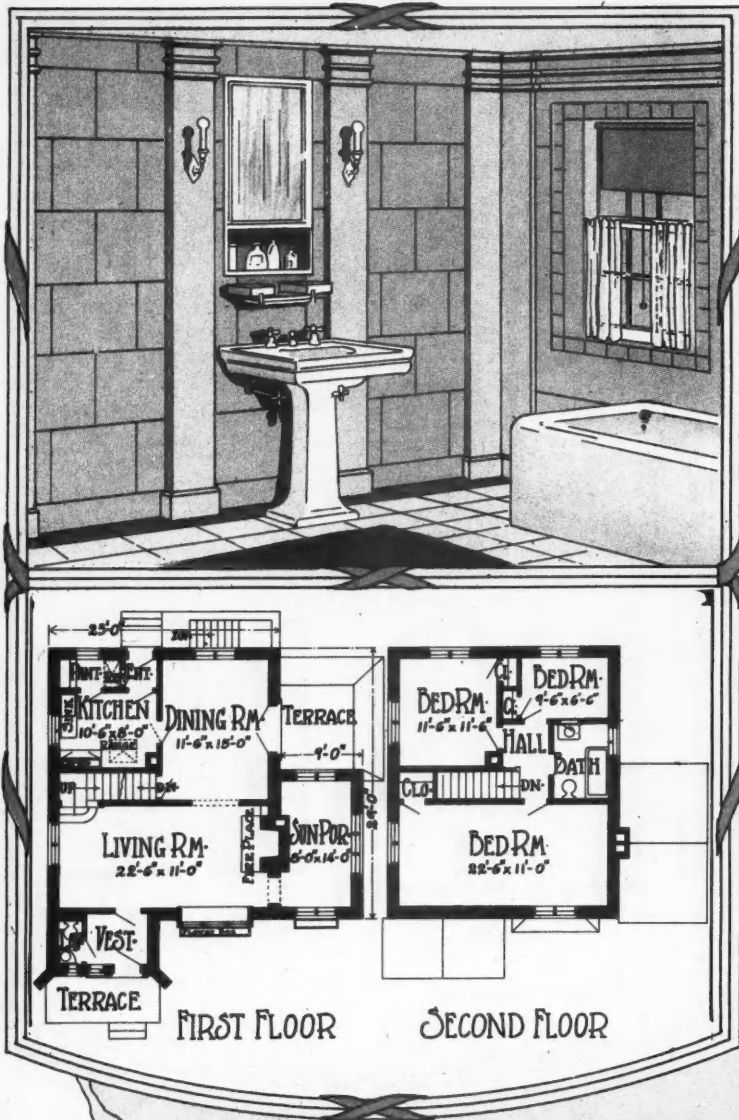
# The NEWARK

THE house with attached garage is coming in very fast; and this arrangement, placing the garage under the sun parlor, is one of the most successful plans. The attached garage is warmed by the house heating plant and there is a feeling of security in having the expensive car close by and behind locked doors. A fireproof floor over the garage or at least plaster on metal lath or gypsum board is a good precaution required by many building codes to offset the supposed extra fire hazard. An ample drain for storm water must be provided in front of the garage doors.



# The PALMDALE

HERE is a rugged English design in stucco, brick and half-timber that is decidedly different. The main house is 25x29 feet with sun porch and vestibule projecting. Seven very beautiful rooms are shown in the plan. Color sketch to left shows the bathroom tiled to the ceiling with special glass slabs.



# OUR FRONT COVER HOME



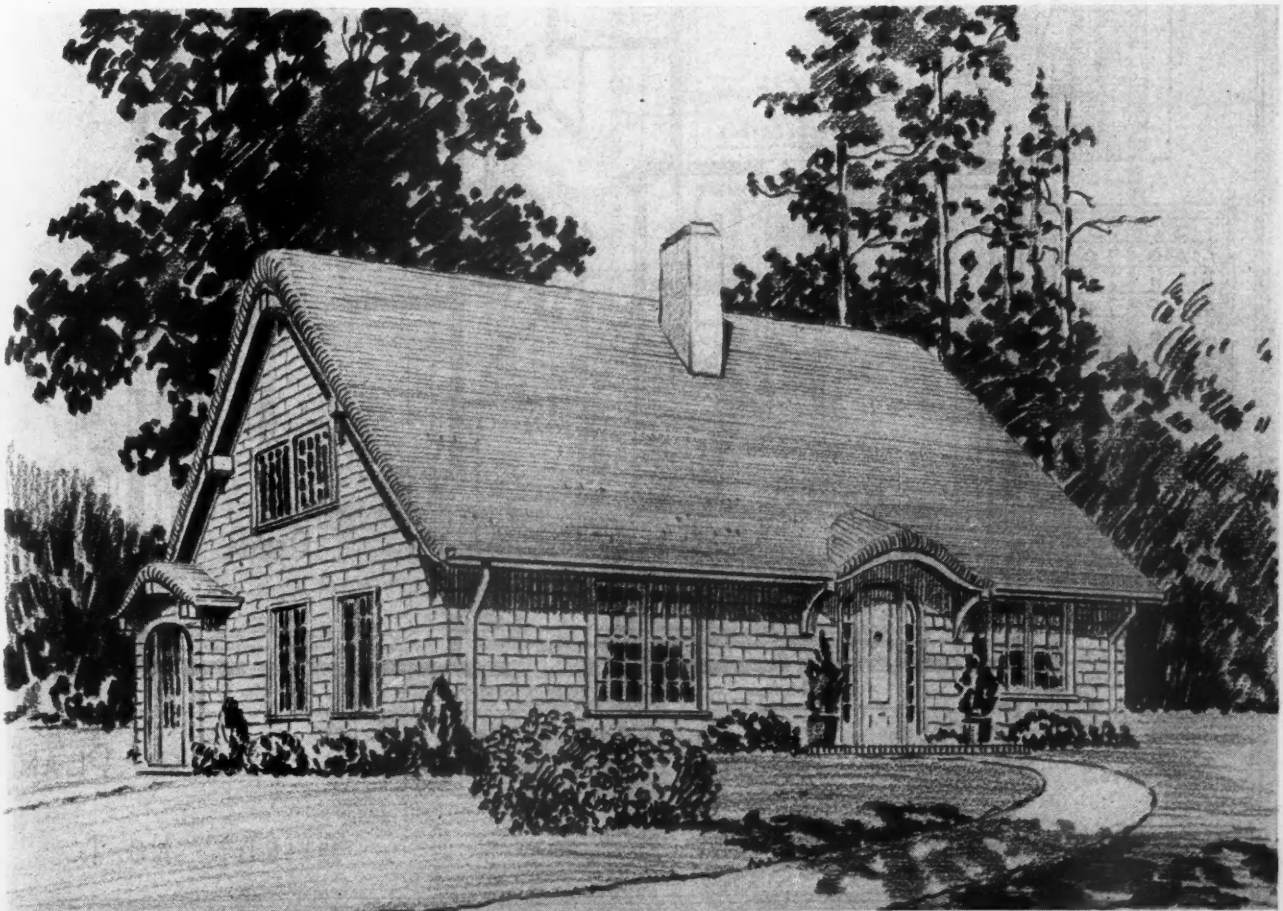
## *Plenty of Room in This Cozy Seven Room House Which Will Appeal Strongly to the Prospective Home Owner*

**P**ERHAPS it is the roof with its thatch effect; perhaps it is the shingled walls, with shingles laid wide to the weather; perhaps it is the casement windows, with their small panes; and then again it may be a combination of all these things, together with some others less conspicuous, that gives Our Front Cover Home its delightful air of coziness.

At any rate, it does possess just such an air, to a marked degree, and therein lies the secret of its strong appeal to those home-loving families which are most likely to be in the market to buy or build. Those families, which are turning their backs on the modern apartment with its super-convenience, are doing so because of something strong within them which demands the privacy, the independence, the individualism and the truly home-like atmosphere of a house of their own.

All these things the picture of Our Front Cover Home suggests, as may be seen both on this page and from the illustration in color on page one. Nor will the prospective owner of this home be disappointed by the interior. In spite of its small size, only 30 by 36 feet at the foundation, it affords seven rooms of a size that admits of no complaint. There is the living room, with its fireplace, a dining room, a kitchen and a sun porch, not to mention a breakfast nook, on the first floor. Above, there are three bedrooms and bath with ample closets, plenty of windows for ventilation and even a dressing room off the largest bedroom.

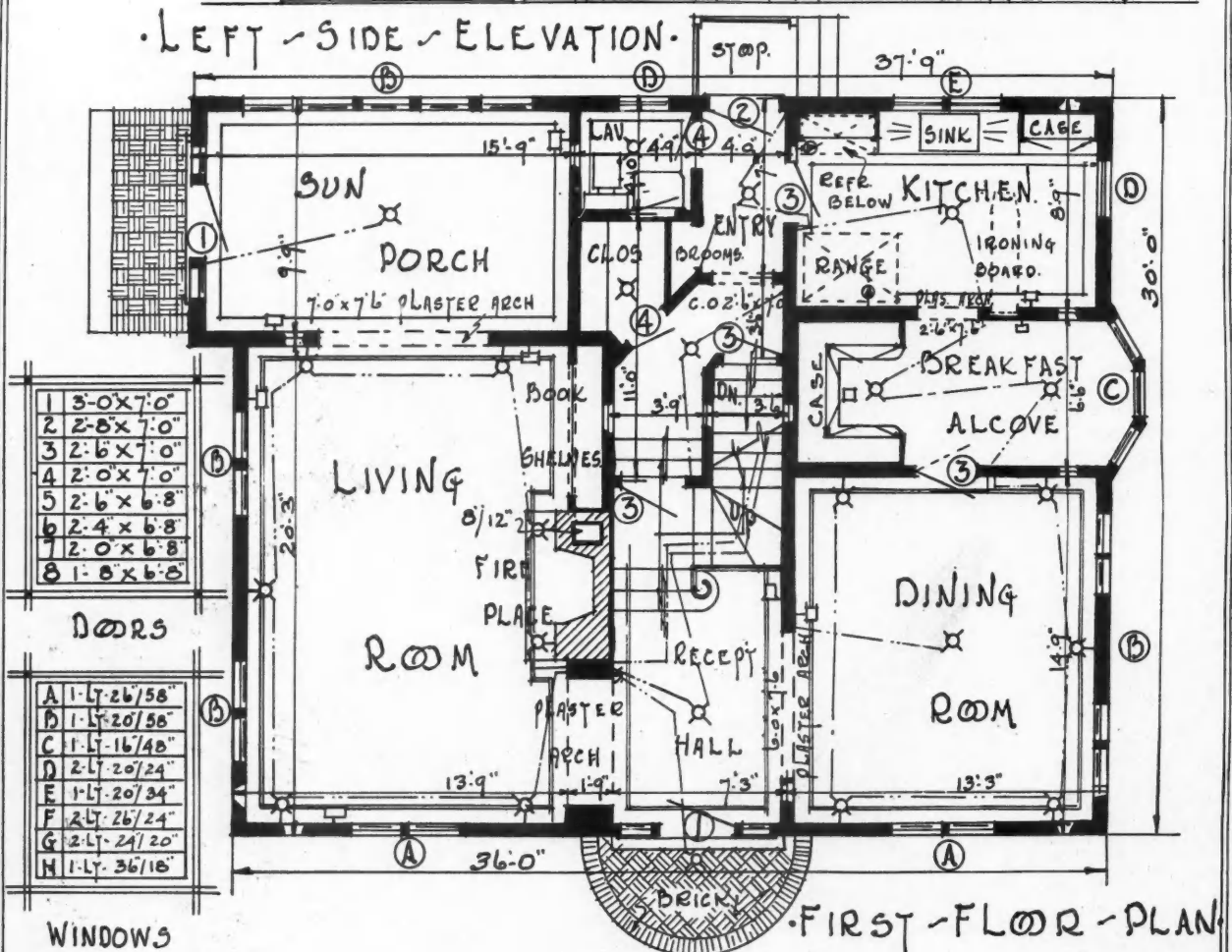
And throughout the house provision has been made for all those conveniences which the ingenuity of the building industry has devised to make our homes more liveable and to release the housewife from drudgery in her household.



The Picture Which the Word "Home" Brings to Our Minds Seems to Be Materialized in the Cozy House Which Is This Month's Front Cover Home. The plans will be found on the next four pages.



LEFT-SIDE-ELEVATION.



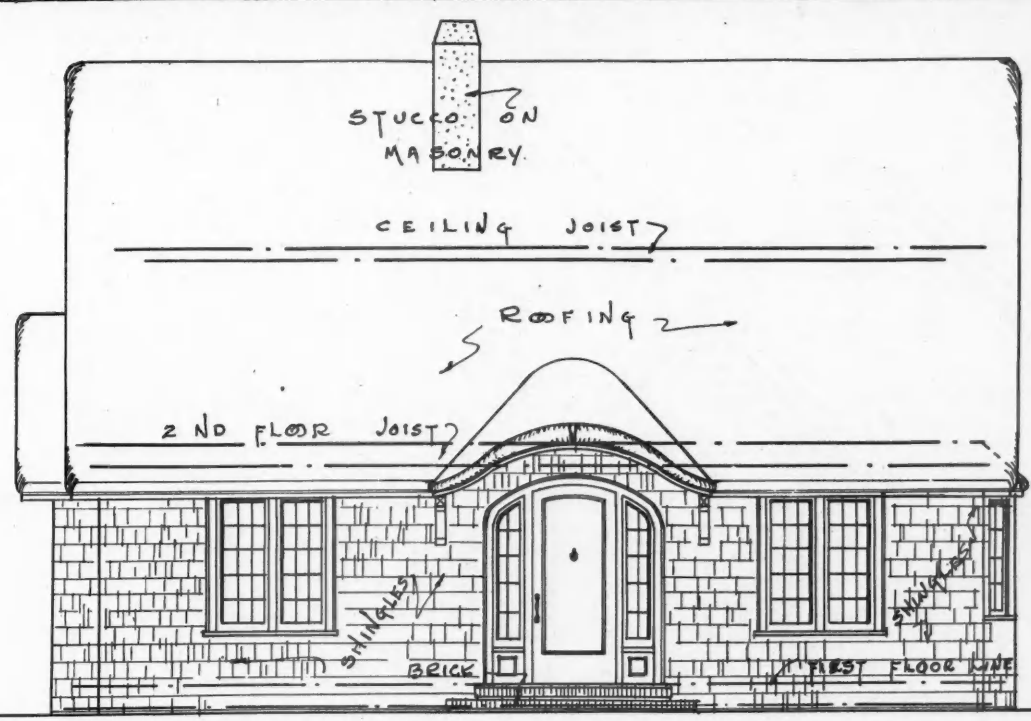
FIRST-FLOOR-PLAN.

SHEET NO. 1.

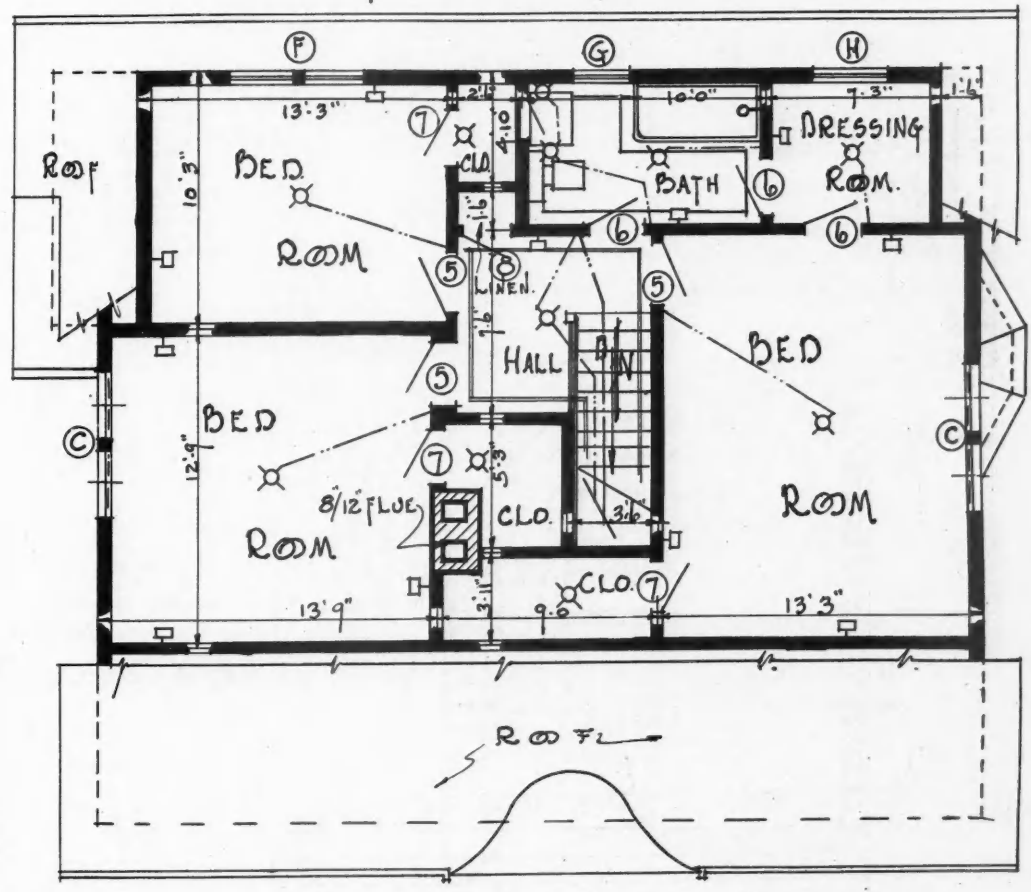
SCALE 1/8" = 1'-0"

It Is Surprising How Many Large Rooms Have Been Worked Out Within the Limits of the 30 by 36-Foot Foundation of Our Front Cover Home.





• FRONT - ELEVATION •

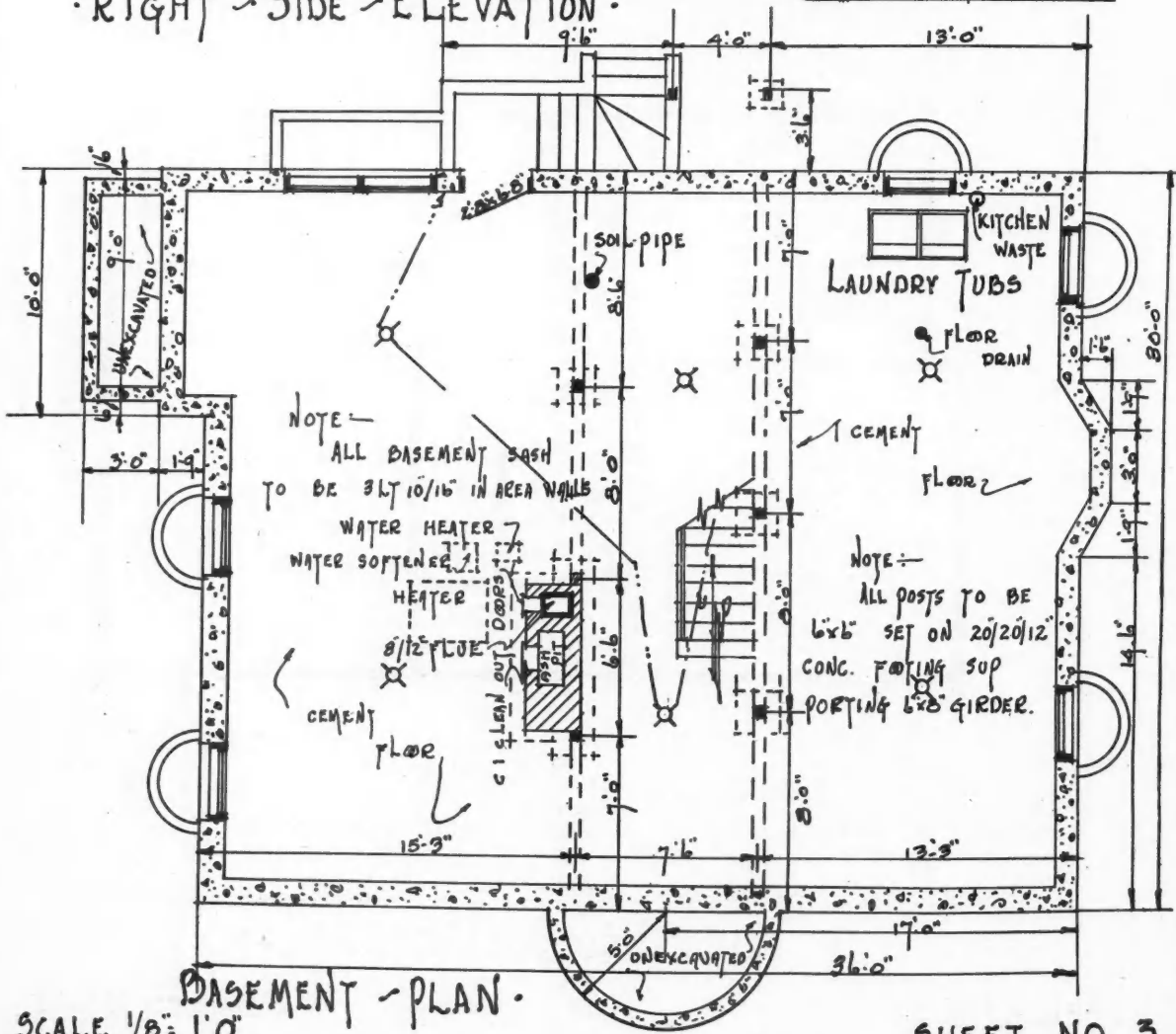
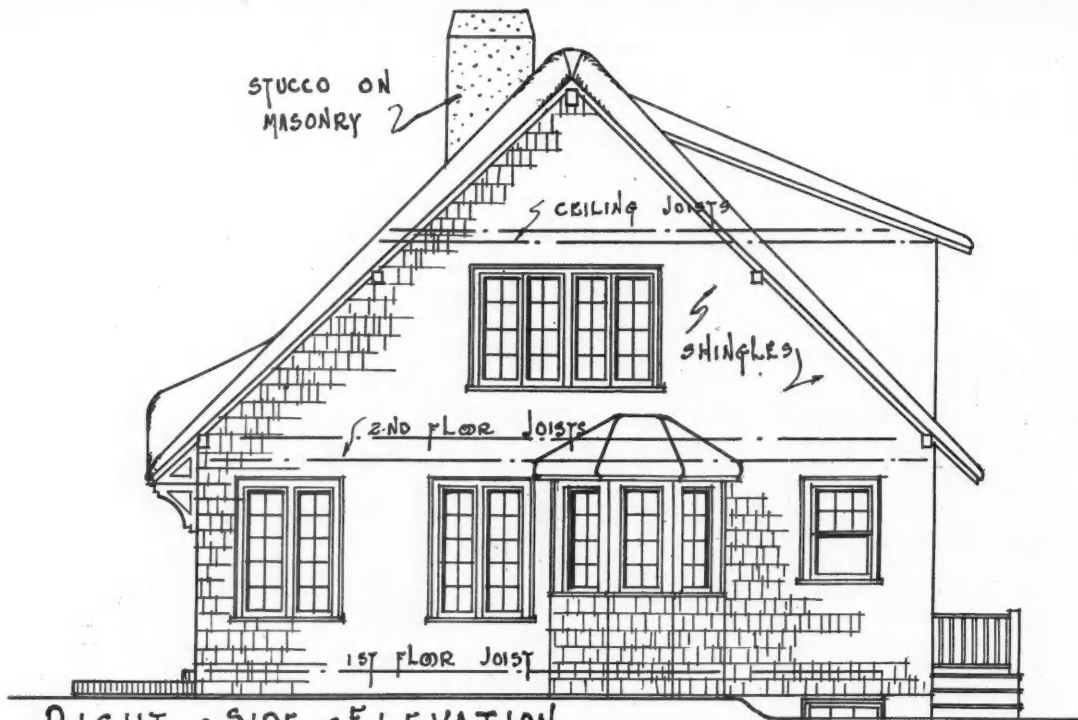


• SECOND - FLOOR - PLAN •

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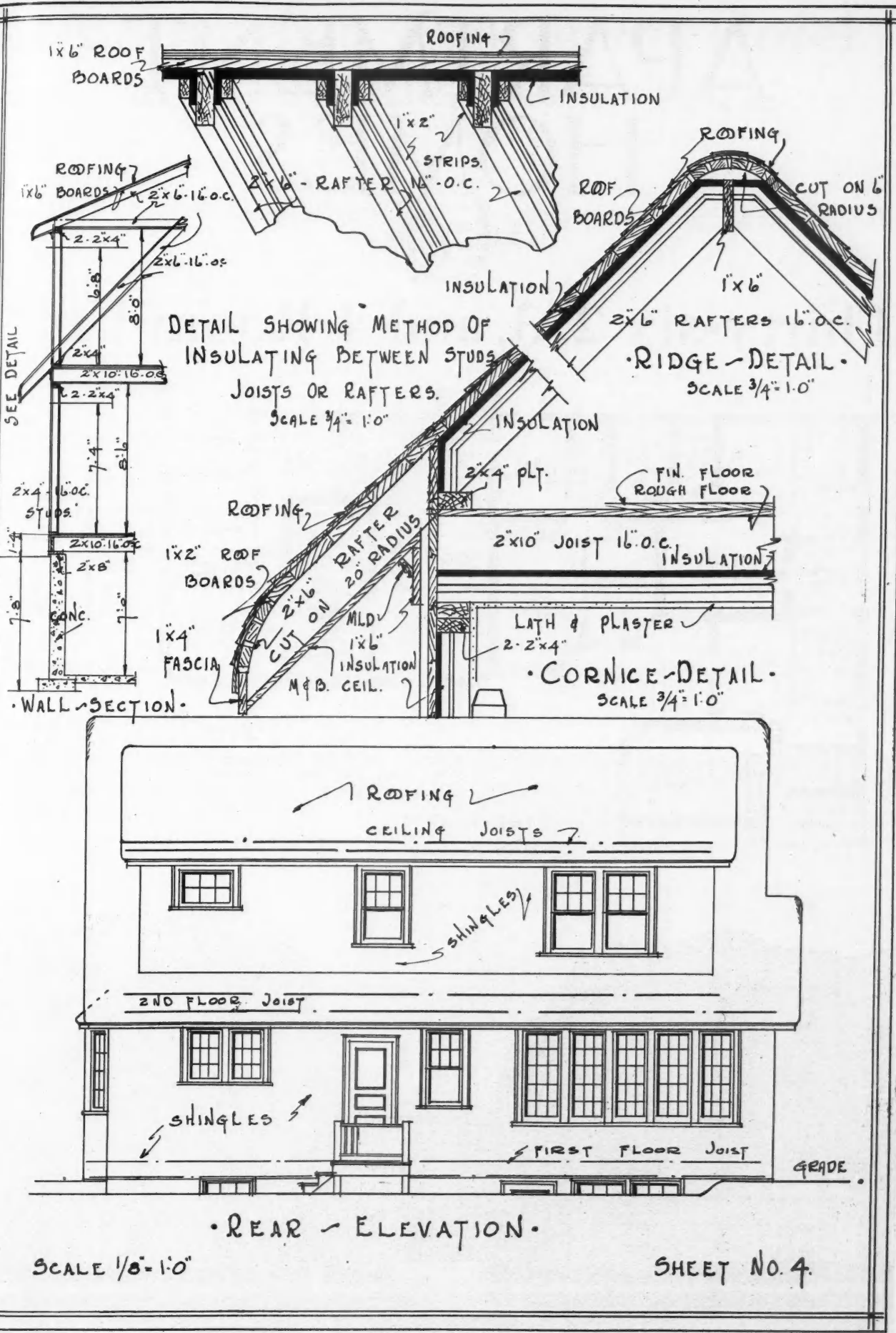
SHEET NO. 2.

Upstairs, Too, the Rooms Are Large and Well Arranged. The elevations show how a dormer increases the second floor space. Other plans follow.



SHEET NO. 3.

The Basement Takes Care of the Heating Plant and Laundry but There Is Much Additional Space That Can Be Used Economically in a Well Built House Like Our Front Cover Home.



• REAR - ELEVATION •

SCALE 1/8" = 1'-0"

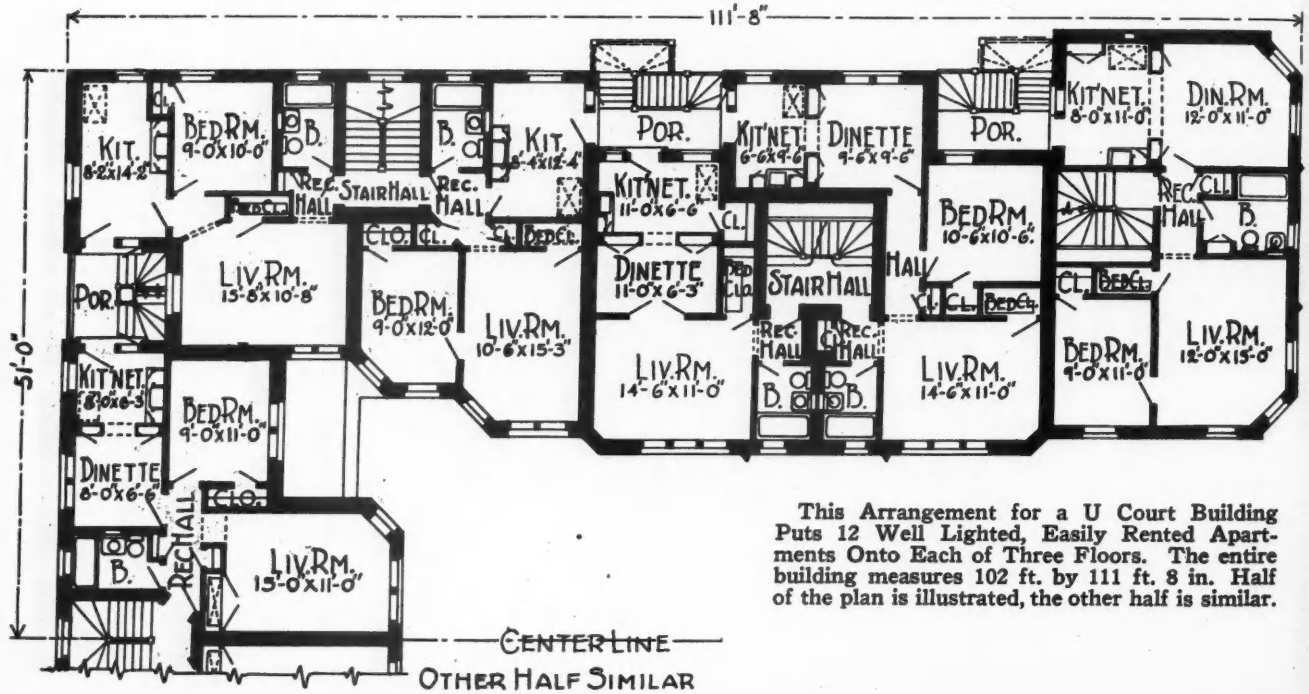
SHEET NO. 4.

Here We Offer Detail Drawings Showing the Construction of the "Thatched" Roof, the Wall and Floor Construction and the Insulation.

# APARTMENT HOMES



## Thirty-six 2, 3, and 4 Room Units



This Arrangement for a U Court Building Puts 12 Well Lighted, Easily Rented Apartments Onto Each of Three Floors. The entire building measures 102 ft. by 111 ft. 8 in. Half of the plan is illustrated, the other half is similar.



A Well Laid Out Apartment Building on West Quincy Street, Chicago; Bernard L. Roos, of Chicago, Architect.

# A Suburban Apartment Hotel at Scarsdale, New York

JARDINE, HILL AND MURDOCK, Architects

ONE of the most interesting suburban building projects undertaken recently is this four million dollar apartment hotel, now under construction at Scarsdale—a suburb nineteen miles out from the Grand Central Station, New York City.

Here, set in an eight-acre park opposite the station plaza and on the Bronx River Parkway, all the refinements of a city apartment hotel may be enjoyed away from crowded city areas and amid surroundings of great natural beauty. The best transportation to the heart of Manhattan is at the doors.

English architecture, as shown by the architects' perspective drawing, gives the building the appearance of an English castle of no mean proportions, with numerous Gothic towers and wings, imposing entrances and arcaded courts. This large building will contain 522 rooms and is expected to cost between four and five million dollars.

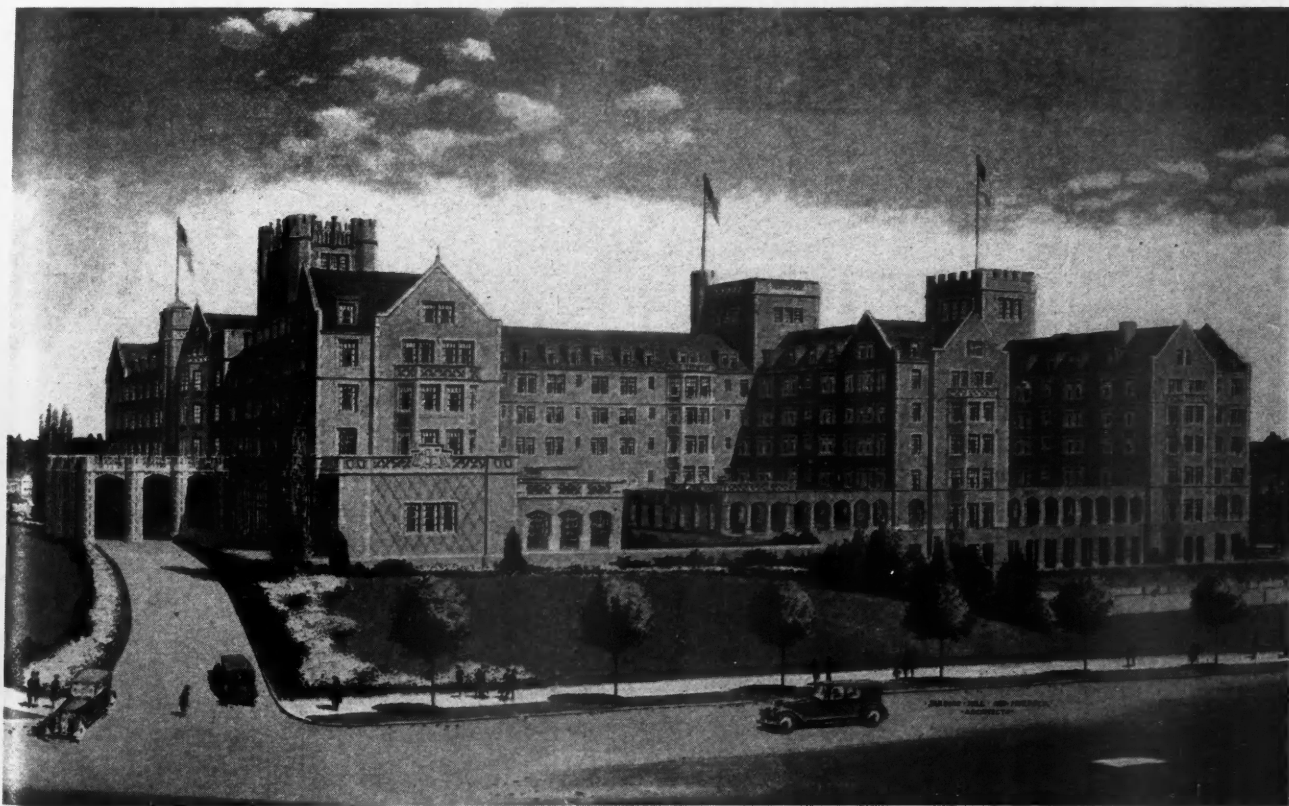
The building will contain apartments of two, three and four rooms with dining alcoves, kitchenettes and hotel service and while transient rooms have been provided for, it is believed that most of the apartments will be leased for permanent guests desiring hotel service in connection therewith and accommodations on a par with Park Avenue. There will be a magnificent ball and banquet room, a stage with a seating capacity of about 450 and a grill room with a seating capacity of 500. One of the features of the building is the swimming pool which will be one of the finest in this part of the country, the pool itself being 25x75 feet contained in a room 50x100 feet, decorated in the most artistic manner with tile trimmed with faience. There is to be a radio attachment in every suite controlled from the main office and it will be pos-

sible to broadcast the organ music from the ballroom or grill room music direct to any part of the house. The building is to be finished with a colored brick combination trimmed with terra cotta and a roof in slate of variegated colors, harmonizing with the surrounding structures. An artesian well will supply all the water for the hotel, which will have its own water supply system.

Builders, building material manufacturers, dealers and real estate operators are prominent on the directorate of the Equity Securities and Realty Corporation, who are the owners and builders.

The officers and directors are as follows: Daniel Darrow is president of the corporation. Mr. Darrow is also president of Rufus Darrow's Son, Inc., mason materials, and the builder of the fifteen-story Forrest Hotel on Forty-ninth street and the new Forrest Theatre.

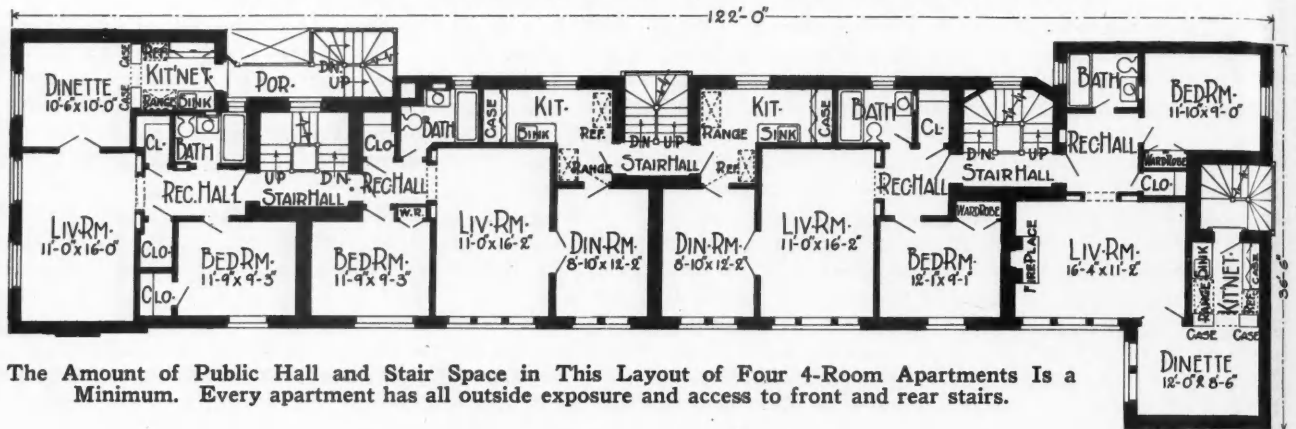
The other directors are Edouard A. Jova, treasurer of the Jova Brick Works, and of the Rufus Darrow Building Material Co.; Herbert G. Oliver, president of Albert Oliver & Son, Inc., fireproofing, and a realty operator; Cornelius J. Curtin, president of the Farnam Cheshire Lime Co., director of the East Orange Trust Co.; Frederick P. Fox of Frederick Fox & Co., Inc., real estate; William H. Pouch, president of the Concrete Steel Company and the Pouch Terminal, Inc.; Edwin J. Sterner, president of the E. J. Sterner Lumber Co.; William B. Abbey, president of the Abbey Company, wholesale distributors of masons' building materials; Henry J. Jova, president of the Jova Brick Works, director of the Newburgh National Bank and vice-president of the Brick Manufacturers' Association, and Harris H. Murdock, architect.



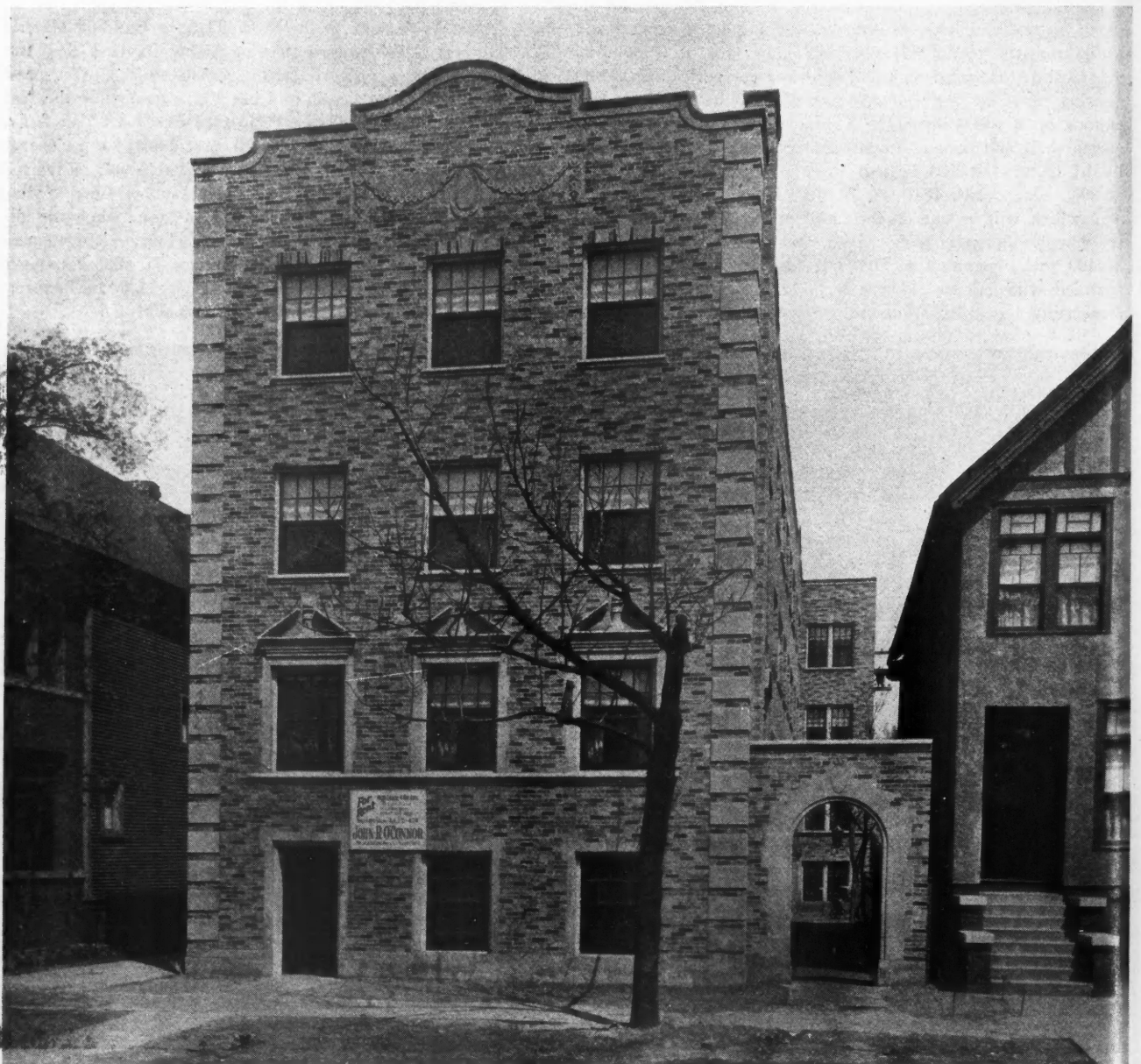
Like an English Castle Set in a Park, This Large New Apartment Hotel Will Give City Hotel Service to Suburban Dwellers in Scarsdale, New York. It will have many luxury features, including a large indoor swimming pool and radio connections broadcasting the hotel music to every room. Jardine, Hill & Murdock, architects.

# Good Development for Deep, Narrow Lot

Two Entrances on Side, Off Ten-Foot Court Solves Problem



The Amount of Public Hall and Stair Space in This Layout of Four 4-Room Apartments Is a Minimum. Every apartment has all outside exposure and access to front and rear stairs.



Interesting Building on Marquette Road, Chicago, Planned by W. M. Pearson, Architect, and Built by the John R. O'Connor Organization.

# Hand Rived Red Cedar Shakes for Modern Roofs

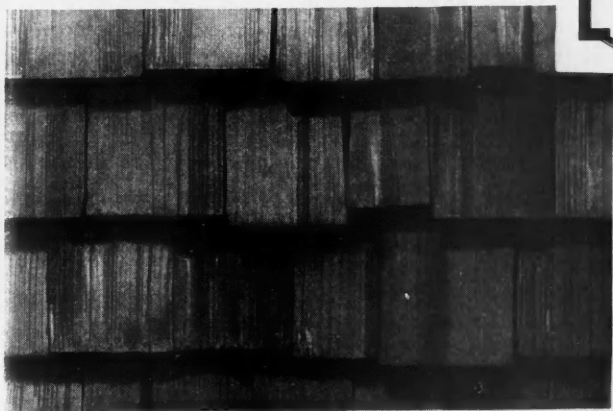
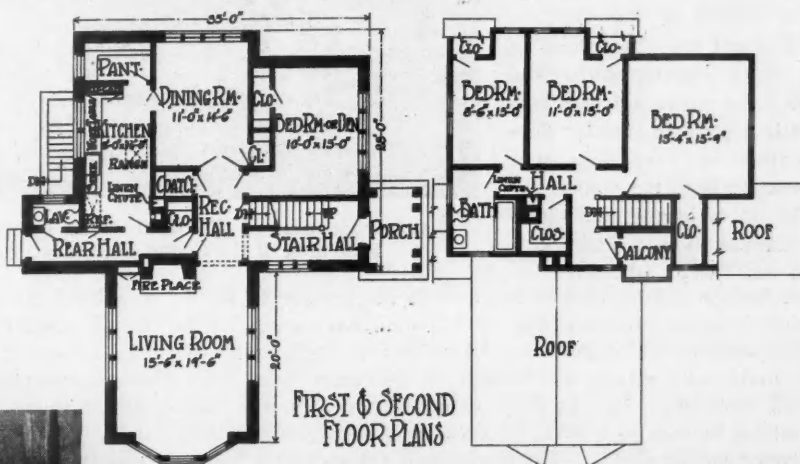
Present Day Builders Have Learned the Beauty and Durability of the Roofing of an Earlier Day



A Combination of Brick and Half Timbered Stucco Walls with a Roof of Hand Rived Red Cedar Shakes Makes This a Home Which Will Be Long Remembered by All Who See It, Distinctive, Full of Character.

**I**N the early days of American home building most houses were roofed with shakes, hand rived from cedar, pine or cypress, according to the locality. These hand rived shakes were used because they were the material most easily and economically at hand, but the years have shown the lasting quality of the old shake roofs and even more recently we have begun to appreciate the true beauty of their irregular texture and deep shadows.

Now red cedar shakes, hand rived like those of bygone days, are being produced commercially and are rapidly gaining favor



A Close-Up View of the Hand Rived Red Cedar Shakes Shows the Uneven Laying and Varying Thickness of Butts Which Gives That Desired Textured Effect.

After the Impression Made by the Exterior Shown Above One Can Almost, in Looking at These Floor Plans, Visualize the Whole Interior, Especially the Living Room with Its Vaulted Ceiling.

among those who seek something informal and distinctive in their homes. It is the roof of shakes which adds a finishing touch to the charming home pictured here.

The shakes used in roofing this house are 24 inches long and come in random widths. They vary in thickness from  $\frac{3}{4}$  inch to  $1\frac{1}{4}$  inches at the butt and when laid with a  $7\frac{1}{2}$ -inch exposure provide three full laps. When used on side walls, as they often are, they are usually laid with an exposure of 10 to  $11\frac{1}{2}$  inches. The close-up view at the bottom of the page shows how these shakes are frequently laid in uneven courses, a device which adds a rustic touch suggestive of an older day.

# White-Lead and Oil Plastic Finishes

By M. REA PAUL

*Department of Decoration, National Lead Company*

## PART I

**T**HERE is being displayed today an increasing interest in the possibilities that plastic paints hold for producing textural finishes.

While new to this day and generation, the idea of working texture into wall finishes is by no means of itself new. It is simply a revival of an old method of decoration. A study of the history of architecture reveals many references to textured wall effects of the past such as rough-troweled, plastered, or hand-plastered walls.

The art of wall decoration, in common with other lines of human endeavor, has a habit of duplicating itself in this way. It may be said to follow an ever-changing cycle in which may be seen constant repetition of certain tendencies and recurrences of certain modes.

### A Logical Development

The reversion to textural finishes is due unquestionably to a desire for something different in wall decoration. At the same time the revival of this type of treatment may be traced as a logical development. Not so many years ago the prevailing style in interior decoration was very plain, one-tone walls to the virtual exclusion of bright colors and ornamentation. Then followed the addition of touches of ornamentation and a little more color to plain walls by means of stenciling. From stenciling, which for a time assumed the proportions of a craze, the progression was to multi-color effects and design or figuration over entire wall surfaces. To the fore came blended, figured and mottled finishes as typified by the tiffany, crumpled roll and sponge mottle effects. There remained yet another possible variation. It was texturing. This is provided by plastic paints.

### Widens Scope of Decorator's Work

The advent of textural finishes, of course, does not signify the abandonment of other types of wall treatment. The dignified one-tone wall which is always in good taste, as well as the other effects mentioned, will continue to occupy an important place in decoration. The introduction of textural finishes, however, does mean a widening of the scope of the work of the decorator.

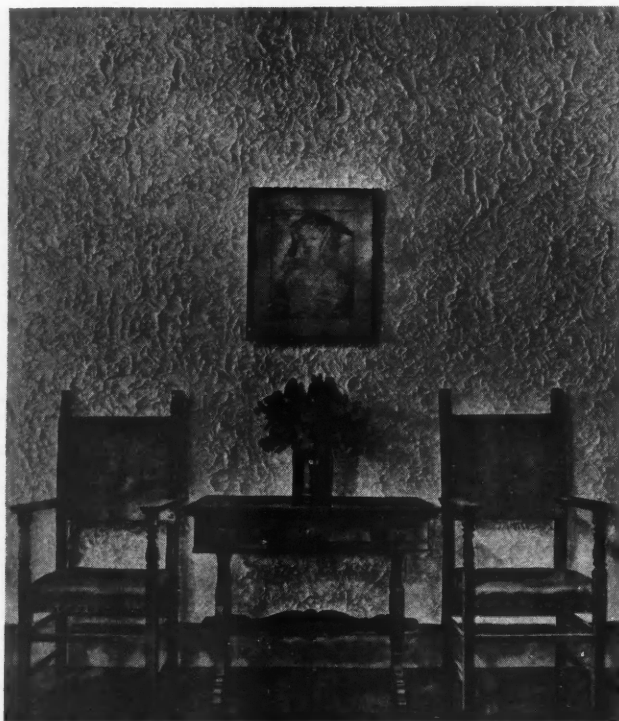
As happens not infrequently when new ideas take hold, the first attempts at plastic paint work were overdone. Users of it went to the extreme. Color effects were garish, so much so in fact that they became known as "jazz" effects. Textures were extremely rough, the deep recesses in the finish affording an excellent lodging place for dirt and dust.

### Produces Modified Textures

As was inevitable, a reaction set in and a more conservative, more sanitary type of textural finish is now the vogue. Such a finish is easily obtainable with a white-lead and oil plastic paint. When manipulated, this plastic paint gives a modified texture which is quite in keeping with the demands imposed for a textural finish midway between the smooth

plaster and very rough-textured effects. The resulting finish has been described as combining the restraint of the untextured painted wall with the distinction of hand-worked plaster. It is universally suitable for the decoration of side walls.

An important point to keep in mind, when the use of plastic paint is being considered, is that a finish of modified texture can be converted back readily at any time to the original smooth finish. Sandpapering will accomplish this and it is obvious that the less rough the texture, the more readily is the smooth finish restored. Furthermore, it is possible in most cases to eliminate the modified texture by painting over it with plastic paint.



"The Introduction of Textural Wall Finishes Means a Widening of the Scope of the Decorator."

### Desirable Qualities in Plastic Paint

A plastic paint with which effects in modified texture can be achieved should meet the following requirements:

1. It should be relatively low in cost.
  2. It should be easy to prepare on the job, from high-grade materials readily obtainable.
  3. It should be easy to apply.
  4. It should lend itself readily to tinting with color-in-oil.
  5. It should set up overnight so as to be ready for glazing in the morning if glazing is desired.
  6. It should contain an oil vehicle the same as any other high-grade paint to help insure durability.
  7. It should when dry be thoroughly washable even without glazing.
  8. It should in one coat, when textured, present a complete finish, not necessarily requiring the addition of a glaze.
  9. It should permit of being worked into any textural effect but should not incline toward excessive roughness.
- It will be found that plastic paint, mixed in accordance with the directions in the next chapter, meets satisfactorily every one of the foregoing requirements.

### Meets All Requirements

This white-lead and oil plastic paint is attractive in price and is prepared from materials that the painter carries on



hand in his shop. It is applied with a brush and, like any other white-lead paint, can be easily tinted with colors-in-oil. It sets up slowly enough to allow the painter to work on large stretches, yet quickly enough to be sufficiently dry for glazing the next day. It is made with an oil vehicle of established quality and when textured is a complete finish in itself. It may be glazed or left unglazed as desired. It can be manipulated easily with paint brush, whiskbroom, graining comb or any other means, the resulting finishes being of the modified or low-relief texture. Above all, the use of white-lead and oil plastic paint insures a finish about whose excellence there can be no question—a finish of proven durability and known washability.



### Mixing and Applying the Plastic

THE use of white-lead in oil in plastic paint is another example of the great adaptability of this basic paint material. White-lead in oil has long been known for its wide usefulness. With it the painter is able to mix the correct paint for every conceivable purpose both outside and inside, to obtain exact colors and to secure variations in finish ranging from flat to high gloss.

Not only is white lead and oil plastic paint as easy to mix as other paint but, as stated before, it is prepared from materials found in every paint shop. These materials are white-lead, whiting, flattening oil and drier.

#### Basic Formula

The formula to use is given below:  
 100 lbs. white-lead (heavy paste);  
 22 lbs. dry whiting;  
 1½ gals. flattening oil;  
 1 gill drier.

This formula will make about 5¼ gallons of plastic paint.

#### Mixing the Paint

Break up the hundred pounds of white-lead in the customary way, using half the flattening oil (¾ gallon) and adding it a little at a time. Then add the gill of drier.

Dump the twenty-two pounds of whiting into a separate pail and mix into it the remaining flattening oil (¾ gallon).

Finally pour the white-lead mixture into the whiting mixture and stir them together.

The resulting mix will be a paint of fairly heavy consistency, stiffer than ordinary paint, which will stand up well and permit the working of textured effects when applied to the wall with a brush. It will spread easily and when applied will remain workable for approximately one hour.

This point is of particular importance. The slow set-up of white lead and oil plastic paint allows the decorator to work a larger section of the wall than is possible with certain other plastics.

#### Tinting

If the plastic paint is to be tinted, use colors-in-oil. Stir them into the mixture in exactly the same manner as when tinting other paint.

#### Gallon Formula

To mix a single gallon of white-lead and oil plastic paint, the following quantities of ingredients are required:

19 lbs. white-lead (heavy paste);  
 4 lbs. dry whiting;  
 1 qt. flattening oil;  
 ¼ gill drier.

#### Coverage

It is estimated that plastic paint, mixed according to the foregoing formulas, will cover in the neighborhood of 275 square feet or 30½ square yards per gallon.

As is obvious, the amount of coverage is governed by the thickness of the film applied. This spreading rate of 30½ square yards per gallon is based on a film about as thick as two ordinary paint coats. Such a film has been found suitable for producing the various textures illustrated in this article.

#### Bulk for Bulk

A simple way to measure the quantity of whiting needed for any mix based on the formulas given is to take an amount equal in volume, when packed down, to the paste white-lead. Twenty-two pounds of dry whiting, properly packed down to expel the air separating its particles, are just about equivalent in bulk to one hundred pounds of white-lead of the regular grinding.

#### Cost

A gallon of white-lead and oil plastic paint, mixed as described, figures out just slightly less than \$3 for materials, using prices of an important eastern market.

Estimating a coverage of 30½ square yards per gallon, the cost per

square yard is about 9½ cents.

This is considerably less than other plastics cost and is one more point in favor of white-lead and oil plastic paint, although it is preferred that this texturing medium be judged by its merits and not on the basis of price alone.

#### Preparing the Surface

White-lead and oil plastic paint may be used on plaster walls, on wall board and on fabric wall coverings that are firmly pasted in place.

The same care is required in preparing these surfaces to receive the plastic paint as when other paint is used.

Surfaces previously painted should be thoroughly cleaned before the plastic is applied. Old, scaling paint should be scraped off and the surface smoothed down with sandpaper.

Do not apply the plastic paint over calcimine. First wash off the calcimine in the usual way.

In the case of enameled surfaces cut the high gloss with sandpaper before putting on the plastic.

The plastic paint may be applied directly over old paint on plaster walls provided the old paint is in good condition. Unpainted plaster should first receive the customary priming coat of paint mixed on the basis of 100 pounds white-lead (heavy paste), 7 gallons pure boiled linseed oil (or 7 gallons raw oil and 3 pints drier), and 1 gallon pure turpentine.

#### Applying the Paint

Only one coat of the plastic paint is necessary. Use a full brush and apply the mixture fairly thick. See that it is put on smoothly but do not attempt to brush it out too far. A coating about equal in thickness to two coats of ordinary paint is about right.

White-lead and oil plastic paint does not get hard if allowed to stand. It keeps a long time. For this reason,

(Continued to page 117)

#### Suggestions for Mixing

It is suggested that the painter mix up a small experimental batch of white-lead and oil plastic paint and try it out. That's the real way of finding out what it is like and what it will do.

All the experimenting can be done on one panel. Simply work one texture over the other. This plastic paint remains workable long enough to enable you to run through all the textures described in this article.

When you get going, you will be developing some textures of your own. It's fascinating stuff to play with.

# No Noisy Riveting When Office Building is Remodeled

New Framework Silently Joined to Old by Electric Arc Welding

By A. F. DAVIS

TENANTS of the 10-story Rose Building, Cleveland, Ohio, are carrying on business in their regular manner, undisturbed by alterations to the building which will cost approximately a half million dollars when completed. It is said to be the largest building operation of its kind ever attempted in Cleveland.

This office building, which houses mostly physicians and dentists, was erected in 1898-99. Due to its obsolete design, many difficulties were encountered by William Robert Powell, architect, and Carson G. French, structural engineer, of Cleveland, in the preparation of plans for the present alterations. One of the greatest difficulties presented was the loss of most of the drawings showing structural details of the old building. The obstacle was overcome by the decision to cut the steel in the field

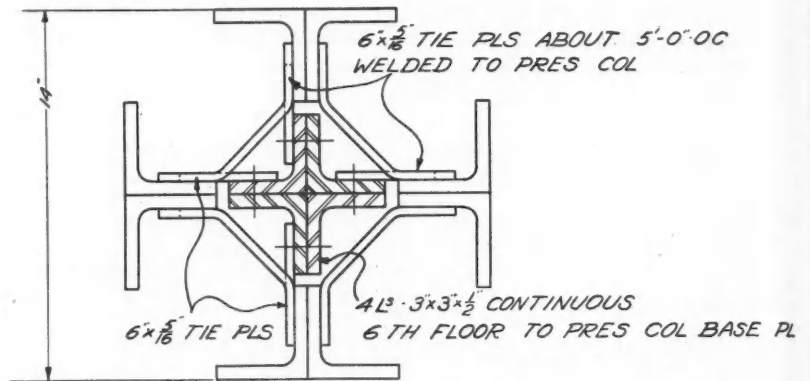


Fig. 1—Details of Welded Connections of Tie Plates to Old Columns and New Reinforcements.

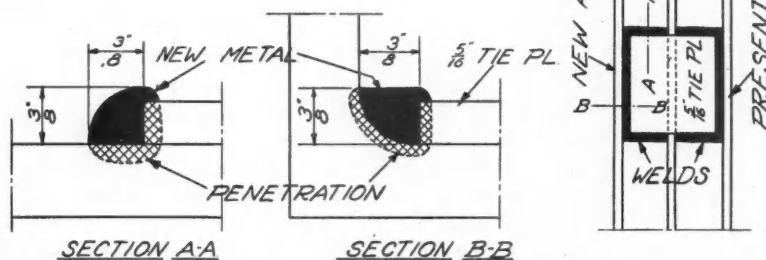


Fig. 2—Details of Welded Connection of Tie Plates to Old Columns and New Reinforcements.

To stiffen these columns and give them greater load bearing capacity, sections in the shape of a cross, made up of angles, were inserted in the hollow center of the existing columns. The new steel was then joined to the old at five foot intervals by plates welded to the legs of the angles and to the legs of the old tees. Figs. 1 and 2 show a plan and elevation of a column reinforced in this manner.

Where the six story columns were continued with new steel for the four additional stories the connections were electric arc welded as shown in Fig. 3.

whenever necessary, with a gas torch, and to make all connections to the old framework by the electric arc welding process.

By use of this modern method of joining steel it was necessary to make only small openings in the old walls uncovering only the face of the old steel where the connections were to be made. In this way much wrecking was eliminated and, due to the fact that the arc welding process is silent, tenants of offices adjoining the building operations were undisturbed. In fact, teeth are being filled and ailments treated in rooms adjacent to where the welder operator is welding. It is estimated that the owners of the Rose Building are saving thousands of dollars in rentals by the use of arc welding for making field connections.

New elevator wells were made in the old building. In framing these in, the new steel was cut to size with a gas torch and then butt welded to the existing beams with the electric arc as shown in Fig. 4. Cutting with a gas torch and fitting was due to the fact that the old beams could not be located from the available drawings of the old structure and, as mentioned before, it was found to be more economical to cut and fit in the field rather than

Included in the alteration project is the addition of four stories on top of a portion of the building which was originally six stories high. The old columns in this section of the building were not originally designed to carry additional load. They are of the Gray type, made up of four tee shapes held together by straps riveted to the legs of the tees, thus the columns were given a circumference octagonal in shape, the center of the columns being open.

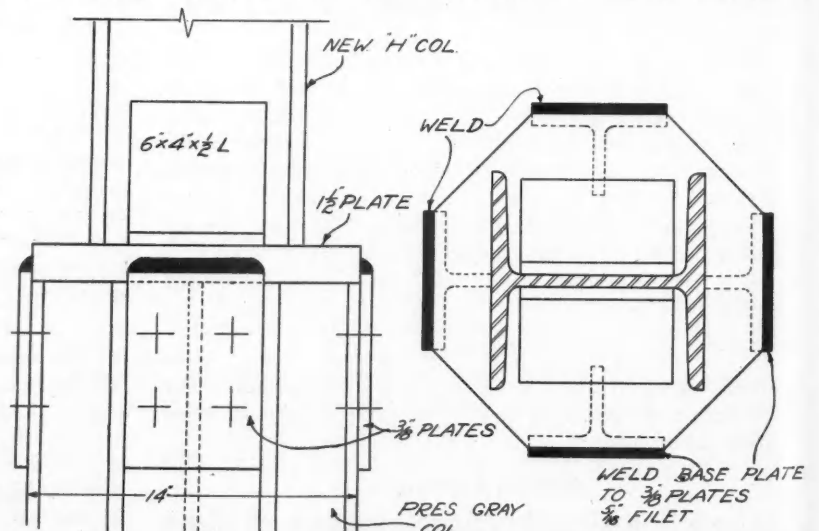


Fig. 3—Plan and Elevation of New Column Base Plate Welded to Top of Old Gray Type Column.

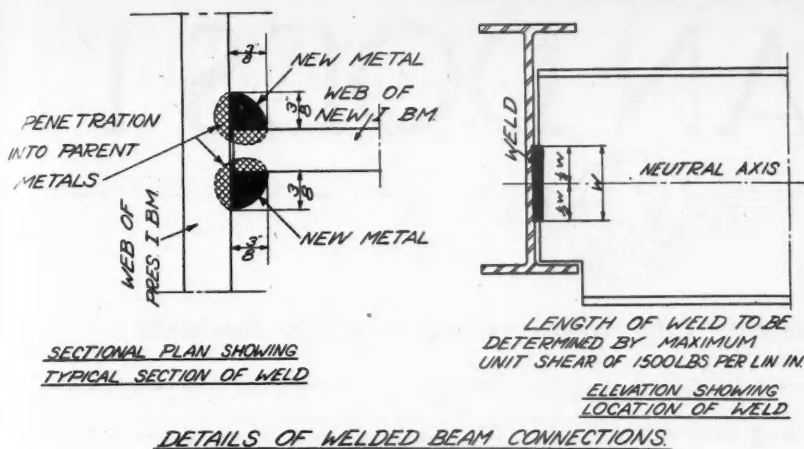


Fig. 4—Details of Welded Beam Connections.

uncover the beams for accurate dimensions at the time structural drawings were made. Fig. 5 shows arc welded connections where new beams were inserted to relieve old beam of additional load.

The beams which carried the roof of the low section of the building were not deemed to be of sufficient size to carry the seventh floor. To give them the necessary strength track rails were welded to the top flange of the existing beams as shown in Fig. 6.

Welded steel bar joists are being used in the new addition. These are held in position by welding the ends of each joist to the beams. The joists are tied transversely by welding a half inch round rod to their bottom chords.

Arc welding is also being used by the plumbing contractor, the Smith & Oby Company of Cleveland. Sections of 10 inch pipe which form the main steam riser are joined together by arc welding. The new process eliminates the use of threaded connections and fittings. The pipes are simply butted together and welded. Pipe joints made in this manner are tighter and resist corrosion far longer than threaded connections. This new method also is more economical when the elimination of all threading and use of fittings are taken into consideration.

The actual labor savings effected by use of arc welding in place of riveting on this project cannot be accurately estimated due to the fact that in many instances conditions prevented the possibility of employing the traditional method of joining the steel. However, it is believed that had conditions permitted riveting, the labor cost sheets would prove that arc welding is an economical method of making field connections.

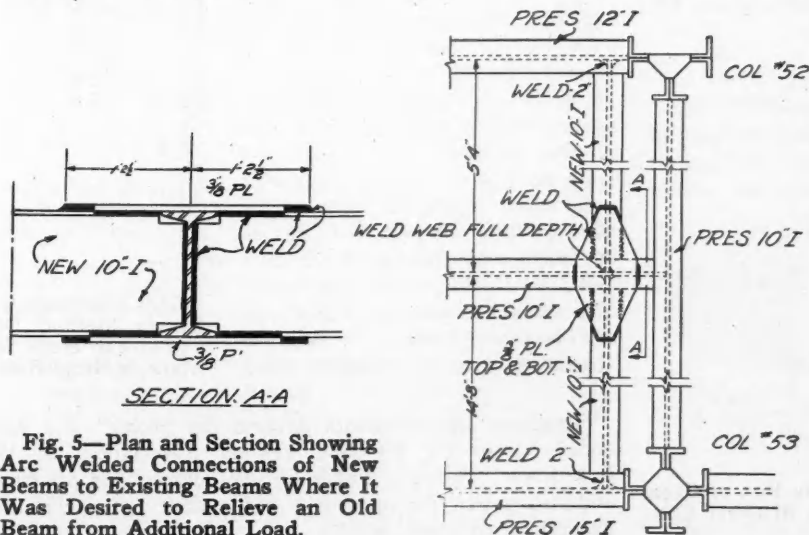


Fig. 5—Plan and Section Showing Arc Welded Connections of New Beams to Existing Beams Where It Was Desired to Relieve an Old Beam from Additional Load.

As stated before, the use of arc welding on this particular structure made it possible for the owners to obtain full revenue from their building while the alterations were in progress, as well as eliminating much of the wrecking that would have been necessary to give riveters room to work while making connections to the old framework.

The Forest City Structural Steel Company, fabricators and erectors of the structural steel for the Rose Building, used only stable-arc welding machines in doing the field welding. Operators were required at intervals to weld samples which were tested to satisfy requirements imposed by the local building commission.

## White Lead and Oil Plastic Finishes

(Continued from page 115)

it is safe to mix enough paint at one time to do a whole room.

After this plastic paint has set up, it is ready for glazing if that is desired. No size coat is necessary.

Start first with the ceiling. This is generally finished in a simple stippling effect, the more complex textures being reserved for the sidewalls.

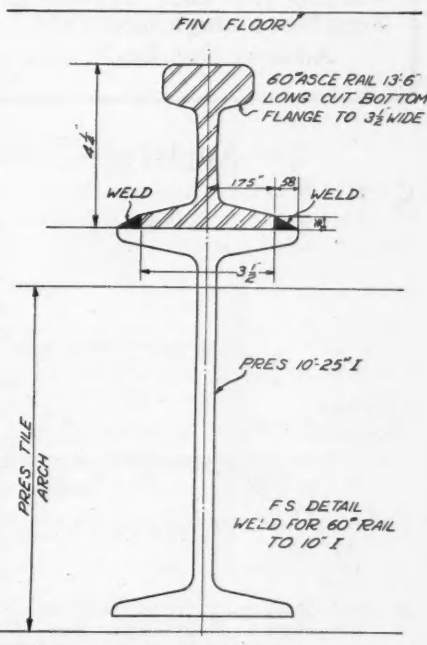


Fig. 6—Details Showing 60-Pound Rail Welded to Old Beam to Give the Beam Greater Load Bearing Capacity.

## Using Soft Paste

White-lead and oil plastic paint can also be made with soft paste white-lead. The formula is the same in this case except for increasing the quantity of drier to one pint. This increase in drier is necessary on account of the higher percentage of linseed oil in the soft paste. Because of the greater linseed oil content, it will be found that plastic paint prepared with the soft paste takes about two days longer to dry sufficiently hard to permit glazing than does plastic paint made with the regular or heavy paste form of white-lead.

The second installment of this article, containing full directions for obtaining the various textures, will appear in the November AMERICAN BUILDER.—EDITOR.

“Zoning Decisions” is the title of a new booklet published by the Massachusetts Federation of Planning Boards, containing an abstract of court decisions relating to the zoning laws of the state.

# HOW DAN DOES IT



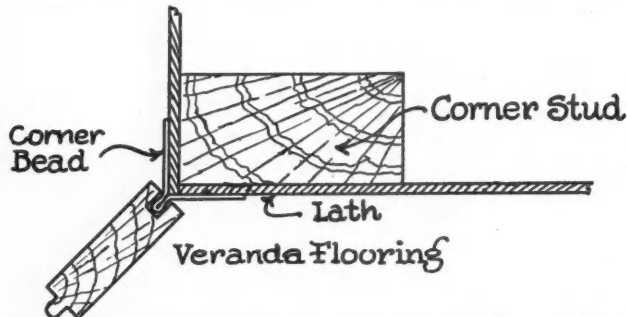
*A Department for Passing "Life Savers" along to other Builders*

**\$2 for an Idea**

Dan is an ingenious cuss. Nothing ever stumps him. He always knows the way out when he runs into a tough problem out on the job or in the office. Dan is editor of this Department and will pay \$2.00 each for every good idea he can use here to show and tell other builders "how to do it." Send him a rough sketch and a short description of what the tough job was and how you handled it. Address Dan-Do-It, care of American Builder, 1827 Prairie Avenue, Chicago, Ill.

## For Applying Corner Bead

SOME workmen have trouble in setting up corner bead and I think the following method will help them to do the job more quickly and better. First I get a good

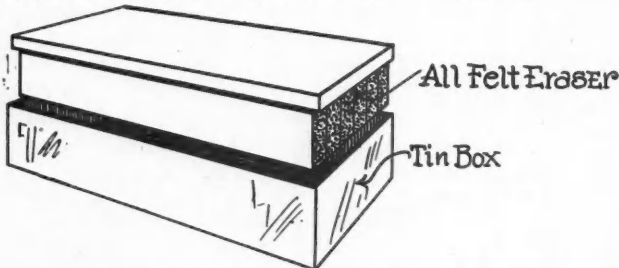


A Good, Straight, Piece of Flooring Can Be Used as Shown Here to Hold Corner Bead While Nailing.

straight piece of veranda flooring. This I cut about two inches shorter than the height of the room. I place the corner bead where it is to go and fasten the top and bottom in place. Next I take the piece of flooring and place it over the corner bead so that the corner of the bead is in the groove of the flooring. Then all I have to do is to hold the flooring against the bead while I finish nailing it on. The flooring holds the bead perfectly straight, both ways, while nailing.—THEODORE LARSEN, 149 Greenwood St., New Britain, Conn.

## Oiler for Saws and Other Tools

A MOST desirable tool oiler can be made by getting an all felt blackboard eraser and fitting a tin box or case to it, as shown in the drawing. Once the eraser



An Ordinary Felt Eraser, Fitted Into a Tin Box or Case, and Soaked with a Light Oil Keeps Tools in Good Condition.

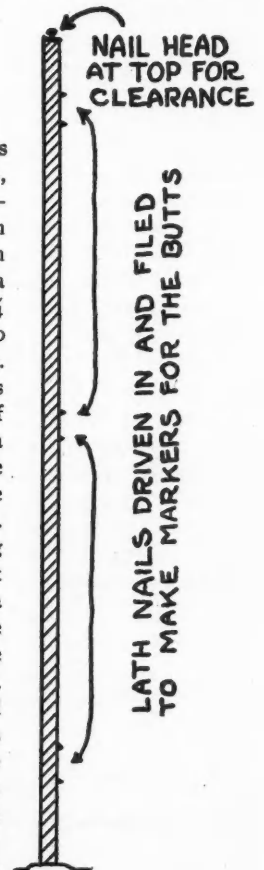
has been saturated with a good light oil it can be used to put a thin film of oil on saws and other tools and will last indefinitely. The tin case makes it possible to carry the oiler in a tool chest without causing objectionable oil spots on the interior.—LESTER P. YOUNG, Lock Box 151, Culver, Ind.

## Marking for Hinge Butts

AFTER reading Mr. Greville's method of marking hinge butts, which was in the May issue, I decided to send in the method which I use and which I learned from an old foreman 25 years ago. I take a piece of  $\frac{7}{8}$  inch stock, not over  $1\frac{1}{4}$  inches wide, and an inch or so shorter than the door to be hung. Cut one end square and, using this end at the top of the door, lay off the position of the butts. Drive a nail in at each mark and cut off the nails to about  $\frac{1}{8}$  inch from the wood and file them to a chisel edge.

With a little care, and by trying to butt between the points, a perfect fit can be obtained. Now drive a nail into the squared end of the stick, leaving the head out just the amount that you want for clearance. Hold the stick with the nail head against the top jamb with the points of the marking nails toward the jamb to be cut and just hit it with your hand. Place the stick on the edge of the door with the squared end flush with the top of the door and hit it with your hand again. The sharpened nails mark the jamb and door accurately.

GEORGE A. PARKER, Brooklyn, Conn.

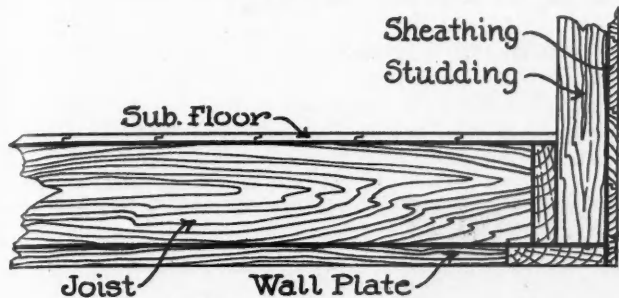


This Illustrates the Simple Method Described Here for Marking Hinge Butts.

"Concrete Improvements Around the Home" is a new booklet from the Portland Cement Association, 33 W. Grand Ave., Chicago, containing photographs and drawings and instruction for making a wide variety of useful and decorative concrete articles.

## Making Box Sills

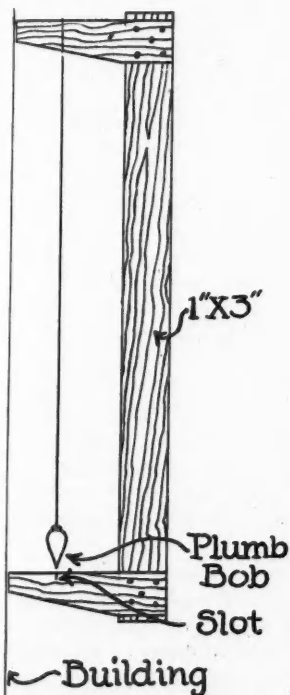
HERE is a sketch showing how I make a box sill. Instead of setting the two by eight, or whatever width piece it may be, flush with the outside of the wall plate,



A Box Sill Made in This Manner Forms a Dead Air Space All Around the Building, Both Sides and Ends.

I set it back the width of the wall studs and nail the studs to the wall plate and the piece standing on edge and spike through the piece standing on edge into the ends of the joists. This also gives a two-inch bearing for the joists.

A frame can be put up more easily this way, as each stud will stand up after being nailed. This style of sill forms a dead air space clear around the building, as the sill is built the same way across the ends of the building as well as the sides.—O. G. BARNES, Richland Center, Wis.



## Using the Plumb Bob

THE surest way to plumb a building is to use a plumb bob and handle it in the way shown here. Take a one by three, or similar piece, about the height of the object you wish to plumb. Nail a short piece to each end as shown. Before nailing these pieces on, place them side by side and saw a slot in each the same distance from the small ends. Hang the bob in one slot so that it almost touches the slot below. When placed against the side of the building, if the plumb bob is directly over the lower slot, the building is plumb.—NELS N. OIE, 915 W. 21st St., Sioux Falls, S. D.

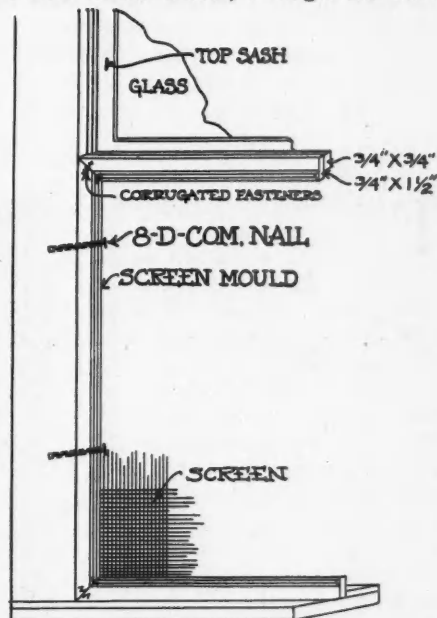
## An Error Corrected

Using the Plumb Bob in This Way Makes for Quick Accurate Work.

ONE of our readers, Mr. Nick Johnson, of Los Angeles, Cal., has called attention to an error in the article, "Quick Bridging Cutting," by Mr. Roy A. Vaughan, of Lansing, Mich., which was published in the July issue. This was made in copying the article and was not made in Mr. Vaughan's original article. The second sentence in the article was printed, "Snap two chalk lines across the joists where the bridging is to go, making the lines the same distance apart as the distance between the joists." This should have read, "Snap two chalk lines across the joists where the bridging is to go, making the lines the same distance apart as the depth of the joists."—THE EDITOR.

## To Hold Screens in Place

FOUR, ordinary, eight penny nails, can be used to hold a screen in place and keep anyone on the outside from raising it. After the screen is made, bore four holes, two on each side, as shown in the sketch, through the frame of the screen. These holes should be just a little larger than the diameter of the nails. Next put the screen in place, put the nails in the holes and tap them lightly to mark the place on the window casing.



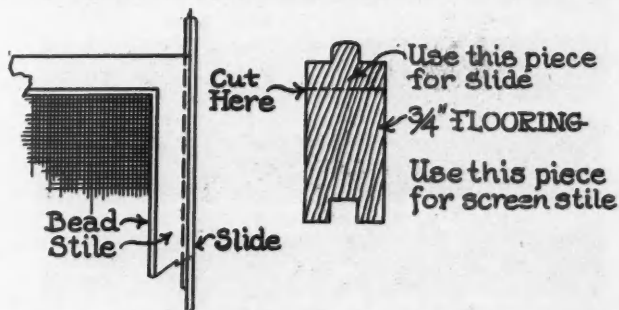
Now remove the screen and bore holes in the casing where marked, the same sizes as the holes in the screen. When the screen is put in place the nails are inserted in the holes and hold it firmly in place. They are easily removed from the inside but can not be removed from the outside. I have made a great many screens this way and find it not only much easier but much better than the tongue and groove, half screen which frequently breaks at the groove if not handled with care.—GEO. L. SPLITT, 411 Elm St., Hammond, Ind.

When Screens Are Held in Place in This Way They Are Easier to Put in or Move and Cannot Be Raised by Anyone from the Outside.

## Flooring as Screen Material

IN a recent issue Mr. Derwallis described the use of 3/4-inch flooring in making doors. It is a very good idea and one which I have used many times, in making doors and also paneled furniture. But the best use I have found for this idea was in making screens. I have screened several houses complete, using flooring for my frames.

I take cypress flooring and rip a quarter inch off the tongue side, allowing the tongue to stay with the 3/4-inch strip. This strip I use for guides and nail them to the sides of the window frames. I take the balance of the stock, turn the grooved edge out and make my frame. This forms the slide and groove and saves time and expense. It makes a good strong and neat appearing frame that will last for years.—CLIFFORD SCHMIDT, 3802 Isabella Ave., Hyde Park, Cincinnati, Ohio.



Three-quarter Inch Flooring, Cut as Shown, Can Be Used to Make Screen Frames and Screen Guides with Good Results.

# Right Lay—Lang Lay—Left Lay Tru-Lay—Regular Lay

A Perplexing Wire Rope Problem Solved

By OSCAR HELLGREN,  
*Wire Rope Splicer, East Chicago Plant,  
Youngstown Sheet and Tube Company*

**T**HROUGH my contact with several operating engineers who work in various plants throughout the Chicago district, I have noted a marked confusion of thought among these men as to the basic difference between the seemingly conflicting terms set down as the title of this paper. The exact province of the varying kinds of "lays"—just what each means and where each belongs—is not so thoroughly understood as it should be, even by men who are eminently capable as operating engineers. To the old hand, of course, these terms are elementary. For many, however, even extending to those in supervising or purchasing capacities—the terms that are so essential to intelligent use and application of wire rope seem only to contribute to clouded understanding and erroneous impressions. It is with the thought that much of this confusion might be clarified that I am setting forth the following facts.

Perhaps it is not to be wondered that many engineers carry impressions similar to one operating friend of mine who believed that "Lang Lay" was a trade name signifying an individual brand of rope, or to a maintenance man of my acquaintance who seemed quite surprised to learn that "Tru-Lay" did not signify a particular type of rope that differed in construction from ordinary ropes.

At another plant an engineer was found who entertained the fallacious belief that "Right" and "Left" lay had no relation to either "Lang" or "Regular" lay; while yet a fourth friend of mine, a locomotive crane operator insisted upon ordering his rope by such specifications as:  $\frac{7}{8}$  inch—6x19 Plow Steel," expecting the rope manufacturer to supply



Mr. Oscar Hellgren, with His Daughter, Standing Beside the Christmas Tree He Made by Splicing Various Sizes of Preformed Wire Rope.

his order without delay or confusion.

## What "Construction" Means

Just a word about the constructions of wire rope may be helpful to many. The wire rope that is commonly employed for practically all commercial purposes is made up into any one of 42 different constructions and in any one of six varying metals. There are, of course, many more than 42 different and distinct constructions, but by far the greater percentage of all wire rope service is formed by one of the 42 standard constructions. These varying constructions are designated by names such as "Seale," "Spacer Seale," "Warrington," "Tiller," etc., etc.

Practically all these several constructions are available in any one of six grades of material, which are: "Iron," "Toughened Steel," "Cast Steel," "Mild Plow Steel," "Plow Steel," and "Improved Plow Steel." While it is quite impossible to set up an arbitrary table of wire rope application to definitely limit the province or define the service of any one rope, it yet remains that each of these 42 constructions and six different grades have places where they serve best and other places where, because they would be misapplied, would fail to give their full service life.

In determining just which type of wire rope will best meet given conditions it always pays to consult a qualified rope engineer. Only through a knowledge of the working requirements and the condition of the auxiliary equipment can wire rope properly be specified.

Construction or grade of rope has no influence on its "lays," however. For instance, a  $1\frac{1}{4}$ -inch 6x19 Spacer Seale (which is to say: a  $1\frac{1}{4}$ -inch diameter rope that is made up of six strands of 19 wires each and in accordance with a construction known as "Spacer Seale") might be either Left Lay Lang Lay, Right Lay Lang Lay, Left Lay Regular Lay

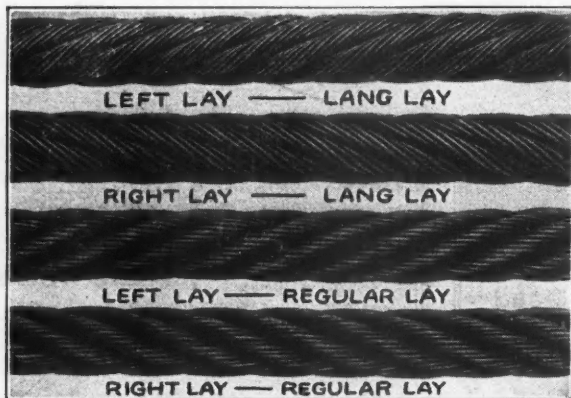
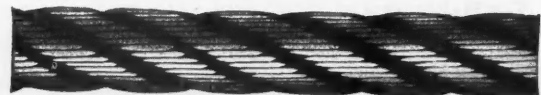


Fig. 1.—Showing the Difference Between Lang Lay and Regular Lay and Between Left and Right Lay in Each.



Partially Worn Regular Lay



Partially Worn Lang Lay

Fig. 2.—Showing How Lang Lay Offers a Greater Wearing Surface than Does Regular Lay.

or Right Lay Regular Lay—or might be any one of those, plus Tru-Lay.

### What "Lay" Means

"Lay" signifies the manner in which the individual wires and strands are laid into the completed rope. The rope that is most commonly used is that of "Regular" lay—so-called because the wires in the strands are laid in the opposite direction to that in which the strands are laid into the completed rope. This is illustrated in Fig. No. 1, and is commonly used in this country because, back in the old days when wire rope was forcibly twisted together rather than performed (which meant locking within the rope a great deal of torsional stress) the internal stresses found themselves working in opposition to each other—in one direction in the strands and in the opposite direction in the completed rope—with the result that the stresses did much to equalize themselves and make the rope less likely to kink, much less "cranky" and easier to handle than would be the case if both strand and completed rope stresses were pulling in one direction. Whether the rope be Left Lay Regular Lay or Right Lay Regular Lay depends entirely on whether the strands are laid into the rope clockwise or counter-clockwise.

In an effort to provide the individual wires with a greater wearing surface and gain a more flexible rope, the principle of laying the wires and the strands was reversed. That is to say, the strands were laid into the completed rope in the same direction as were the wires into the strands. Fig. No. 1 illustrates this type of rope also. This is called "Lang Lay" rope.

As might be expected, this "Lang" lay rope offers several advantages over "Regular" lay ropes, chief among which are:

(a)—Greater wearing surface, each outer wire having approximately three times the length exposed for wear. (See Fig. No. 2.)

(b)—Greater flexibility, because the outer wires of the strand are parallel to the axis of the rope against the manila core and, therefore, set up less frictional resistance between themselves when bending.

(c)—Lower bending stresses, the bending stress in a Lang Lay rope being approximately 80 per cent of that in a Regular Lay rope of the same construction and length of Lay.

However, there are several disadvantages to Lang Lay over Regular Lay rope, two of which are:

(a)—When using Lang Lay it is absolutely essential that all auxiliary equipment (sheaves, etc.), be in the best of condition, since a pinching sheave, for instance, will more readily deteriorate Lang Lay than Regular Lay rope. It will be obvious that to squeeze or pinch a Lang Lay rope—where the wires within the strands lie in the same direction as the strands within the rope—will more readily force the wires or strands to lift out of their proper place. This is called "bird caging"—a fault common to Lang Lay ropes that are made in the old way.

(b)—By reason of the unopposed internal torsional stress in the non-performed Lang Lay rope it has a great tendency to kink, be "cranky" and hard to handle. In addition, it will "bird cage" more readily than Regular Lay and because of this fact is quite unsuited to tasks where there is a need for elasticity or sudden stopping and starting. In oil well drilling, as an instance, Lang Lay rope would be unsuited to the work of drilling because of the liability of the rope to "bird cage," due to the oft-repeated sudden jars.

As in all ropes, Right Lay Lang Lay or Left Lay Lang Lay may be determined by whether the strands are laid into the rope clockwise or counter-clockwise.

The word "Tru-Lay" does not signify a rope of a particular construction or grade. Rather, it indicates a

method of wire rope manufacture, it being a "coined" word meaning "truly laid." Rope fabricated after the method indicated by "Tru-Lay" is rope in which both wires and strands are preformed before being assembled into the complete rope. This preforming process of "laying together" of the component wires and strands, in opposition to the old twisting process, was designed to eliminate the internal torsional stresses characteristic of twisted rope, and to compel each wire and strand to lie flat in its assigned place with little or no tendency to high strand, kink, bird cage or be "cranky."

Having eliminated these faults, Lang Lay rope made according to the preformed or "Tru-Lay" process becomes much more practicable for use than ever before. Tru-Lay Lang Lay rope, with its absence of crankiness or tendency to kink, has its inherent advantages of flexibility, greater wearing surface of wires (as compared with Regular Lay Tru-Lay) and reduced bending stresses immediately brought to the forefront. With proper auxiliary equipment many wire rope users will find economy in a change from Regular Lay to Lang Lay because of this fact.

### How to Order Wire Rope

Probably every wire rope manufacturer is repeatedly receiving orders which read something as follows: "Please ship us 242 feet of  $\frac{5}{8}$ -inch Improved Plow Steel rope," or—"Ship by express 80 feet of  $\frac{7}{8}$ -inch Seale." Such orders cannot be filled until more information is secured as to the type and kind of rope required. And when a user has an elevator stalled or a locomotive crane laid up for want of a rope the delay involved in obtaining more information is frequently very costly. Taking a few pages from my long experience regarding the proper method of ordering wire rope may save some reader a costly and aggravating delay. In ordering wire rope there are nine distinct pieces of information required. These are:

1—Length of rope.

2—Diameter of rope. (Before replacing an old rope it is always well to gauge the sheave to ascertain whether it has been worn to an extent that will cause excessive abrasion or pinch the new rope. New sheaves are cheaper than wire rope.)

3—Numerical construction—the number of strands by the number of wires in each strand. For instance, 6x7, 7x9, 6x19, etc.

4—Type of construction—such as "Seale," "Spacer Seale," "Guy," "Warrington," etc. If in doubt or ignorance of the exact construction, consult a qualified wire rope engineer.

5—Grade—whether Plow Steel, Improved Plow Steel, etc.

6—Direction of Lay—whether Right or Left.

7—Type of Lay—whether Lang or Regular.

8—Type of core—whether hemp center or Independent wire rope center.

9—A full description of the class of service for which the rope is intended.

Where more than one rope is used on a piece of equipment, specify which rope is required, as: a boom rope or a hoist rope on a revolving shovel.

Where written properly the order that originally might have read: "242 feet of  $\frac{5}{8}$ -inch Plow Steel rope," would more correctly read: "242 feet— $\frac{5}{8}$ -inch 6x19 Warrington, Plow Steel, Left Lay Regular Lay, with hemp center. This is to be used for hoist line on derrick."

If wire rope users will order their rope in accordance with these specifications they will save themselves many costly delays and assure themselves a more uniformly high average of rope service.



"Home Modernizing Activity" is the title of a new semi-monthly periodical issued by the Home Modernizing Bureau of the National Building Industries, Inc., 228 N. La Salle St., Chicago, the first number is dated August 16, 1928.

# FURNACE HEATING



## Features of Auditorium Heating

Modern Warm-Air Heating Practice as Applied to Auditoriums, Chapels and Institutional Assembly Rooms

*This Department by R. C. Nason, Heating Expert, appears every month in American Builder.*

**W**HEN rooms are small and ceilings low, radiators or warm-air registers may be exactly placed to offset the infiltration of cold and loss of heat. Assembly rooms, however, having a large number of infiltration points and plenty of area overhead give free reign to air currents both warm and cold. For this reason small rooms generally present easier heating problems than auditoriums, churches and other rooms with high ceilings.

Take a church, for example: Large, stained glass windows often fill the sides of the auditorium. These, although attractive to see, permit great loss of heat. If opened to any substantial degree the incoming air is liable to be carried to the opposite side of the room and complaints are aroused almost at once.

Entrance doors, constantly opened and closed, act as pumps and draw in a few hundred cubic feet of outside air at each opening. If there is a balcony this must be warmed and its extension over the rear or sides of the rooms interferes with heating. Sloping floors present still another problem as the cold air along the floor, unless quickly withdrawn, tumbles to points just without the chancel.

An excellent plan for heating a chapel in a boys' school with warm air is offered in figures 1 and 2, a basement and floor plan respectively. The plant consists of two large furnaces set four inches apart in a special room and enclosed in a single casing. This is known as a battery unit. The single casing reduces the floor area required and gives a more compact and cheaper heater than two separate units. The area directly under the auditorium is unexcavated, but there is eight feet headroom in the room containing the heater, fan and pressure equalizing chamber. The walls of this room are of tongue and groove boarding, double thickness, with paper between.

Complete recirculation is employed and all ducts are rectangular as shown. A mechanical, electric propeller fan, 30 inch diameter, is connected to the equalizing chamber to exhaust the cold air from the auditorium and balcony at about 60 degrees. After passing through the heater the air supply is re-delivered to the rooms at about 190 degrees. The fan handles 2,600 cubic feet per minute and operates at 690 revolutions per minute.

It takes but a second for dust to settle and the air streams to neutralize

into a single, slow current in the equalizing chamber. Were a detailed sketch to be shown it would reveal merely a 26-gauge galvanized iron box 30 inches high by 70 inches wide, open on the furnace side and closed on the others except where the fan is installed. The query might suggest itself to some readers as to whether a mechanical fan actually is needed on an installation of this kind. In the author's opinion not only is one required but through its use several advantages accrue to the owner.

Were there no fan, flat rectangular ducts would be impossible. The return-air duct shown is 14 by 68 inches, or 952 square inches in area. Were this a "gravity" installation and were a single, round duct to be used this would have to be 35 inches in diameter. If two ducts were preferred these would be 25 inches in diameter each. In general, a single duct 35 inches in diameter means great loss in headroom and those even 25 inches in diameter interfere with the use of rooms through which they pass for anything but storage of small articles. Contrarily, a

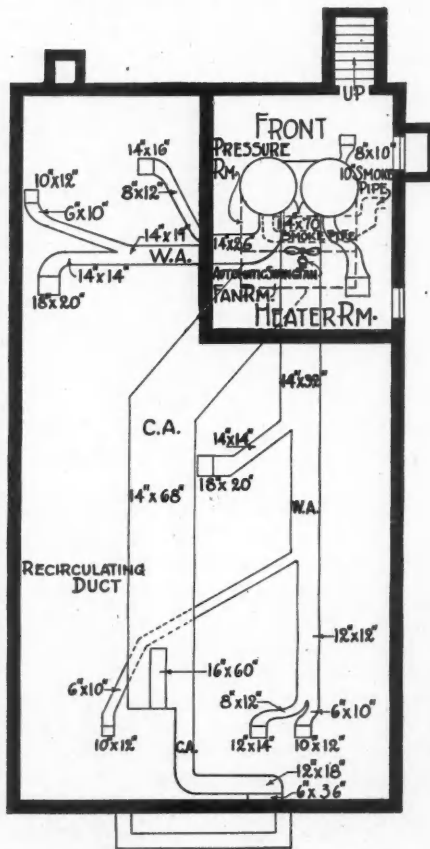


Fig. 1.—Foundation Plan of a School Chapel, Illustrating Ducts and Other Details of the Warm Air Heating System.

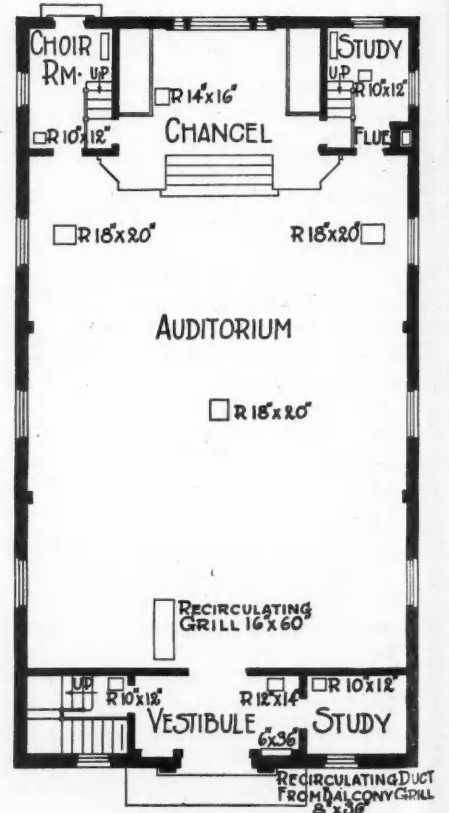


Fig. 2.—Floor Plan of the Chapel Showing the General Arrangement of Rooms and the Placing of the Warm Air Registers.



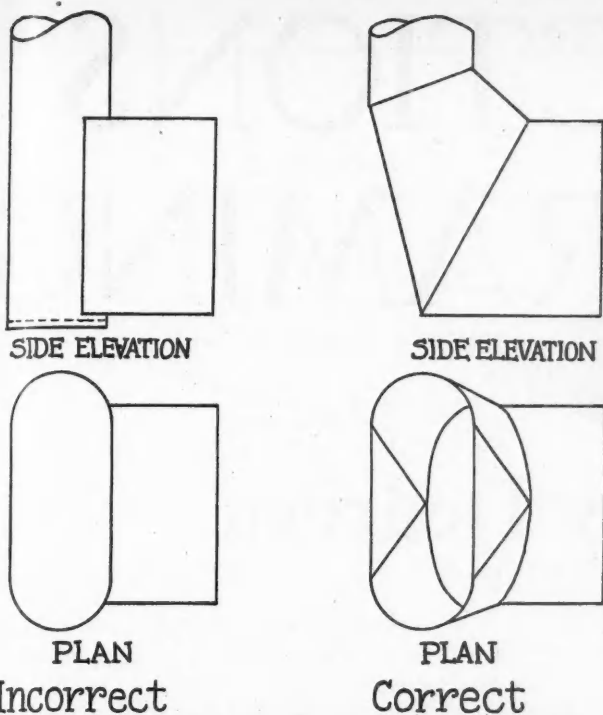


Fig. 3.—At the left: The Incorrect Method of Making a Transition from An Oval to a Rectangular Duct Is Shown. At the Right: The Correct Method of Making Such a Transition.

rectangular duct 14 inches deep presents no serious obstacle to the use of rooms as desired. When ducts extend below floors and on the exterior they must be heavily insulated and placed within boxes of matched lumber or cement trenches.

Examination of Fig. 1 shows a short, galvanized iron, upright yoke immediately ahead of the fan. To understand its use one should recall that the heaters are separated by only four inches and that there is a single casing. The yoke, more properly known as a diverter plate, spreads the air supply to the opposite sides of the furnace. The ideal introduction of the air to a furnace casing calls for equal distribution to all sides at once. This rarely is possible even in a pipeless heater, yet were there no diverter plate in a two-heater battery plant with a fan installed as shown, the air supply would be forced between the two heaters and to the front. This, besides being an inefficient plan, would result in burning out of the heater in a few months. Whenever possible make the rear of a heater do the most work as the fire is hottest there. The chief heat leaders usually are placed at the back for this reason.

In the chapel installation here shown a 16-inch high, flat top bonnet was used. The heat leaders are connected to its sides, which may readily be accomplished as 14 inches is the maximum depth of ducts. Were a fan not employed there would have to be a number of separate heat leaders and the trunk duct system would be out of the question. Further, leaders would have to be pitched upward. The round equivalent of a 14 by 32 inch rectangular heat duct would be a 24 inch diameter. Assuming a single, round duct had been used, the bonnet height would have to be 26 inches. A bonnet of this height would not yield maximum heating efficiency and there would be excessive sheet metal cost.

From the floor plan, figure 2, one observes the method of heat introduction and cool air withdrawal. There is a center aisle only. Immediately in front of the first seat row, at right and left, there are two

18 by 20 inch, floor type, warm air registers, likewise one of the same size about the center. These warm the auditorium. In the choir room and study there is a 10 by 12 inch floor register in each. A 14 by 16 inch register supplies warmth to the chancel, while three slightly smaller registers supply the vestibule and study. Thus six warm air connections deliver warmth toward the front and three near the rear, or entrance.

As the bulk of the heat enters at one end, it is logical that the cool air should be withdrawn at the other end. This is accomplished by a large recirculating duct extending under the floor the entire length of the structure. The first outlet borders on the aisle and is 16 by 40 inches. In Fig. 2 there appears an oval cold air stack 6 by 36 inches which extends within the partition to the floor of the balcony, where it is connected to an 8 by 36 inch floor grille.

In figure 3 are shown two drawings of the transition from rectangular to oval shape ducts. At the left appears an incorrect design. Some installers do not know the best practice in making such fittings and others adopt incorrect methods because they save time and labor, consequently reduce erection cost. When a horizontal duct joins an oval one in the wrong method shown there is great interference with the air current which strikes the rectangular surface too abruptly. The correct method in joining an oval and rectangular shape appears at the right in figure 3. Here there is a gradual sloping without serious resistance to the air flow. Correct fittings require only a few minutes longer to make than poor ones, hence there can be little excuse for artisans who install shoddy work.

In heating a building like the chapel shown in figures 1 and 2, all registers are of the floor type. Each fits snugly into a special, air tight, 26 gauge, galvanized iron, register box. On the bottom of the box there is a collar to which a rounded elbow is fitted to connect the warm and cold air mains. Resistance to air flow here may be excessive if pieces are carelessly designed and made. It is true most installers feel they have put in correctly designed register box transition pieces, yet there is the temptation to put in easily made fittings without heed to their correctness.

Take the wrong, but common, fitting shown as A, figure 4. Here a flat ceiling plate is nailed against the joist. This type of connection not only has a dead space along the sides, and corners but a part of the free area is obstructed by the center joist. In a 24-inch collar the amount of ineffective area is approximately 25 square inches, hence, if two or more such connections exist on the same installation, the amount of free area lost might at times amount to as much as 100 inches.

While this feature appears of minor importance, cases have been known where the poor construction referred to has caused the failure or inefficiency of an entire installation. If a flat ceiling plate must be used, then the method illustrated in "B" is much better than "A". When the connection is intended as a cold-air connection, "C" shows an ideal arrangement and is to be recommended.

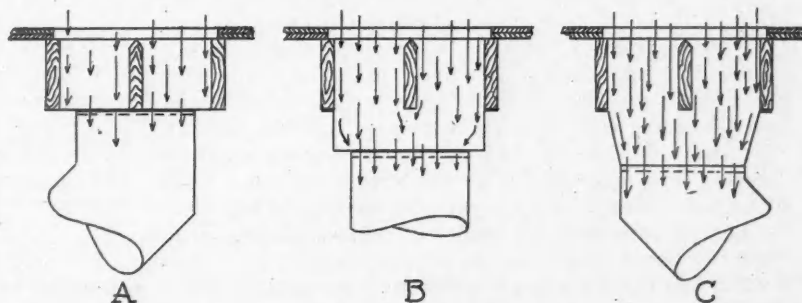


Fig. 4.—Two Incorrect Methods of Making Register Box Fittings, in Furnace Work, Are Shown at "A" and "B" While the Correct Method Is Shown at "C."

# INSTRUCTIONS *in* ROOF FRAMING



## Framing By Degrees

By JOHN T. NEUFELD

"THAT'S too deep for me," I hear some of the readers say, and they perhaps turn away to something else. We hope there will be some who will take the time to read on.

Many volumes have been written on the subject of framing with the steel square, and many hours of study have been spent on this subject by the ambitious man and many have given up in despair. We have found, however, that if the subject is presented in simple manner without clothing it with the usual mystery, that the subject is not so difficult after all.

A friend showed me a square with the usual amount of tables on it. From his talk I could gather that if any one knew all there was on this square he would certainly be a smart man. The table in particular that he showed to me was a table of board measure; a table that is both simple and useless. Squares have been filled with such and similar tables making them seem mysterious and difficult.

We will find framing by degrees even less complicated than framing by the square; we will find it less given to mistakes and we will not need to take along that big steel square. The steel square has held us captive long enough with its supposedly mysterious power, let us lay it aside for the time being and talk in plain English, or better yet, American terms on the subject of "Framing by Degrees."

The degree is the measure of an angle. A circle is divided into 360 parts, each part is called a degree. If we divide a circle into four parts, each part has 90 degrees and is said to be a right angle.

In roof framing we deal with the right angle—that is with a right angle triangle. The run, rise and length of a rafter form a right triangle, as we see in Figs. 1 and 2.

The three angles of a triangle together make 180 degrees. In a right triangle the one angle is 90 degrees, then the other two must together equal 90 degrees. This simple fact helps us to solve many roof framing problems.

As an example to illustrate this we will assume that a certain drawing calls for a roof of 30 degree pitch as in Fig. 5. We see that the bottom cut for this rafter would be a 30-degree cut. The problem is to find the top cut. This cut would be 90 degrees less 30 degrees equal 60 degrees. For marking this on the lumber we use a small protractor similar to a try square or bevel, made especially for this purpose, with the angles in degrees marked on it. Figures 3 and 4 show some more triangles and the method used to find the upper angle when the lower angle is given. The same principle is used to find the cuts for hips and valleys, etc. However, for this article we will confine our study to the common rafter.

### Length of Rafter

To find the length of the rafter we may proceed the same way as we do by the usual method. From a table giving the length per foot run we pick out the number for the desired pitch. Next this is multiplied by the run in feet and the answer is the length of the rafter. A table giving the length per foot run is given herewith.

Example (see Fig. 8): Give the length of the rafter and the plumb and seat cut in degrees for a rafter of 35-degree pitch and 12-foot run.

The table gives the length per foot run as 1.22 feet. (Note—Not in inches).

The length is  $1.2208 \times 12 = 14.6496$  feet.

To change the fractional part of a foot to inches we multiply by 12. .6496 feet is  $.6496 \times 12 = 7.7952$ , say,  $7\frac{3}{4}$  inches. The length is 14 feet  $7\frac{3}{4}$  inches.

The top cut is  $90 - 35 = 55$  degrees. The bottom cut is given as 35 degrees.

### Length Per Foot Run for Various Pitches

(The first number is the degree of the angle).

25—1.103 feet	35—1.220 feet	45—1.414 feet	55—1.743 feet
26—1.113 feet	36—1.236 feet	46—1.439 feet	56—1.788 feet
27—1.122 feet	37—1.252 feet	47—1.466 feet	57—1.836 feet
28—1.133 feet	38—1.269 feet	48—1.494 feet	58—1.887 feet
29—1.143 feet	39—1.287 feet	49—1.524 feet	59—1.941 feet
30—1.155 feet	40—1.305 feet	50—1.556 feet	60—2.000 feet
31—1.167 feet	41—1.325 feet	51—1.589 feet	61—2.063 feet
32—1.179 feet	42—1.346 feet	52—1.624 feet	62—2.130 feet
33—1.192 feet	43—1.367 feet	53—1.662 feet	63—2.203 feet
34—1.206 feet	44—1.390 feet	54—1.701 feet	64—2.281 feet

It is not necessary to know how these lengths per foot run are found, in order to use them, but it will be of interest to some of our readers to understand this part of the operation as well.

Figures 6 and 7 show two triangles each with an angle of 30 degrees. For the first triangle the hypotenuse is 15.011 feet, and the base is 13 feet. We will now divide the hypotenuse by the base:

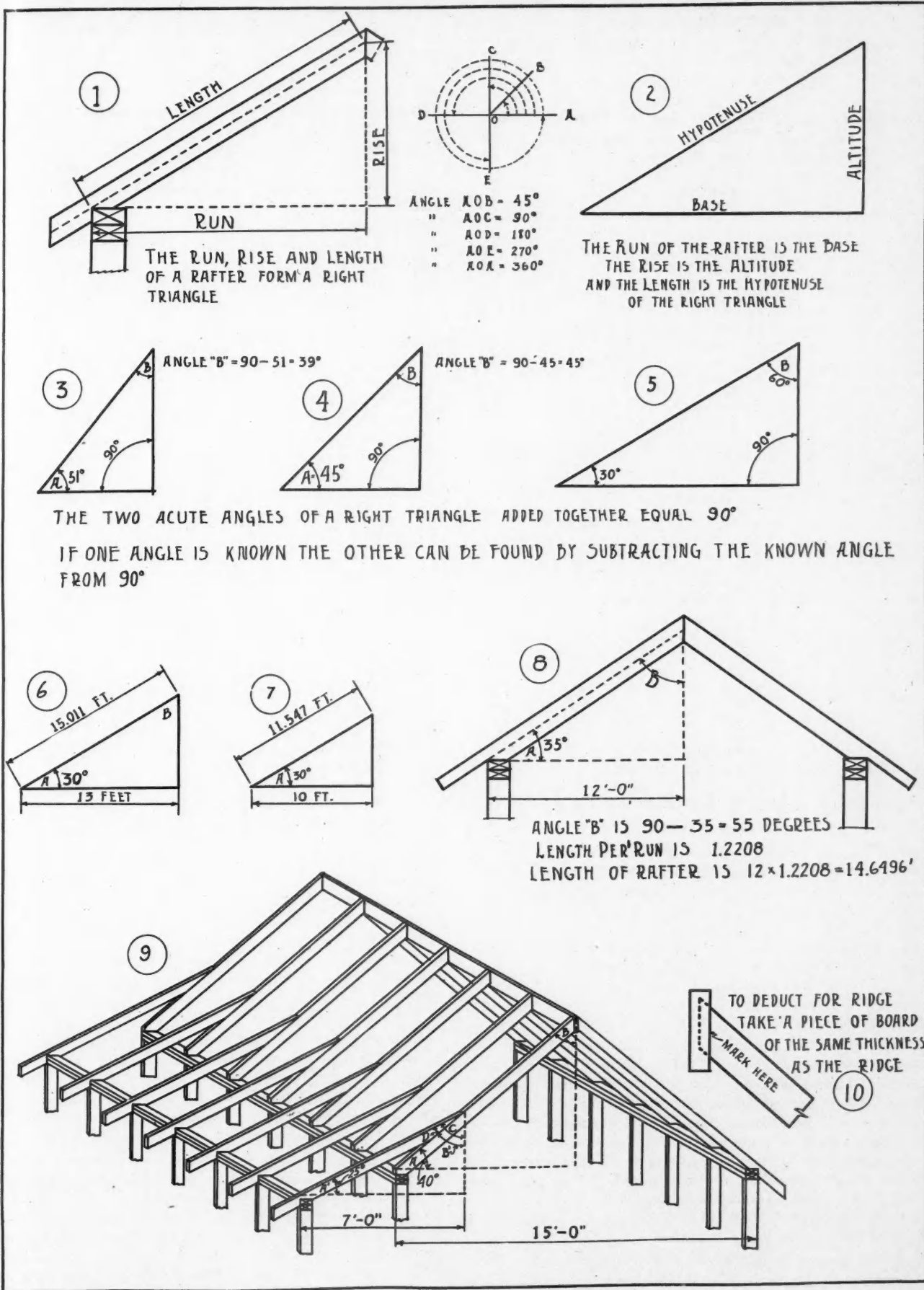
15.011 divided by 13 is 1.1547.

For the second triangle the hypotenuse is 11.547 feet and the base is 10 feet. Dividing the hypotenuse by the base is:

11.547 divided by 10 equal 1.1547.

We note that the answer is the same in each case for all angles of the same degree. In trigonometry the result is called the secant of the angle, but for our purpose we call it the length per unit run. And the unit that we use

(Continued to page 126)



Framing by Degrees Is Even Less Complicated Than Framing by the Steel Square and Is Less Given to Mistakes.

## Instruction in Roof Framing

(Continued from page 124)

is the foot, therefore it becomes the length per foot run.

A table like the above can therefore be made up from a table in trigonometry giving the secant of the angle. There are various other ratios in trigonometry that are very handy for roof framing, but we hesitate in giving them at this time. Further instructions on this may be given if it proves of interest to our readers.

### Problems

- (1) The pitch of a roof is given as 32 degrees, what is the degree of the cut to the upper angle?
- (2) What is the length per foot run for the following degrees of pitch: 27, 31, 44, 46?
- (3) What is the length of the rafter for a roof 24 feet wide with a pitch of 41 degrees?
- (4) What degree are the plumb and seat cut for the rafters in problem 4?
- (5) A rafter is 15.678 feet and has a run of 13 feet, what is the length per foot run?
- (6) What is the pitch in degrees for the rafter in problem 5?
- (7) What are the details for a rafter of span 32 feet, pitch 29 degrees?

### Answers

- (1) The upper angle is 90—32 equal 58 degrees.
- (2) 27 degrees—1.122. 31 degrees—1.167. 44 degrees—1.390. 46 degrees—1.466.
- (3) The length per foot run for 41 degrees is 1.325. The run is  $\frac{1}{2}$  of the span or 12 feet. The length of the rafter is  $1.325 \times 12 = 15.9$  feet.
- (4) Seat cut is 41 degrees; plumb cut is 49 degrees.
- (5) The length per foot run is 15.678 divided by 13 equal 1.206 feet.
- (6) The pitch in degrees is 34 (see table).
- (7) The length per foot run is 1.143 feet. The run is 16 feet. The length is  $1.143 \times 16 = 18.288$  feet. Seat cut is 29 degrees; plumb cut is  $90 - 29 = 61$  degrees.



## Apprenticeship in Building Construction

(Continued from page 100)

ter of keeping apprentices in the trade and compelling the observance of indenture contracts and the completion of apprenticeship. Every bricklayer apprentice is registered by the international union and is under certain obligations to it. Violation of an apprentice contract in any jurisdiction is punished by withdrawal of registration by the international office. By what might be called a blackballing process an apprentice who wilfully breaks his indenture is debarred by the international from becoming a union bricklayer in any local jurisdiction.

Indentures are practically uniform, a printed form furnished by the international office being frequently used. School training is a national policy and is nearly always mentioned in the apprentice contract. In nine cities<sup>1</sup> school attendance in bricklaying classes, either on paid-for time or at night school, is required under the indenture, either for the entire term or for some part of it. The unions in two other cities<sup>2</sup> require night-school courses in blue-print reading, drawing and mathematics, although this provision is not always rigidly enforced. The Chicago union operates a school of its own for apprentices.

Local control is in all cases exercised through a joint apprenticeship committee or the joint arbitration board acting as an apprentice committee.

<sup>1</sup> Atlanta, Boston, Buffalo, Cleveland, Detroit, Milwaukee, New York, Niagara Falls, and Pittsburgh.  
<sup>2</sup> Birmingham and St. Louis.

## Electrical Work

While the International Brotherhood of Electrical Workers has no apprentice program, apprenticing boys to the local union is a practice which is followed in nearly every instance in which any organized effort is being made to train mechanics. In inside wiring, as in bricklaying, the machinery is in the hands of the unions, and the contractors are rarely actively a part of the system. Variations and differences are too many and wide to discuss briefly. Basically the plan is to make the apprentice a member of the organization and to assign him to one contractor for the first year. During that year he is required to remain in the same shop, acting as stock clerk or "locker boy," in order to become familiar with materials and tools. After that his obligation is to the union, which serves as placement agent to keep him employed throughout the remainder of his term. In this way his training and experience can be made so diversified as to cover the entire field. From the contractors' point of view these trainees are helpers, with whom they have no contractual relations except, perhaps, through a working agreement. The union, on the other hand, attempts responsibility for continuous training and fairly continuous employment.

Supervision over the work of apprentices and actual teaching on the job are carried out better in the electrical trade than in others, especially in localities where the union, in its working agreement, guarantees the work of its members. School work on paid-for time was found only in Chicago and Cleveland, and for the first-year apprentices in Pittsburgh. Evening school work is obligatory for the advanced apprentices in Pittsburgh, and is "required" or "encouraged" in New Orleans, New York and Philadelphia.

Various disciplinary devices are undertaken by the unions, but, owing to the popularity of the trade, they are not particularly needed. Some unions insure completion of apprenticeship by requiring in advance annual installments on the initiation fee, the money to be forfeited if the boy leaves the trade. In spite of the lack of contract or obligation on the part of the employers to keep an apprentice, the record of completed terms is as high in the electrical trade as in any of the building crafts.

## Sheet-Metal Work

The National Association of Sheet-Metal Contractors has drawn up an apprentice training plan following closely that of the National Association of Master Plumbers. It includes a detailed course of study in shop work and related subjects. This is so far merely a plan and has no active promotion behind it. The Sheet Metal Workers' International Association declares in its constitution that it "favors the adoption of a sound system of apprenticeship which will give the fullest opportunity to apprentices to learn the trade of sheet-metal workers in the various branches of the industry in a thorough manner."

However, very little real apprentice training exists in the trade. It seems to be the least popular of all the building trades, with the possible exception of painting. It attracts fewer entrants and loses a far larger percentage of those who do enter than does any of the crafts with a more widely practiced apprentice plan.

In 13 of the 19 cities visited sheet-metal apprenticeship is planless and haphazard even where some attempt is made to do more than follow the helper system. On the other hand, well-developed training methods, operating through joint committees and including formal indenture and school work, obtain in Boston, Chicago, Cleveland, New York, Pittsburgh and St. Louis. The Pittsburgh method is the plan of the national association in actual operation and includes school work on paid-for time at Carnegie Institute. The Chicago and Cleveland plans also embrace school

(Continued to page 128)

# LAW for the BUILDER



## Possible Danger to Contractor in Attempting to Make One Mechanic's Lien Cover Work Done on Two Contracts.

**M**echanic lien laws, as a general rule, provide that claims under them shall be filed within a certain time after the last work is done upon a given contract. This time may be three, four, or perhaps six months, depending upon the statute in force, but in cases where the work is clearly performed under but a single contract compliance with the statute is usually a simple matter. All the contractor, or other person claiming a lien, has to do is to file his claim before the expiration of the time fixed in the statute.

However, where the work is performed through the medium of two or more contracts we may have a very different situation. The contractor may finish one contract, and immediately start upon another contract, upon the same piece of work. In such a situation, the contractor may be placed in a very difficult position in the event he attempts to thereafter file a mechanic's lien, dating it from the work done on the second contract, with the idea of also taking in the work done under the first contract.

This is true because in some states it has been held that a mechanic's lien must be filed for whatever is claimed under each contract. In other words that the doing of work under a second contract will not extend the time back for filing a lien for work done under a prior contract. If then, as noted above, the contractor attempts to connect his right to a lien with prior contracts, by filing his claim under the statute for work done upon a later contract, he may in the end lose his right to a lien for work done on the first or prior contract.

### Contract to Superintend Work Entered Into

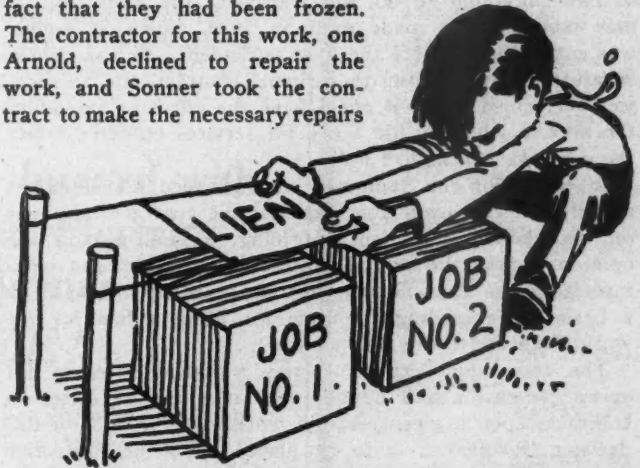
This danger point, to anyone doing work relying upon the protection of a mechanic's lien law, is illustrated in a number of well considered cases among them being the recent Kansas case of Sonner vs. Mollohan et al., 210 Pac. 649. The facts in this case were somewhat involved, but, in so far as material to this discussion, were in the main as follows:

Mollohan undertook the erection of a dwelling house

and employed Sonner to superintend the work, hire help, and buy materials, with the understanding that he was to be paid 10 per cent of the cost. The house, it appears, was finished and Mollohan took possession, then followed a long period of negotiating with Sonner relative to his compensation.

In the meantime, it seems, the cement work, consisting of walks and driveways, had to be repaired owing to the fact that they had been frozen.

The contractor for this work, one Arnold, declined to repair the work, and Sonner took the contract to make the necessary repairs



It Is No Use Trying to Stretch a Lien to Cover More Than One Contract Even Though the Contracts May Be on the Same Piece of Work.

for which he was paid \$125. He purchased some material, but, it seems, he failed to have this repair work done.

However, Sonner, thereafter filed a mechanic's lien against the property dating his lien from the work done under the last named contract. By this lien Sonner attempted to also secure payment for the work done under the first contract that he had entered into with Mollohan. This on the grounds that in reality the two contracts were one in that they constituted a continuing contract.

Upon trial in the lower court Sonner was denied a recovery on his lien claim, and he carried the case on appeal to the Supreme Court of Kansas. Here in deciding whether or not the contracts between Sonner and Mollohan were such as to permit the former to recover under the mechanic's lien law it was, among other things, said:

"The appellant [Sonner] is correct in the statement that the real question to be decided is whether or not the services performed and material furnished was under a continuing contract or under several disconnected or separate contracts. If they were furnished under separate contracts, the claimant would be required to file liens for each contract. \* \* \*"

Following the above statement of the



The Paving Contractor Did a Poor Job Which Required Repairs. This lead to a costly legal controversy over coverage of a mechanic's lien. It pays to find out first what a lien will cover.

question before it the court directed its attention to the facts in the case to determine the answer. In this connection it was, in part, said:

### What the Court Decided

"There is no real dispute between the parties as to the law. The real controversy is over a question of fact, whether the work of repairing the walks and driveways was performed under the original contract. \* \* \* The evidence shows without dispute that Arnold constructed the walks and driveways under a contract, and that his work was fully completed in the fall of 1919.

"The appellant [Sonner] at this time was endeavoring to get a settlement with Mollohan, presumably upon the theory that the work of constructing the dwelling house was completed. Moreover, the appellant was under no contract guaranteeing the cement work, nor was he obligated to do anything with respect to repairing that work unless some new contract or arrangement was entered into between him and Mollohan.

"It appears from the evidence that he laid the blame for the defective cement work where it belonged, upon Arnold, who had the cement contract. Arnold declined to have anything to do with repairing the work, and a new contract was made early in 1920, which, it seems, was entered into before the final settlement. It was clearly separate and apart from the original contract, and no services performed under it could have the effect of extending the time in which to file a lien for services rendered under the original contract. \* \* \*

In conclusion the Supreme Court affirmed the judgment rendered in the lower court against the contractor Sonner on his claim for a lien. Holding, as outlined in the opinion, that as the second contract was distinct and separate from the first Sonner was not entitled to use it as a basis for extending the time for filing a lien for the work done under the first contract.

The foregoing decision carries a valuable lesson for every contractor and builder who may take a series of contracts upon a given piece of work. In the light of this decision, if reliance is to be placed upon the protection of a mechanic's lien statute, the contractor should either be certain that the second contract is but a continuation of the first, or else take steps to protect his interests for the work done under the first contract within the time fixed by the statute. Certainly, in view of this holding, the contractor should use great prudence in entering into a series of contracts with the idea of coupling all claims under them with a lien claim filed and dated from the last work done on the last contract.—Leslie Childs.



## Apprenticeship in Building Construction

(Continued from page 126)

work on the employer's time. In all three cases school courses cover shop practice and related work in pattern drawing and mathematics. Compulsory attendance at evening schools for courses in pattern drawing, mathematics and applied physics is the practice in the other three cities.

In New York and Boston joint apprentice committees of unions and employers' associations are working bodies definitely controlling all phases of apprenticeship in the sheet-metal craft. The system is less closely co-ordinated in Chicago, Pittsburgh and St. Louis, although there, too, control is by joint action of unions and organized contractors under an apprentice agreement. In Cleveland the sheet-metal trade has only very recently become identified with the general program of apprentice training followed by the building industry of that city.

### Trades Having No Apprenticeship Policy

Thus far only the positive side of the picture of apprenticeship in building construction and what actually is being done have been presented. There remains the negative side,

the story, as it developed during the survey, of what is not being done. That story, too, is a local one, but just as the trades already discussed show trends toward the development of fairly uniform apprentice systems, others show a definite tendency, as crafts, to disregard the whole matter of apprenticeship and trade training. Always admitting the exceptional isolated cases found in the reports by cities, the three remaining important organized trades in building construction—carpentry, plastering and painting and decorating—have no apprentice policy and no apparent interest.

### Plastering

The attitude of the plasterers' unions is often frankly one of restriction of apprenticeship, and the practice of apprenticing only sons of journeyman plasterers is quite general. On the other hand, the seasonal nature of the work encourages the "hire and fire" method on the part of contractors, who feel that continuous employment under an apprentice contract is impractical in their line. They deplore, however, the scarcity of skilled men in ornamental work, for which there is a rapidly increasing demand. Apprentices as a rule are being trained in ornamental work, but the ratio of apprentices to journeymen is very low, even in cities where systematic training is undertaken.

### Carpentry

Several elements seem to enter into the apprentice situation in the carpentry trade which make any definite development difficult. One is the changing character of the work itself and the pronounced tendency toward specialization, a change in which substitution of materials in large building operations plays a considerable part. Another is the fact that there is no serious need for apprentices in the trade, since it is so readily recruited from semi-skilled laborers, helpers and "handy men" who have had enough experience to do much of the work required in ordinary building. Still another phase, noticeable in many of the cities visited, is the absence of contact between the union and the contractors through a working agreement. It was a common occurrence throughout the investigation to find general contractors who keep bricklayer apprentices as a matter of course but never have a carpenter apprentice.

Formal indenture is rare in the carpentry trade outside a few cities, and no policy of continuous employment is undertaken. The apprentice is not required to serve his full time with one employer and there is no control of his wage scale, so he shifts from job to job and frequently is receiving journeyman's pay long before his four years' apprenticeship has expired.

### Painting and Decorating

Conditions in the painting and decorating trade with regard to apprenticeship are chaotic. In the opinion of various old established contractors the chief difficulty is the instability of the trade. Both employers and workers, they say, are largely floaters. Objection is made by contractors to a long term of apprenticeship in a trade in which, except in high-class decorating, they consider a long learning period unnecessary. Where carefully regulated apprentice training is found it is largely confined to the decorating branch of the work, in which skill is required and there is a demand for workers. On the whole, the supply of painters is such that no real need of new material is felt.

Another important deterrent in apprenticing to the painting trade is its unpopularity among boys. It is difficult to interest boys in the work, and even more difficult, apparently, to hold the small number who take it up. This is as true where there is organized machinery and school work as it is of cities in which the whole trade is haphazard.

### Other Crafts

Two other crafts, structural-iron work and elevator construction, were included in the study, but nothing therein was found in any city which could be considered as coming within the bureau's definition of apprenticeship.

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# WHAT'S NEW ?

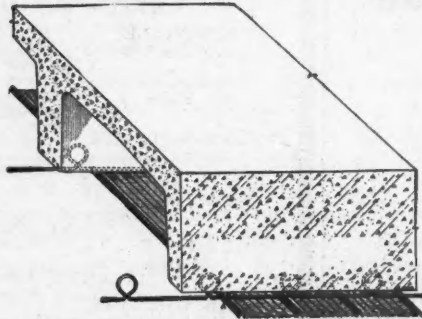


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## Economical Device to Fasten Metal Lath to Concrete

**H**ERE is a new device which was primarily designed to solve the problem of tying metal lath to concrete and, at the same time, effect an appreciable saving in construction cost. It has since developed other uses of almost equal importance.

Concrete, Tee-beam floor construction, with metal pan forms is well established as a substantial and economical fireproof construction. Its only drawback is the difficulty and expense of applying metal lath for the ceilings. The use of hanger rods and channel runners for this purpose is good construction, but was not considered economical by



**This Device Is a Practical and Economical Means for Tying Metal Lath to Concrete and Also Serves Other Important Purposes.**

the developers of this new device. This company states that, by using its device, the cost of channel runners is saved and the construction is actually improved; that this saving in actual figures runs from 25 cents to 40 cents per square yard, depending on local condition.

These inserts are made from 11-gauge, galvanized wire. The anchor loops are  $1\frac{1}{4}$  inches in diameter and are spaced six inches on centers. The inserts come in five-foot lengths with a half anchor loop on each end, so that when in place the insert is continuous. They are packed in cartons of 500 feet, weighing approximately 37 pounds per carton. When spaced two feet on centers, as is usual with Tee-beam construction, 500 lineal feet per 100 square yards will be required. From actual data, it is stated, one man can place 500 lineal feet per hour.

In placing, these inserts are placed in an ordinary saw cut in the concrete form soffits. Since the inserts are just a trifle wider than the ordinary saw cut they need only be wedged in and will remain securely in place. The concrete is then poured and when the soffits are removed there remains a continuous hanger formed by the inserts, which permits the metal lath to be tied at the rib. The cost of the saw cuts in the soffits is only about 10 cents per 100 lineal feet, it is stated, or  $\frac{1}{2}$  cent per square yard. This cost may be eliminated by having the saw slot included when the lumber is surfaced and sized at the mill.

Besides this use for the new device it has proved most efficient as an anchor for brick, stone or terra cotta veneer. The inserts are placed vertically in concrete walls or on frame construction and a strong anchor is obtained by

slipping a wire loop around the insert and embedding the loop in the mortar joint. The insert being continuous it is available for irregular spacing of the mortar joints.

By placing the inserts in flat slabs, beams, columns and other concrete surfaces that are to be plastered and then tying a light weight metal lath to them the problem of a plaster base is solved. This application can also be used to good purpose in overcoating old frame houses with stucco.

Since these inserts are continuous they afford an excellent means for various crafts, besides lathers, to attach their appliances. Such items as vent pipes, light conduit, signal tubing and suspended ceiling hangers are readily tied to them.

A ceiling plastered over metal lath tied onto these inserts lends itself readily to alterations. It is only necessary to retie the new metal lath to the original inserts. They are not unsightly nor have they any dangerous projecting points. For that reason they can be specified safely in parts of the building that are to be plastered at some future date.

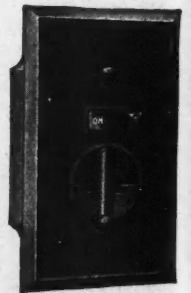


## Device Improves House Wiring

**N**OWADAYS the home owner is being told by the electrical dealer that his home needs rewiring and in most such cases it is true. In the present rewiring campaign the dealer is showing the owner of houses even a few years old how lacking many of them are in the matter of proper installation of wiring devices. In many cases, however, the householder feels that he cannot go to the expense of complete rewiring. In spite of this many improvements can be made in present house wiring that are a big help and do away with the confusion of extension cords so often necessary in old homes.

One of these improvements is a combination flush tumbler switch and receptacle, single gang. The advantage of this device is that in many cases houses have at least one flush tumbler or push button switch in each room and few if any convenience outlets. This device can be installed in double pole circuits wherever there is a flush tumbler switch in use, giving the convenience of the new improved type of switch and, at the same time, without adding wiring or labor charges, including one of the best and most convenient outlets made.

This outlet is really convenient because it has a concave boss and ridge across the face of the boss which enables instant insertion of the prongs of the cap. It is fitted with a beautiful composition plate of phenolic resin material which is a perfect insulator and very durable. The color of this plate is a dark brown, but it can also be supplied in black.



**Here is a Switch and Receptacle Which Improves the Wiring in Old Houses at Small Cost.**



# NOW YOU CAN SEE THE NEW DISSTON SAWS

**G**o to the store where you buy your tools. See the new line of DISSTON Hand Saws . . . new in every feature . . . lighter, thinner, faster cutting, smoother-running, easier on your arm.

You will like their better balance, their easier "hang," and other improved features which the good mechanic notes at once.

You will like the larger hand-holes, with their more comfortable grip. All handles have covered tops and a beautiful new weather-proof finish.

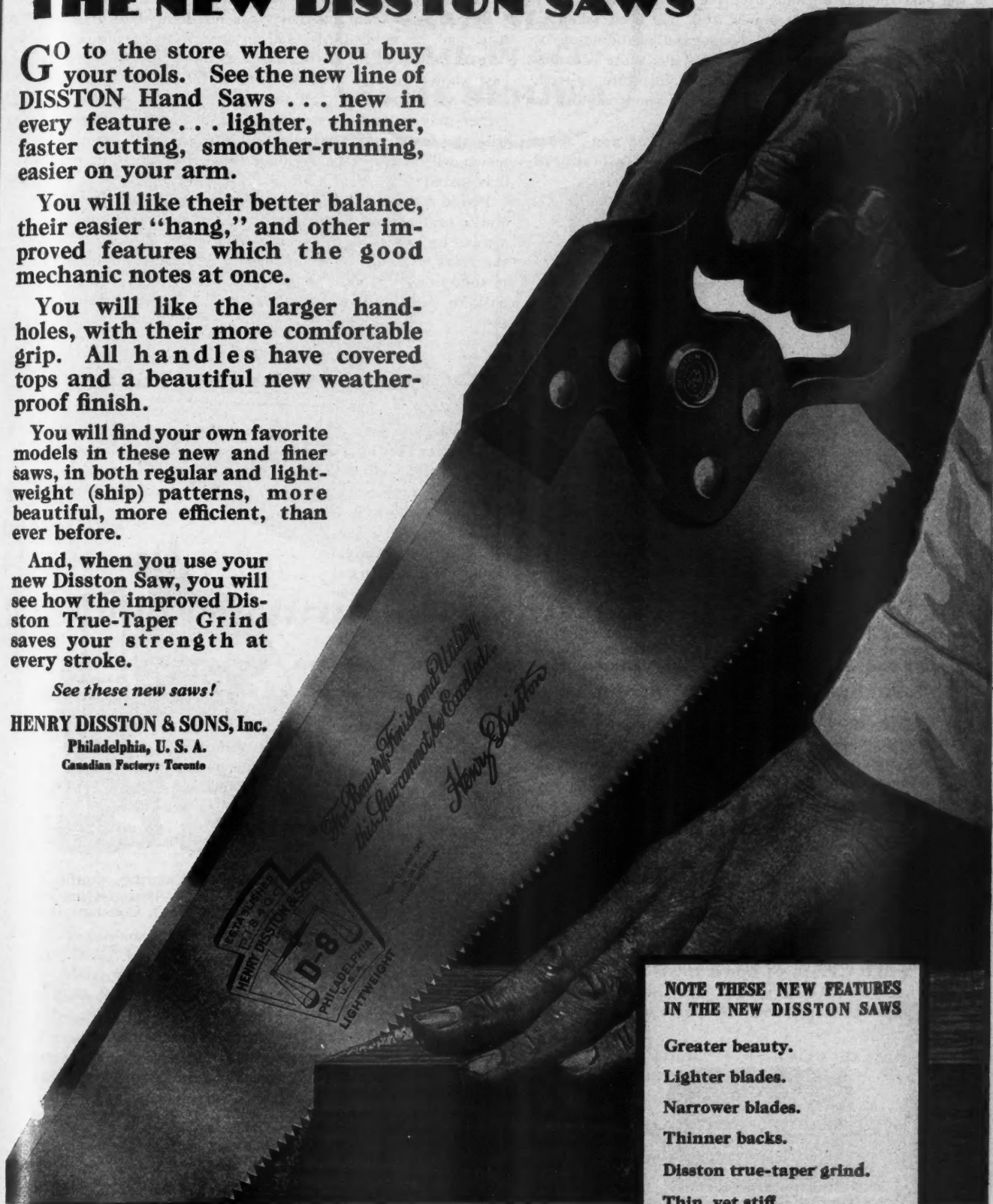
You will find your own favorite models in these new and finer saws, in both regular and light-weight (ship) patterns, more beautiful, more efficient, than ever before.

And, when you use your new Disston Saw, you will see how the improved Disston True-Taper Grind saves your strength at every stroke.

See these new saws!

**HENRY DISSTON & SONS, Inc.**

Philadelphia, U. S. A.  
Canadian Factory: Toronto



**NOTE THESE NEW FEATURES IN THE NEW DISSTON SAWS**

- Greater beauty.
- Lighter blades.
- Narrower blades.
- Thinner backs.
- Disston true-taper grind.
- Thin, yet stiff.
- Higher polish; finer finish.
- New handle designs.
- Larger hand-holes.
- Weatherproof handles.

# DISSTON

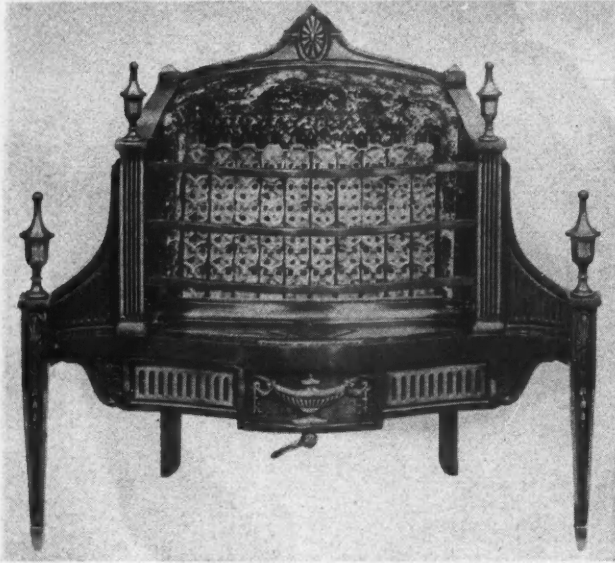
**"THE SAW MOST CARPENTERS USE"**

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

## Gas Burning Fireplaces Made in Period Styles

IN the past the gas burning fireplace has been little more than a heating unit, but a new step has been taken in the gas grate field. With the design and introduction of gas grates in authentic period styles, the gas grate becomes not merely a heating unit but a piece of furniture as well, a distinctive part of the furnishings of the room, adding to the attractiveness and value of the home.

The line of gas grates of which these period units are a part is already familiar for its efficiency. As the beauty of

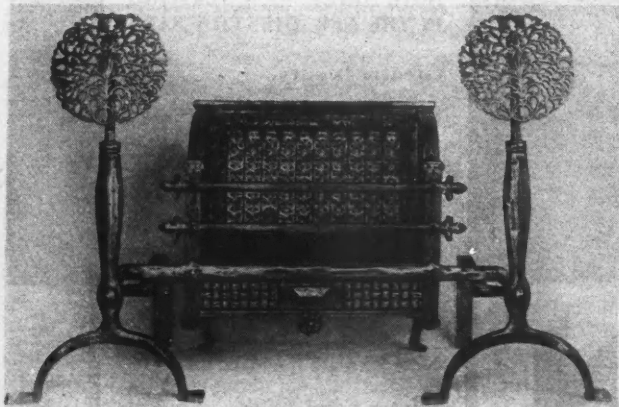


Gas Burning Fireplaces in Period Designs Contribute to the Permanent Beauty and Value of the Home as Well as to Comfort and Economy. This is an authentic Adam design.

its period styles becomes better known it will rapidly fulfill the manufacturer's aim to make fireplaces which contribute not only to comfort, health and economy, but also to the beauty of the room.

The illustrations show two of the styles in which these units are available. These styles are all authentic replicas of the best English fire basket designs of the period from 1600 to 1700, the century which saw the birth of artistic and craftsmanlike endeavor. One of the designs shown is an Adam design, and as such stands as a reproduction of the best in art.

Robert Adam was the greatest architect of his time, 1728 to 1792, and, inspired by the best of Greek and Roman



Another of the Period Designs, a 16th Century Style with Haddon Hall Andirons Is One of This Line Made in Solid Iron and Solid Bronze.

art, produced creations noted for their complete symmetry, beauty of straight lines and the artistic use of medallions, a lightness and airiness of design which at the same time portrayed a strength which was purely Greek.

But Robert Adam's activity was not limited to architecture, and he applied his skill in design to furniture and carpets, and it is for his furniture designs that his name is best known today. And so, with the Adam style of fireplace, as well as with all the period designs offered, the owner may have the assurance that his home is equipped with the finest which artistic skill has produced, something which will last as long or longer than the house in which it is installed.

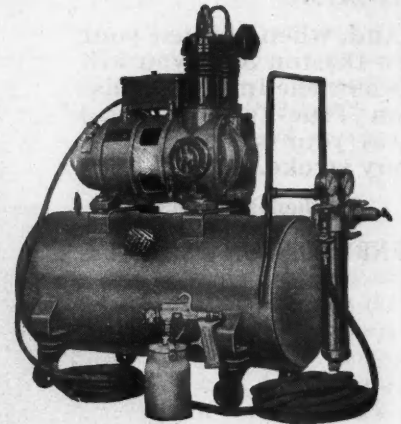
Period furnishings never go out of style. They are basic and a part of history and tradition. Period furniture will always be handed down from generation to generation, and the years will only add to its beauty and value. When cast in solid iron or bronze, as are these replicas of the early fire baskets, there need never be any fear of physical depreciation.



## One Gun Paint Spray Unit

THIS spray painting outfit is a portable unit mounted on casters so that it can be moved about freely, and is suitable for interior finish, building maintenance, automobile painting and factory finishing departments and similar uses. It is recommended wherever one-gun capacity must be almost constantly in use.

The motor is a 1½ H. P., ball bearing, compressor type. The compressor is a two cylinder unit of ample capacity to keep one large size gun in continuous operation. It is air cooled and has splash lubrication and an automobile type crankshaft with end thrust bearing adjustment. The cylinders and pistons are ground and fitted and equipped with oil proof rings. The latest type plate valves are used and the cylinders have a one-piece, removable head, facilitating maintenance work.



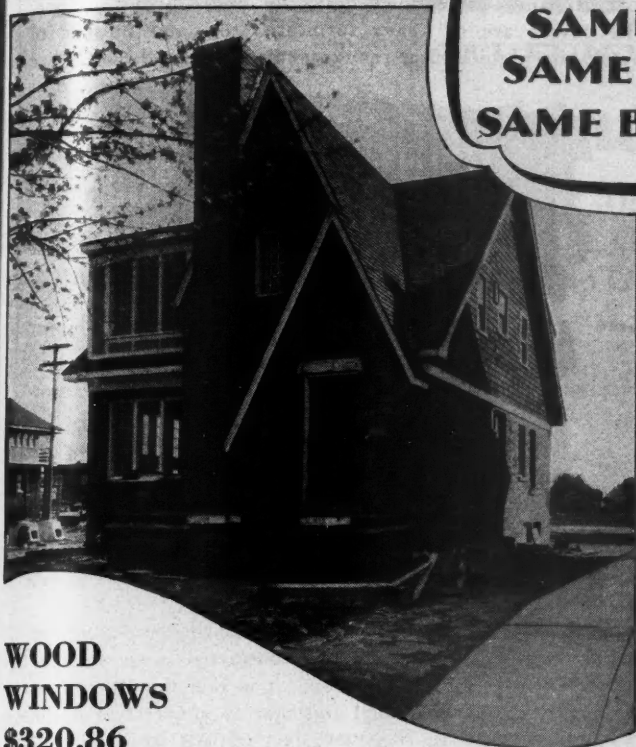
This Spray Painting Outfit Is Adapted to Use Where a One-Gun Capacity Must Be in Constant Use.

The unit is direct connected with the motor by silent, spiral, bevel transmission. There are no belts or chains. It is bolted to the tank with rubber cushions. There is an automatic valve control and unloader which insures the best results. This automatically releases the load when the maximum pressure is reached, saving power and eliminating unnecessary wear and tear on the motor while maintaining an ample air supply.

The fittings include a pressure gauge, air filter, oil and moisture drain, oil gauge, safety valves, latest type toggle joint switch and 25 feet of rubber covered cable with plug. The overall dimensions are 34 inches long, 18 inches wide and 39 inches high.

The spray unit includes a large size spray gun, giving wide, fan spray or round, concentrated spray, a quart size aluminum cup, 25 feet of tested air hose which connects the gun with the transformer with its combined moisture extractor and pressure regulator. It is suitable for lacquer or other spraying materials.

**SAME PLAN  
SAME SIZE  
SAME PLACE  
SAME BUILDER**



**WOOD  
WINDOWS  
\$320.86**

**FENESTRA  
CASEMENTS  
\$283.21**

*... and Fenestra Casements Actually Cost Less*

The Miller-Storm Company, one of Detroit's largest home-builders, just completed these two income bungalows, using the same set of plans.

The one at the left has double-hung wood windows throughout except in the dining and living rooms, where in-swinging wood\* casements are used. Their itemized cost sheet shows the following:

Frames and Sash . . . . .	\$155.90
Trim . . . . .	26.83
Hardware . . . . .	39.45
Glazing . . . . .	72.48†
Weatherstrips—casements only . . . . .	26.20
	<b>Total \$320.86</b>

(\*Out-swinging wood casements would have cost over \$100 more.) †\$32.00 extra for leaded glass.

Fenestra Casements were used in the house at the right. In the living room one Fenestra Window replaces the three wood casement windows—with the same glass area. The costs on this house were:

Fenestra Casement Windows . . . . .	\$164.00
Glass . . . . .	24.48
Glazing . . . . .	27.20
Extra Plaster . . . . .	25.50
Extra Rough Lumber . . . . .	12.03
Trim . . . . .	30.00
	<b>Total \$283.21</b>

More and more builders who know their costs are changing from wood to steel. They are finding real savings in using Fenestra Casements—savings in material and labor, savings in speed of sale due to the home buyer appeal—along with the beauty and convenience of these better steel windows.

Check these figures over and see where the difference lies, then try Fenestra on your next house and check the cost yourself. Our Fenestra Casement catalog shows installation details. Write for it.

DETROIT STEEL PRODUCTS COMPANY  
2304 EAST GRAND BOULEVARD, DETROIT, MICHIGAN  
Factories: Detroit, Michigan, and Oakland, California  
Convenient Warehouse Stocks

# Fenestra

CASEMENT WINDOWS  
OF STEEL

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

### For the Well Equipped Apartment

**T**HE problem of caring for soiled clothes and linens is a bothersome one, especially in the modern small apartment where there is no space to place an awkward, old-fashioned clothes hamper out of sight. Because of this fact, apartments equipped with the attractive and convenient fixture shown here will make a strong appeal to the woman who is looking for an apartment home.

This fixture is nothing more nor less than a handsomely



**This Neat Metal Case Takes Up Little Space in the Small Bathroom as a Receiver of Soiled Clothing.**

finished metal box, 21 inches long, 9 inches wide and 30 inches high. It is finished in Duco in beautiful antiqued green, red, orchid or white. A removable bag is fitted to the inside of the box to receive soiled clothes, and the bag, clothes and all can be lifted out to be sent to the laundry. Another bag immediately replaces it. With the top closed, no sign of the contents is visible and the fixture is merely an attractive piece of furniture which takes up very little bathroom space.

These laundry containers are made in two styles. The one is a plain metal box with louvers on the side for ventilation. The other supplies the demand for the greatest attractiveness being perforated in cane panels. In this model the perforations take care of the ventilation.



### Modern Radiators

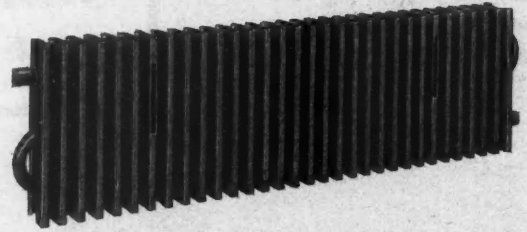
**P**ROBABLY one of the most radical innovations in the equipment of buildings which has made its appearance in several years is the new type of radiation that has recently been perfected. The new radiator is said to be more efficient, to give more satisfactory results and to be more economical of fuel than the older cast iron radiator.

This unit consists of a steam chamber in the form of a seamless copper tube, with no brazed soldered or welded joints. This tube insures quick circulation and makes air pockets impossible. Connections to the main steam pipes are obtained by the use of a union type joint which insures against leaks, corrosion and other troubles. The extended surfaces are made of sheet copper formed in special dies and welded about the steam chamber, the resulting contact insuring perfect heat transmission, it is claimed.

The design permits, without obstruction, the rapid passage of air through the "chimneys" formed by the extended surfaces. This construction makes it unnecessary to provide chimneys in installing. The air entering the base of each chimney is rapidly heated by the extended and prime surfaces and discharged with a high air velocity. A uniform temperature is effected in all parts of the room through the induced, rapid circulation, convection heating.

These units may be used with or without a cover. When

used as exposed radiation a cover is recommended by the manufacturer and this may be obtained finished in natural wood grain surfaces to match the trim or with one priming coat of paint, to be finished in any desired color scheme. The covers are of heavy furniture steel and finished to match any architectural requirements. When the units are



**Here Is a Heating Unit, Composed of Seamless Copper Tubes, Which Gives a 95 Per Cent Convection.**

recessed no cover is required. The radiator can be incorporated in the wall structure

It is stated that these radiators require approximately one third the space of cast iron radiators and that the owner actually realizes even more space economy because of the absence of an area around the radiator which is too hot for comfort. The weight of the radiator is approximately one-seventh that of cast iron which means a material saving in shipping, handling and setting.

Because of their quick heating qualities and the convection method of heating as contrasted with the part convection part radiation method, it is said that these units are very economical of fuel and that 55 square feet of this radiation is equal to 70 square feet of cast iron radiation.

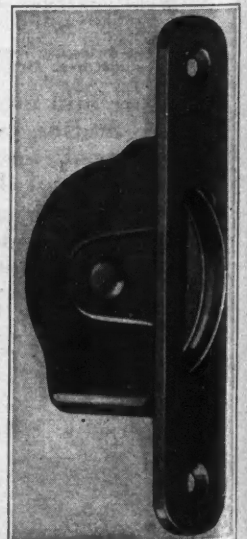


### Noiseless Sash Pulleys

**T**HE modern demand for fresh air and lots of it has had an important effect on window frame construction. Today people demand that windows open easily, quickly and noiselessly. This demand has led to the perfection of window frames and sash pulleys. A good pulley, they realize, will save much energy and many bad tempers. A window that is opened and closed several times a day must have pulleys that not only work easily and noiselessly, but withstand many years of such service. It is now possible to buy pulleys that are guaranteed to be noiseless in operation and to function perfectly for the life of the building.

The bushing of this pulley, the part of the wheel in contact with the axle, is of hard white maple, saturated with a non-drying lubricant. Thus the wearing, noisy friction of metal on metal is eliminated. The trouble occasioned by the sash cord catching in the pulley when a window is raised or lowered quickly is obviated by an improved pulley design.

Ordinarily we do not think of sash pulleys as affecting home comfort, yet a poorly designed pulley may allow considerable cold air and dust to enter a building. The better pulleys are now designed to reduce air and dust intake around the wheel to a minimum. It is also important, because of climatic conditions, that pulleys be lacquered on the back of the housing as well as the face and that the wheel be lacquered all over so as to prevent rust.



**Sash Pulleys, Equipped with Hard Maple Bearings, Make Noiseless Windows.**

# THIS BATH IS YEARS AHEAD

IN CONVENIENCE AND DESIGN

## The Combination Bath Tub

A PATENTED ONE PIECE UNIT OF  
REGULAR BATH, SHOWER BATH, SEAT  
BATH, FOOT BATH AND CHILD'S BATH

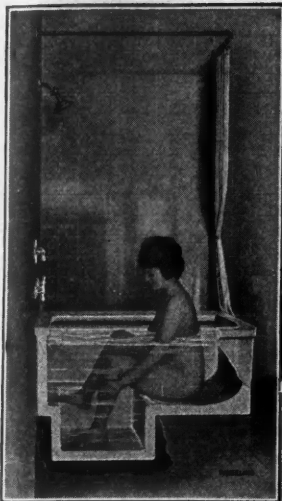


PLATE 30-E

Semi-Vitreous Porcelain Ware.  
44x30 inches to tile in right or  
left hand corner, or in recess.  
Glazed white all sides.



PLATE 10-E

Enameled Iron Ware, 44x30" to  
tile in recess. Enameled white  
front. Waste in foot section  
either right or left hand end.  
Also made for right or left corner  
of room. Plate 11-E.

FORT DEARBORN LODGE  
An exclusive Residential Hotel  
241 Brady St., North,

Dearborn, Mich., May 19, 1928

Wheeling Sanitary Mfg. Co.,  
Wheeling, W. Va.

Dear Sirs:

In keeping with promise given your representative re-  
cently, I am pleased to tell you of our experience with the  
Combination Baths of your manufacture which were installed in  
the Ft. Dearborn Lodge, Dearborn, Mich., in 1927, to the number  
of ninety.

Frankly, I have nothing but the highest praise for  
these baths, and the consensus of opinion as held by the users  
of these baths coincides with that of my own. I recall your  
having laid particular stress on one of the questions you asked  
me to touch on; namely, whether these baths aid or retard the  
rental of the apartments. Without equivocation I answer this  
by stating that they are a great aid. There can be no doubt  
about this, because the baths provide everything a person could  
desire in the way of comfort and general all around bathing  
facilities; and to a far greater extent than any other bath tub  
I know anything about, and that is why they have the universal  
endorsement of all our tenants.

I trust my endorsement may be of aid to you and be the  
means of others availing themselves of your Combination Bath,  
which I think is destined to eventually supersede all existing  
types of baths.

Extending my very best wishes for your future success.

I am

Yours very truly,

*George A. Sweeney*  
Manager.

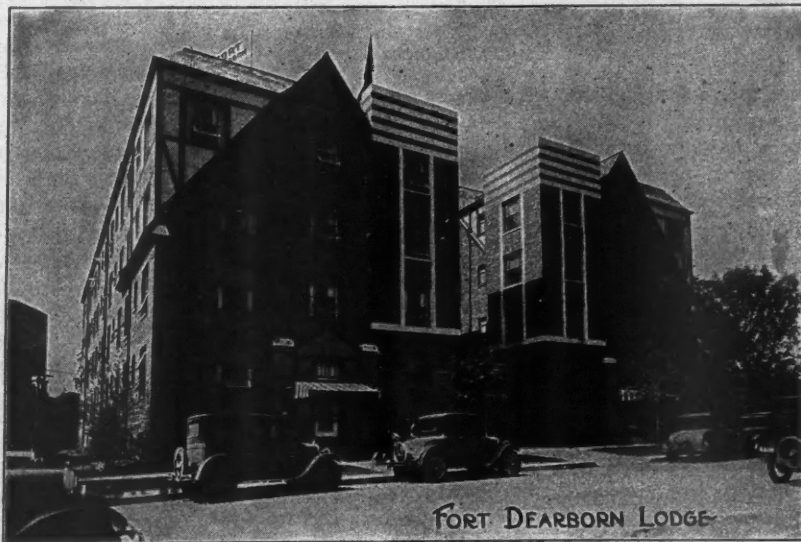
90 Combination Baths  
Installed in This  
Exclusive Residential  
Hotel

Fort Dearborn Lodge  
Dearborn, Mich.

Architect and Owners  
LA CHAPPELLE BROS.  
Detroit, Mich.

Plumbing Contractor  
RALPH P. PECKHAM  
646 West Baltimore St.  
Detroit, Mich.

Manager Sweeney re-  
ports Combination Bath  
aided in renting apart-  
ments. Tenants all  
pleased.



FORT DEARBORN LODGE

Write Us for Descriptive Booklet Giving Measurements and Other Details

WHEELING SANITARY MFG. CO.

WHEELING, W. VA.

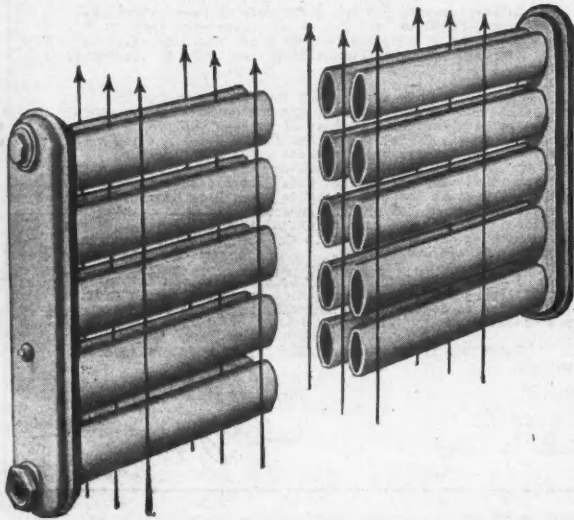
Manufacturers of High Grade Plumbing Fixtures

Sold by Leading Jobbers of Plumbing Supplies

### Improved Type Radiators

FOR a number of years a certain manufacturer has been making an oval tube radiator which has proven particularly successful as a medium for transferring heat. This tube is all prime surface. The short radius at the top and bottom arcs and the longer radius of the two side arcs create an oval tube which presents a large proportion of external surface to air currents and allows an easy flow of water or other heating medium within. The large, effective surface, an entire absence of obstructions such as fins, baffles and top and bottom hub connections, results in the passing of large volumes of air at relatively high velocity over the heating surface affording high convection.

This oval radiator tube is now being incorporated in a new radiator which utilizes the proven, sound principles of pipe coil design, but eliminates all of its disadvantages. The oval tubes are arranged horizontally in two vertical rows, connected at both ends into vertical headers. The design produces a radiator which is narrow in width, low in height and allows great flexibility in length. These radiators are made in single piece, jointless units up to



Radiators with Horizontal Oval Tubes, in Lengths Up to 14 Feet, Furnish Highly Efficient Heating.

14 feet long. Brackets or legs can be supplied for either wall or floor installation.

These radiators are made of heavy gauge, commercial pure iron of great durability. This material, the design which provides for complete tube drainage and the welded construction, which eliminates all mechanical joints, produces a solid, one-piece radiator of light weight. The weight is approximately two pounds per square foot or about one-third as much as heavier forms of radiation, it is stated.

It is also claimed that these radiators occupy about one-third less space than other forms of direct radiation which saving may occur either in length, width or height. Because of their relatively light but uniform and perfect walls, these radiators are very responsive to the effect of the heating medium and will quickly heat or cool upon the turning of the valve which gives positive control over room temperatures.

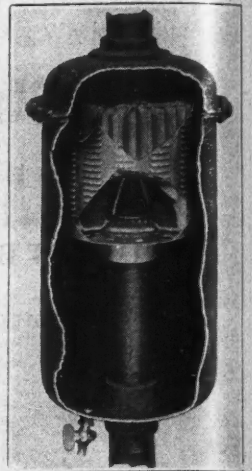
They have no rough or inaccessible parts to collect dust and are easily kept clean by hand wiping. They are particularly adaptable to installation upon walls, columns, pilasters, ceilings, under windows and in recesses. For concealed radiation, which is so rapidly gaining in popularity, they are admirably adapted to installation within the walls.

### Clean Air for Your Tools

NEVER has there been a time when more attention has been given to high operating efficiency than there is

right now. Everyone is looking for machinery and methods which will increase production and lower operating and maintenance cost. But one place where many plants fall down is in overlooking the damage done to equipment by dirty air. Dust and grit with which air is saturated, as well as oil, water and rust scale which it collects as it passes through pipe lines on its way to compressed air tools, paint sprays, equipment used in agitating liquids, ice-making and chemical processes are damaging elements which should be eliminated, for they cause clogged air passages, worn parts and carbon, and lower the operating efficiency of the apparatus, cause costly repairs, shut-downs and delays.

These difficulties are largely overcome by delivering clean, dry air to air using machinery and tools. The filter illustrated here, which can be inserted easily in the air lines, has recently been placed on the market. It is claimed that this filter will remove dust, water, oil, rust, scale and other foreign matter from air passing through the pipe line and prevent the wear and damage caused thereby.



This Filter, Installed in an Air Pipe Line, Removes All Dust, Water, Oil and Other Foreign Matter from the Air.

### Better Bathroom Cabinets

A DISTINCT improvement in bathroom cabinets is to be seen in the accompanying illustration. Here is a steel bathroom cabinet with a mirror door which, instead of merely closing the cabinet, is available as a dressing mirror, adjustable to catch the best light. On opening the door the entire cabinet becomes an open shelf with everything in reach, while at the same time the mirror on the outside of the door can be used with the cabinet open.

This is accomplished by swinging the mirrored door on a novel type of hinge arrangement which makes it possible to place the mirror in various positions for use, while leaving the cabinet open.

The cabinet itself is made of one piece of heavy furniture steel, electrically spot welded. An attractive surface of white lacquer enamel is sprayed

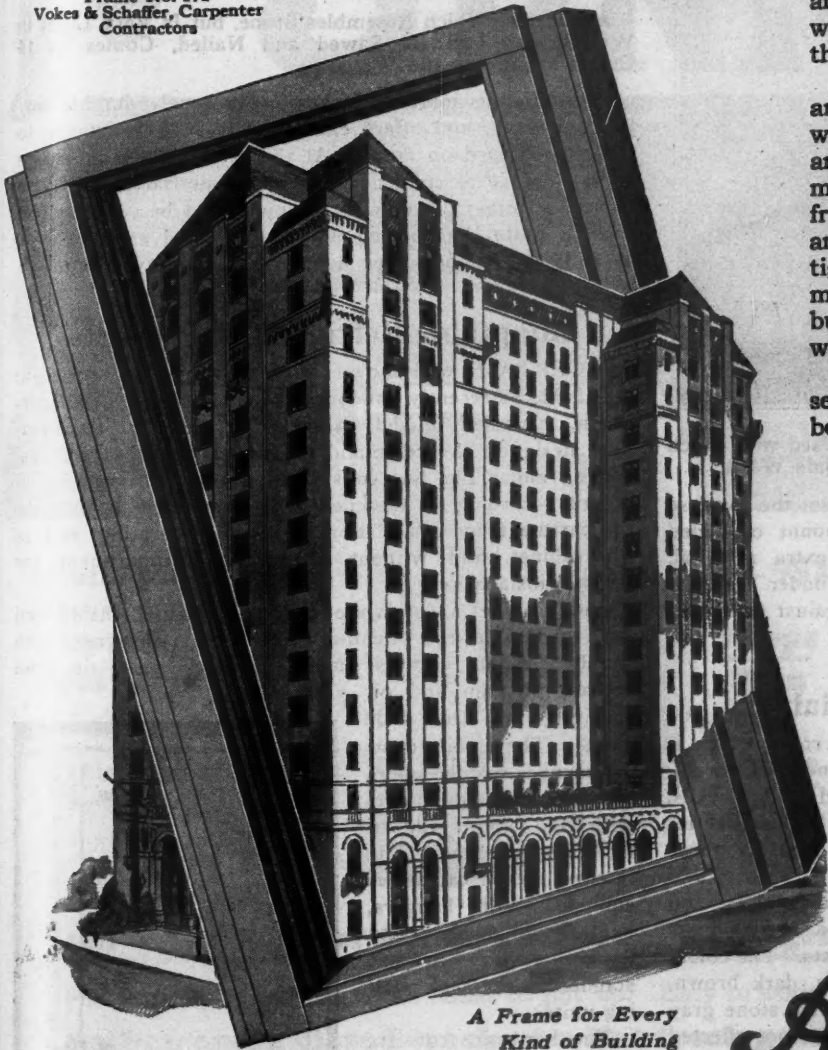
on over priming coats baked under intense heat to produce a permanent finish. The door presents a seamless front, leaving no cracks or crevices in which dirt or dust can accumulate. A Venetian mirror door can also be furnished. Three distinct size cabinets and a selection of five mirror sizes to each cabinet make a versatile line to meet all requirements as to style, size and price.



These Bathroom Cabinets Permit the Use of the Door Mirror While the Cabinet Is Open.

# Your buildings are only as weathertight as their Window frames

Lee-Plaza Apartment Hotel,  
Detroit, Michigan.  
Equipped with Andersen  
Frame No. 172  
Vokes & Schaffer, Carpenter  
Contractors



A Frame for Every  
Kind of Building

Once you've built a building it's too late. You cannot stop air leakage around window frames with insulation, weatherstrips or storm windows. The weathertightness of any building, therefore, depends primarily upon its window frames, and the first step of a wise builder is to buy white pine frames, accurately milled and that can easily be made weather-tight.

All sills and casings of Andersen Frames\* are made of genuine soft white pine—the wood that never rots or warps or splits, and that lasts a century. These frames are manufactured in quantities in a specialized frame factory. Their accuracy of milling and inspection, their patented weathertight features and their reasonable price make them popular with contractors and builders who are building reputations along with their construction projects.

For further information, ask your Andersen dealer or fill out and mail the coupon below.

\*Look for the Andersen Trade Mark on every frame.



## Andersen

### Distinctive Features

- 1 Patented, noiseless, long wearing Andersen pulleys used exclusively.
- 2 Genuine soft White Pine sills and casings—last a lifetime.
- 3 Patented, exclusive weather-tight features including groove for wide blind stop.
- 4 Absolute accuracy of milling.
- 5 A Frame up in 10 minutes.
- 6 Standardised styles and sizes, convertible for all architectural needs.
- 7 Nationally known and distributed.
- 8 Dependable because guaranteed by a reliable manufacturer.

Sold by Leading Building Material Dealers

# Andersen FRAMES

ANDERSEN LUMBER COMPANY  
Box 2110, Bayport, Minnesota.

Please send me without cost or obligation the material checked in squares on this coupon.

Set of folders describing construction and uses of Andersen Frames.

"How to Make Your New Home More Comfortable"—an illustrated booklet of interest to all home builders.

Name \_\_\_\_\_

Business \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Name Lumber Dealer \_\_\_\_\_

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

### Lock Butt Asphalt Shingles

FOR reroofing over old shingles, the lock-butt, asphalt shingle illustrated here produces a highly satisfactory job as to appearance, durability and freedom from upkeep expense. This shingle is made in two sizes, 16 by 16 inches and 18½ by 18½ inches. It comes in three colors, Venetian red, Lincoln green and blue-black. When laid according to directions, it produces the new, distinctive, diamond shaped shingle that has become so popular for use over old shingles.

The manufacturers of this shingle also point out its wide applicability for covering the walls of old building, factories, garages, barns, storage sheds, hospitals, dwellings—in fact, any old wooden building. With the shingles applied



Asphalt Shingles, with Locking Butts, Are Used with Much Satisfaction Both for Roofing and for Side Walls.

on walls or roof there is entire freedom from the expense of painting and repair, a considerable amount of added insulation is provided, not only by the extra material, but also by the dead air spaces enclosed under the new shingles, and there is effective protection against dampness and the danger of fire.



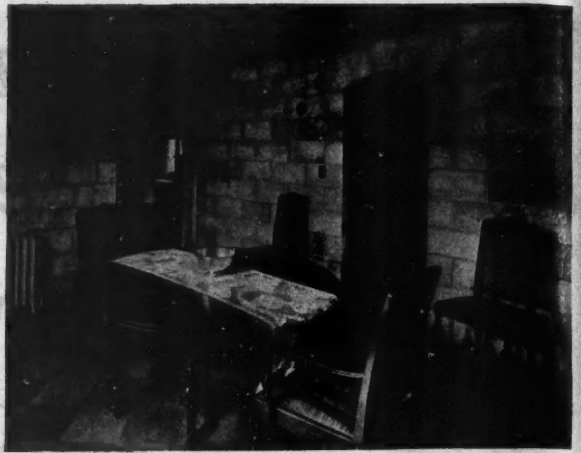
### Wall and Floor Material

THE accompanying illustration shows a room which is finished in a material highly recommended by architects and building owners who have used it for walls, floors and stair treads. It possesses a number of qualities which distinguish it from other materials used for these purposes.

In the first place it comes in 14 standard colors, and these shades give the architect and builder a broad opportunity to secure beautiful and permanent effects. The colors available are: Red, blue, black, light brown, dark brown, green, pink, natural, buff, gold, drab, light gray, stone gray and olive. These colors are permanent and are not affected by exposure during the course of the years.

The material from which this finish is made is a combination of magnesium oxide and wood fibre, chemically treated to make it fireproof, and a suitable binder. This mix is submitted to a suitable pressure until a chemical reaction takes place, after which the finished slab is taken from the mould, trimmed to a standard size of 17½ by 47½ inches, and sent to the stock room for future cutting into other standard or special sizes. There are 16 standard sizes into which these slabs are cut.

The material itself is extremely light and therefore easy and economical to handle and install. It presents no difficulty in installation as it can be nailed to wood furring strips or sheathing by any capable carpenter. It can also be sawed or screwed quite easily having much the quality



A Material Which Resembles Stone, but Is Very Light in Weight and Can Be Sawed and Nailed, Comes in 14 Colors for Floors and Walls.

of wood in this matter. It has an extremely durable surface, however, and offers exceptionally high resistance to wear when used on floors. At the same time it possesses a high degree of resiliency which is a desirable quality in stores and other places where people must be on their feet a great deal. As flooring it is also classed as being safe as it is not slippery nor does it get slippery when wet.

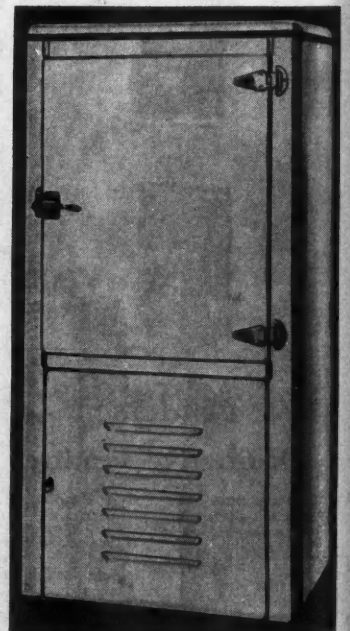


### Adaptable Refrigerator Cabinets

A CERTAIN well-known manufacturer in the electrical field has recently announced a complete line of all porcelain, apartment model, cabinets for electrical refrigeration, designed to accommodate any standard, mechanical cooling unit. The line consists of five models, varying in design according to intended use, such as with machine compartment for installation of the refrigerating unit in the cabinet, and without a machine compartment for remote installation.

Each cabinet is of white porcelain enamel, inside and out, fused into rust-resisting iron, and is designed with rounded radius corners and with black porcelain trim around the top and on the edge of the door frame. The food compartment is seamless porcelain and rests on a level with the door sill, to facilitate cleaning. The interior of the cabinet is equipped with hangers, baffle, front, shelves and defrosting tray to suit standard makers of cooling units.

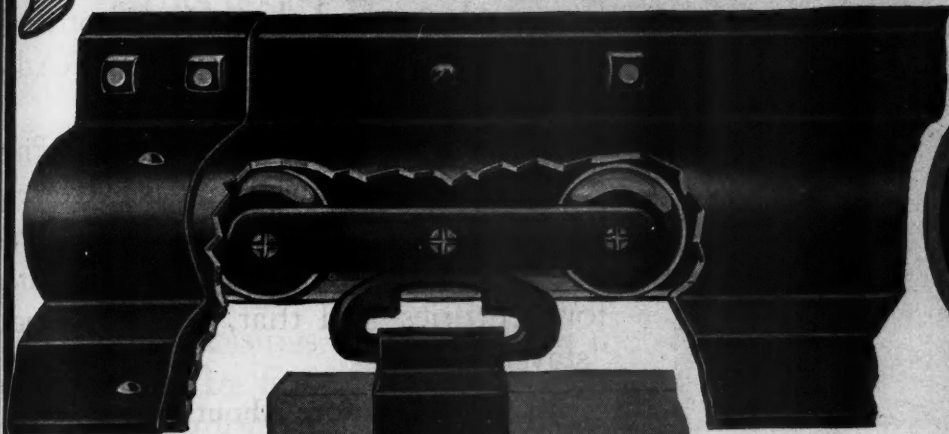
The hardware consists of heavily nicked brass hinges, sturdy tinned wire shelves, rust-proof floor slide, six-inch cast iron porcelain enameled legs on two models and positive, self-acting, trip-lock door fastener. The insulation throughout is two-inch pure sheet cork-board, with the additional feature of a compression gasket on the door, completely sealing the interior of the cabinet.



Cabinets for Electric Refrigeration, Adapted to Both Inside and Remote Refrigerating Units.



# New! Seal-tite Cannon Ball JUNIOR



**A "one-piece"**  
(2 pieces riveted)

**16-gauge  
Door Track**  
In 4 ft., 6 ft. and 8 ft.  
lengths

**with storm  
cover**

No brackets—splice  
riveted to cover  
section



**No. 951**

**Keeps  
Rain  
Out  
Above  
Door**

**Used With Regular Cannon Ball Junior Hangers**

For doors up to 250 lbs. each. Easy to put up. Easy to work.

**A self-cleaning closed track at a flat track price.**

Send for full particulars of this and other modern door hangers and tracks for sliding doors of any size or weight

**Hunt-Helm-Ferris & Co., Inc.**

*Manufacturers of the*

**1002 West Front Street  
HARVARD, ILL.**



Industrial Bldg. 383 Brannan Street  
ALBANY, N. Y. SAN FRANCISCO



# Shevlin Pine is the Lumber That "Stays Put"



**A**FTER all, the most important thing in home construction is how will the home be after a few years. Will the doors sag, the window sash stick or rattle, the woodwork joints open up, boards become loose and the owner bothered by dozens of other irritations which destroy real home enjoyment?

If the home is built of Shevlin Pine it is built of a material that is extremely workable, that readily takes and tenaciously holds any finish, that endures for centuries and that, once in place, "stays put".

### Learn More About Pine

Everyone interested in the building of homes should know the characteristics, physical properties and allowable stresses of Pine. This information and other valuable data is contained in the thirty-two page booklet, "Specify Shevlin Pine".

The coupon on the opposite page will bring you a copy of this booklet.

### "Certified by Centuries of Service"

Throughout the New England states there are convincing examples of the

**SHEVLIN PINE**

long life of Pine construction. The nation's oldest homes, many of them still in use, certify to the centuries of service given by Pine like Shevlin Pine.

Pine has long been noted for its ability to "stay put" and Shevlin Pine seldom warps or twists, shrinks or swells, under trying climatic conditions.

On exterior doors, where one side may be wet with rain or snow, the other side dry and warm, Shevlin Pine resists the distorting effects and remains true.

In siding, casings or cornice; in fine close-fitted mitres or in delicate mouldings; Shevlin Pine does not creep or crawl or open at the joints.

**Beautiful and Workable**

The smooth surface of Shevlin Pine and its ability to take and retain attractive finishing effects bring an atmosphere of beauty and refinement to any home.

The fine grain and even texture fashion readily under tools to produce attractive designs with delicately moulded contours and sharp profiles.

**Plentiful Supply of Pine**

There is no reason why the wood of our ancestors can not be the pride of our descendants. Shevlin has sufficient

timber holdings in selected Pine stands of the continent to supply the nation for decades. Scientific reforestation and logging promise to maintain our Pine

forests indefinitely.

Shevlin Pine is always carefully seasoned, smoothly milled and rigidly graded. Leading lumber dealers can supply five varieties: Shevlin Northern White Pine, Shevlin California Sugar Pine, Shevlin Ponderosa Pine, Shevlin Norway Pine and Shevlin California White Pine.

**Send Coupon**

You will find the booklet "Specify Shevlin Pine" very valuable. Just use

the coupon below to obtain your copy.

**Shevlin, Carpenter & Clarke Company**

903 First National-Soo Line Bldg., Minneapolis, Minn.

Chicago Sales Office: 1866 Continental & Commercial Bank Bldg.

San Francisco Sales Office: 1028 Monadnock Building.

Toronto, Ontario, Sales Office: 606 Royal Bank Building

Sold in New York by N. H. Morgan, 1205 Graybar Bldg.



White Pine has "stayed put" for almost two centuries on this charming corner cupboard in the Webb House, which was built about 1753 at Wethersfield, Connecticut.

Shevlin, Carpenter & Clarke Company  
 903 First National-Soo Line Bldg.,  
 Minneapolis, Minn.  
 Please send me the booklet, "Specify Shevlin Pine."

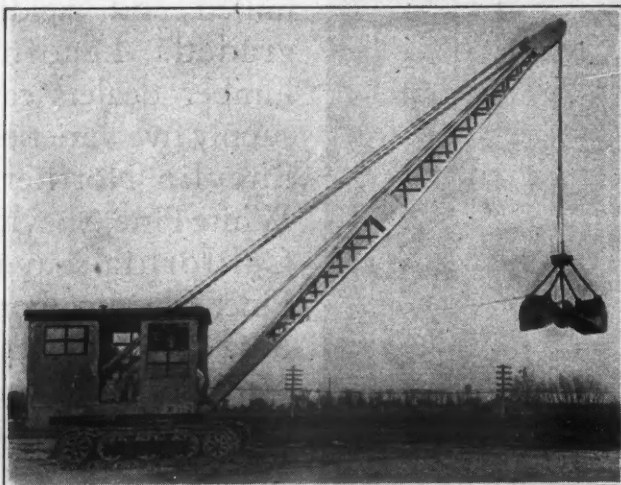
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 BUSINESS \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 CITY \_\_\_\_\_



### New Crawler Crane Announced

**A** FIRM which has for many years been engaged in the building material and manufacturing business and has gained broad experience through its contact with users of cranes, and also in its own sand and gravel pits, has recently placed on the market a new crawler crane. This crane is at present being produced in  $\frac{1}{2}$ ,  $\frac{3}{4}$  and 1-yard capacities.

The new machine is the modern type of gasoline or electric operated crawler crane. It is self-contained, full circle and designed to run on an improved endless tread traction. It is primarily a rapid material handling unit for



This Crawler Crane Was Designed as Result of Many Years' Experience in the Building Material and Manufacturing Business.

grab bucket, dragline bucket and hook block work. Strictly a one-man crane, it is operated for such functions as hoisting, raising and lowering the boom, swinging, traveling and steering, all from the operator's deck near the front end of the cab.

Special attention has been given to the matter of convenience and ease of operating all crane functions. Vertical swing and travel shaft bearings are oiled by large oil cups, conveniently located in the cab. An Alemite system is used where oil cups cannot be attached. The traveling gear is arranged for two speeds under control of the operator regardless of the position of the turntable. The swing brake is of such design that the turntable or machinery deck may be set in any position with relation to the car body.

The outstanding point the manufacturers are stressing in this new crane are the low center of gravity and consequent stability, ease of operation and speed, simplicity of operation, ruggedness of construction, low power loss, absence of friction clutches, and low maintenance cost.



### A New Wall Finish Material

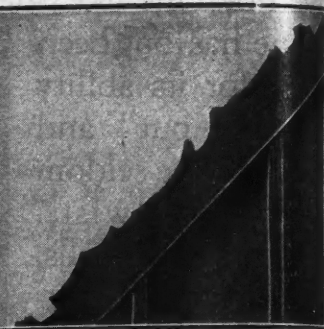
**B**UILDERS and contractors will be interested in a material, just placed on the market, which is designed to bring about important changes in the construction of interior walls and ceilings. This material is applied, in a single coat  $\frac{1}{16}$  to  $\frac{1}{8}$  inch thick, over insulation board, plaster wall board or other wall boards, to make permanent walls or ceilings for any room of a building. Its strength and durability are said to be remarkable.

It is applied also as a textured finishing coat over brown or rough coat plaster as used over hollow tile, gypsum block, brick and cement building blocks. It is described as both structural and decorative. Its application requires only such tools as are used in ordinary plastering and finishing.

A feature of this new material is that it makes possible a great variety of decorative treatments. The one coat of the material can be trowelled smooth like plaster or textured like plastic paint. If the natural finish is not desired, it can be painted, lacquered or papered. Over wall-board it replaces all plaster and plastic paint. Over brown coat plaster it replaces both the white finishing coat and plastic paint.

Of great importance to builders and contractors is the fact that walls and ceilings are ready for finishing only 48 hours after this new material is applied. Under all normal conditions two days are sufficient to insure complete safety from moisture exuding and spoiling the finish at a later date.

This material is shipped in drums containing the dry material and a can containing a liquid used in making an emulsion. The liquid is thoroughly mixed with eight times its bulk of water. The dry material is placed in a mixing box and the emulsion is added, the mix being stirred as the emulsion is poured in. The material is then ready for use.



Here Is a Wall Finish Material Which Offers a Wide Range of Possibilities and Considerable Economy.



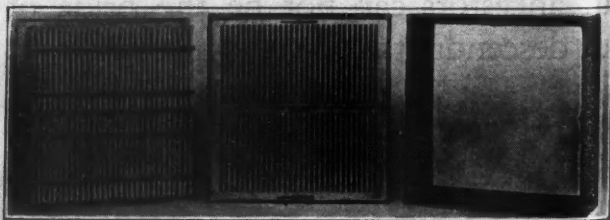
### Breath Filtered Air

**O**NE type of air filter which is being successfully used, in filtering large volumes of air for building ventilation, is shown in the illustrations. It has been suggested that if the destructive and dangerous elements found in supposedly clean air were as big as rats, so they could be seen, people would be afraid to breathe unfiltered air. Micro-organisms which adhere to food and which are taken into the lungs in unclean air are largely responsible for such diseases as typhoid fever, tuberculosis and flu, it is claimed.

Damage done by dust and soot to hangings, pictures, books, fixtures and fabrics, especially in large buildings, runs into almost unbelievably large figures annually.

The filter shown here is made in panels supported in heavy, compressed-steel frames which may be mounted in any convenient formation to suit the space available for installation. The panel consists of two pressed-steel or aluminum frames which support a series of hollow fins or pockets formed of wire cloth and arranged in two rows. Each row of fins is covered with a single piece of extremely fine texture filter material.

It is claimed by the manufacturers that this filter has an efficiency of 99.9/10 per cent, and that it can be operated under ordinary conditions for several months before cleaning is necessary. It can be cleaned by a special air suction cleaner by placing a special nozzle over the face of the panel where the openings into the sockets are located.



Unit Air Filters of This Type Provide Clean Air for the Ventilation of Buildings.

# SANDED FOUR HOUSES IN ONE DAY

That's What Payne & Harmon, Toledo Floor Surfacing Contractors, Did With The New One Man Floor Sander

## THE AMERICAN HIGH PRODUCTION FLOOR SANDER

That's More Than Twice As Much As They Had Ever Been Able To Do Before Without This Machine

Here is how they did it—conditions were favorable in that the houses were close together which reduced moving time considerably. The time was further reduced because The American High Production Floor Sander is a ONE MAN MACHINE, made almost entirely of Aluminum, and can be easily carried by one man after removing the quick detachable motor.

The unusual production was attained because the drum of this machine travels at

the most practical speed for attaining the utmost in results both as to quantity and quality, and is so constructed in size and of such materials that it gets down in the low spots and sands off the high spots in a flash.

And because of its new and radically different principle of operation which permits of greater production than is possible with any other sanding machine made, and with less effort.

### TWICE THE WORK MEANS TWICE THE PROFIT

Doing twice the work, Payne & Harmon are making twice as much money. The AMERICAN HIGH PRODUCTION FLOOR SANDER will do the same for you no matter what kind of a sander you now have. If you don't own a sander, now is the time to put The AMERICAN HIGH PRODUCTION to work for you, and take the profits it makes.

### TRY IT BEFORE YOU BUY IT

Don't put your money in the hands of any manufacturer until you try the machine. You are entitled to try any machine before you buy it. Ask for our "on approval plan."

*"Easily Carried by One Man"*

The AMERICAN Floor Surfacing Machine Co.

515 South St. Clair St., Toledo, Ohio

*Branches in Principal Cities*

CANADIAN REPRESENTATIVES:

The A. R. WILLIAMS MACHINERY COMPANY, Ltd.

Toronto Winnipeg Montreal St. Johns Vancouver Calgary

### Mail the Coupon—Judge for Yourself

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

Gentlemen:—Please tell me all about The American High Production Floor Sander and your "on approval plan". No obligation whatever.

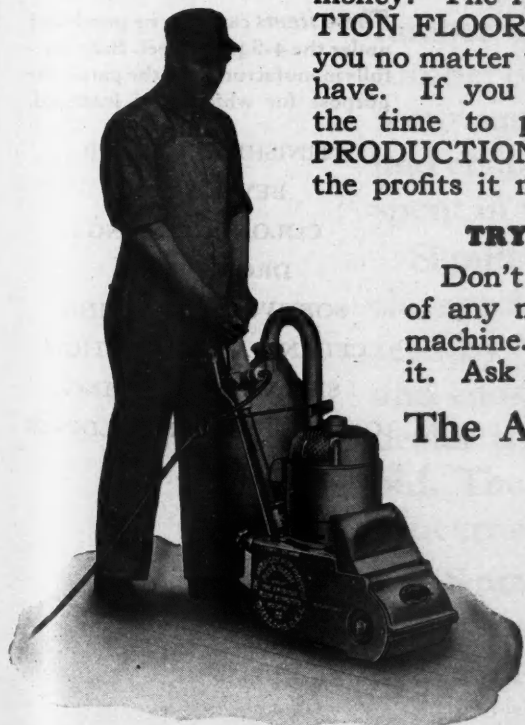
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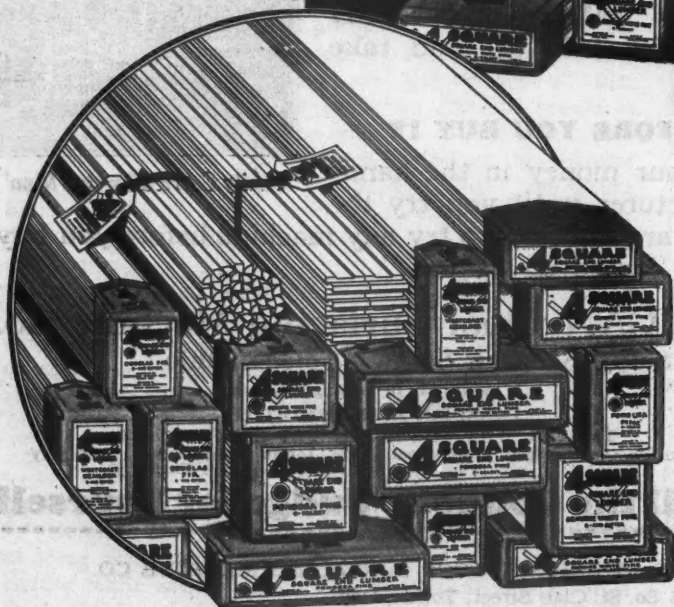
CITY..... STATE.....

## THE AMERICAN HIGH PRODUCTION FLOOR SANDER

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



# Another Weyerhaeuser trimmed square at both ends.



The Mark of 4 SQUARE Lumber



Packaged and Guaranteed

*These items can now be purchased under the 4-Square label. Each carefully manufactured for the particular purpose for which it is intended.*

- FINISHING LUMBER
- BEVEL SIDING
- COLONIAL SIDING
- DROP SIDING
- SOFTWOOD FLOORING
- CEILING AND PARTITION
- SHELVING · STEPPING
- CASING · BASE · MOULDINGS

**WEYERHAEUSER FOREST PRODUCTS**

General Sales Offices: WEYERHAEUSER

District Sales Offices: MINNEAPOLIS · KANSAS CITY · CHICAGO

**achievement-Wasteless Lumber!**  
*packaged . . . . ready to use . . . .*

## How 4-Square Lumber stamps you as a quality builder

**I**N developing 4-Square Lumber Weyerhaeuser has made it possible for you to convince your prospects that you do not skimp construction or use low-grade materials.

The advantages of 4-Square Lumber are being advertised in such a dramatic and forceful way that the contractor who figures on 4-Square Lumber is certain to get more jobs at a better profit.

In case you have not read our previous announcements, permit us to repeat that 4-Square Lumber is better lumber than you have ever used. Thoroughly seasoned lumber of better manufacture. Cut to exact lengths. Perfectly squared at both ends to save your carpenters' time and enable them to do better work with the time usually spent in needless hand-trimming.

Significant also is the 4-Square Package and Label with the species and grade plainly printed on it and guaranteed by Weyerhaeuser. The package protects the faces and ends. The label tells you and the owner that your dealer is delivering exactly the quality named in your bid. The 4-Square label establishes confidence in all concerned. It stamps you as a quality builder.

4-Square Lumber is now being supplied in a wide variety of items, sizes, species and grades by local lumber dealers. If your dealer cannot supply it, write to us.

**SAINT PAUL · MINNESOTA**

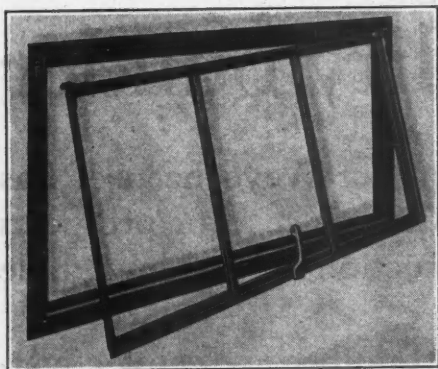
SALES COMPANY · Spokane, Washington

**TOLEDO · PITTSBURGH · PHILADELPHIA · NEW YORK**

### Improved Steel Basement Windows

MUCH has been said and done about the correct design of steel basement windows. When the steel basement window first made its appearance its superior points were recognized, but it also had a number of defects which delayed its popularity with the builders. One of the leaders in correcting these faults was a company which had for some time been engaged in the manufacture of architectural iron.

The bolted corners of the frames were done away with and the corners were mitered and welded. Hinges also disappeared and a removable and interchangeable sash produced by



One of the Pioneer Steel Basement Windows Which Has Long Been a Leader in the Field.

hanging it on socket hinges so that it could be removed for washing or glazing and replaced instantly. In this design the sash is supported by two pins resting in two lugs or sockets.

Since this company had for years specialized on the production of ornamental iron and stairways it was decided to separate the sash business and place it in the hands of the man who had been largely responsible for its development. A few more features were added to make this window a more attractive selling proposition. The inside masonry guide was removed. This was simply a shoulder in the frame against which brick could be laid. It was replaced by a red line, running vertically up either side, about one inch from each edge.

This line serves as a perfect guide for bricklaying, even better than the old guide, for formerly an occasional brick had to be chipped in each course to fit when the window was being set in a foundation where dimensions were such that bricklaying was difficult. With the red line guide, however, this difficulty is done away with. There is no shoulder against which the brick must be accurately fitted and a little play, an inch or so, makes no appreciable difference, it is claimed.

### Modern Copper Fin Radiators

THE science of heat generation has progressed from year to year but, until quite recently, very little progressive thought has been applied to heat distribution. In the past few years, however, various types of radiators have made their appearance on the market, offering the home builder something new in heat distribution.

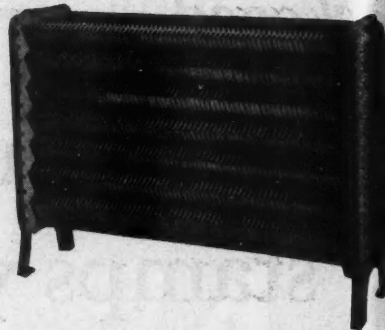
Another comparatively new type of radiator is now available which, the manufacturers state, has been designed to meet the correct application of all proven principles of heat transmission. It is constructed of copper and brass, making it comparatively small, light in weight, durable and quickly responsive to heat temperatures.

This radiator is constructed of copper tubes to which are attached, metallically, thin copper fins, set at an angle of 60 degrees to the horizontal and spaced in such a manner that they produce a stack or flue effect within the radiator, causing the cold air to be arrested from the rear or wall side of the radiator and directed out the front in small streams of heated air.

In operation this radiator sets up a movement of air in one direction, producing a circular movement of air within a room, resulting in a variation of temperature

between the ceiling and floor of only six degrees, it is said. The greatest amount of this difference exists between the floor and the breathing line. This means that the heat delivered is circulated to such an extent that the B.t.u.'s of heat are delivered to the space where we live and not against the ceiling.

A comparison with cast iron shows that this radiator contains only 25 per cent as much inside, or wet surface, while the exposed surface is about 50 per cent greater. It is of the unit type and lends itself to operation in connection with an auxiliary gas or electric heater attached to it. Standard cabinets have been specially designed for these radiators and are furnished in beautiful wood grain finishes or in finishes to harmonize with interior decorations.



A Combination of Copper Tubes and Fins Form a Flue Effect in This Radiator Which Makes for Great Efficiency.

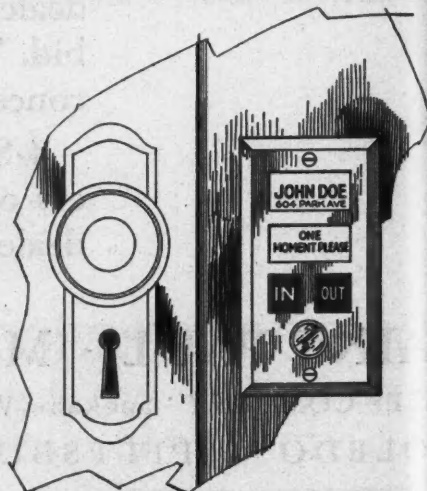
### An Electrical Convenience

ANOTHER electrical device for convenience in the office or home has made its appearance on the market. This device is installed in much the same manner as the familiar door bell. As may be seen from the illustration, the plate has, at the top, a place for the name of the occupant of the home, office or apartment. Just below is a small frame in which is placed a paper or light card on which is written the message, "One moment, please." Below this are other frames with the words "In" and "Out" on green and red cards, respectively.

Inside the house is a switch, connected with this outside plate, and placed at the most convenient point for the occupant. If the owner is going out he sets this switch in one position with the result that, when the bell is rung, a light shines behind the word "Out," showing that no one is at home. When the owner is at home, the switch is set so that the word "In" is lighted when the bell is rung, and the caller may know that he will be admitted in a moment.

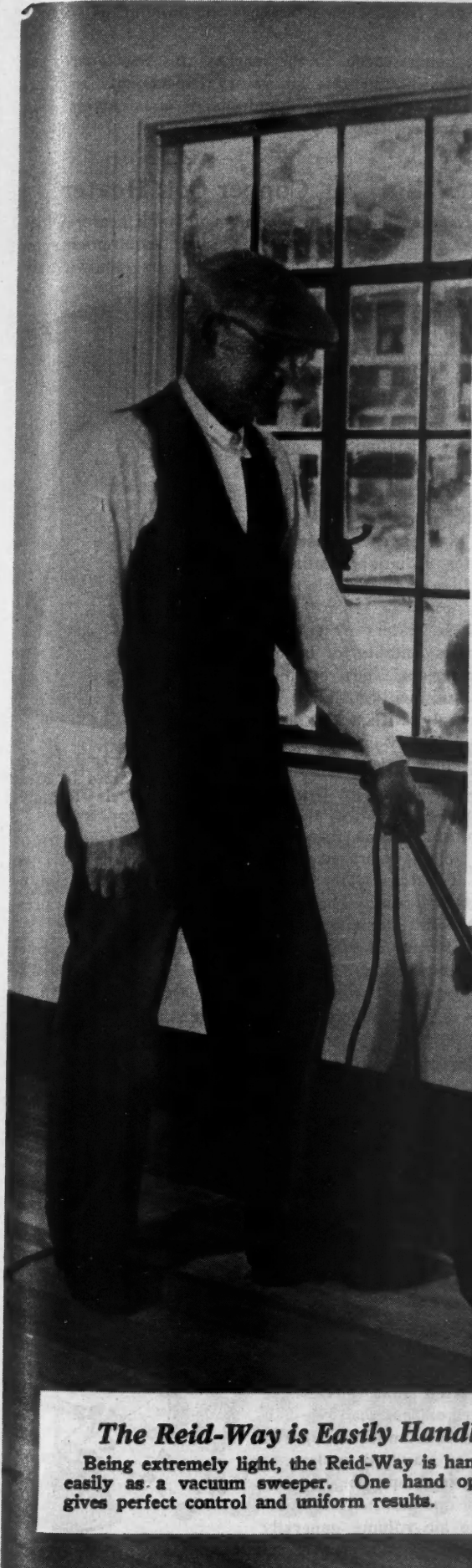
A housewife, who may be at the back of the house and occupied so that she will be delayed in answering the bell, can press a button, causing a light to shine behind the words, "One moment, please," and the visitor thus knows that his ring will be answered if he waits. Other messages to fit varying needs

may be written on the last card, such as "Please be seated," or "Come in." By this pressing of two buttons the visitor and host can exchange messages before the door is opened, saving many steps, much time, and possible mistakes due to a caller leaving when there is a delay in answering the bell.



With This Electric Device a Caller May Know Whether or Not Anyone is at Home.





### The Reid-Way ONE moving part! Vacuum Convertible Sander

Hundreds of contractors have found in the convertible Reid-Way the solution to their sanding problems. It is light, strong, durable. Only one moving part. Powerful induction motor drives the sanding drum direct without belts, chains, or gears. Built for years of hard service. New vacuum principle eliminates dust. Write for circular describing this remarkable machine.

**THE REID-WAY COMPANY**  
720 North 16th STREET  
CEDAR RAPIDS, IOWA

**The Reid-Way is Easily Handled**  
Being extremely light, the Reid-Way is handled as easily as a vacuum sweeper. One hand operation gives perfect control and uniform results.

REID-WAY Co.  
720 North 16th St.  
Cedar Rapids, Iowa.

With no obligation on my part you may send circular describing the new Reid-Way Vacuum Sander.

Name.....  
Address.....  
Just clip this to your letterhead if more convenient.

### New Insulating Wallboard

**A** NEW insulating wallboard and plaster base has been placed on the market by the by-products division of a large lumber organization which is already engaged in the manufacture of wood fiber, insulating material of the flexible type. The manufacturers do not expect the new material to compete with the flexible material as each possesses individual merits to fit varying requirements and the two offer a complete service to builders and dealers.

The new material is made from edgings, slabs and trimmings of white pine and other coniferous trees, the waste material which, in most sawmills, is burned. This is first cut into chips. The bark and dirt is then screened out and the chips are cooked under pressure until thoroughly softened. They are then run through a disintegrating device which passes them between rotating discs with an action similar to rolling a match under a person's foot.

This separates the fibres but does not fracture them. The result is a mass of fibrous pulp which is treated with sizing to make it water-resistant. It then passes through



Applying a New Wood Fiber Wallboard Which Serves Both as an Insulation and as a Plaster Base.

a flow-box onto a bronze wire screen where it is deposited in a uniform layer. This slab of pulp measures four feet wide by 17 feet long. The screen conveys it to a hydraulic press which weighs more than 400,000 pounds.

A pressure exceeding 2,000,000 pounds is applied to the pulp by this press. This expels most of the water and causes the fibres to interlock firmly with a grip that gives the final product an exceptional degree of rigidity, it is stated. The fibers in this board are not arranged in parallel layers but point in every direction, sidewise, crosswise, up-and-down and at various angles. This gives the board a homogeneous texture and entirely eliminates grain.

After the panels leave the hydraulic press, they are dried between steam heated plates. The result of this is to eliminate the tendency to warp that would occur with conveyor-type or simple kiln-type driers. The finished product is absolutely flat, strong, rigid and of attractive appearance, with one side smooth and the other side somewhat rougher. This offers the user a choice of texture as well as color in finish. Plaster forms an unusually strong bond when applied to either the rough or smooth surface, it is said.

After the board is dried, it is cut into lengths of six, seven, eight, nine, 10 or 12 feet, and wrapped in packages containing six boards each, for shipment. This wrapping gives the dealer the advantage of package appearance in his warehouse and assures the buyer that every piece will be

as fresh and clean when it reaches the building as when it leaves the mill.

Before being placed on the market, this new board was subjected to innumerable laboratory experiments and was tried out in actual use on hundreds of construction jobs, where it proved its merit.

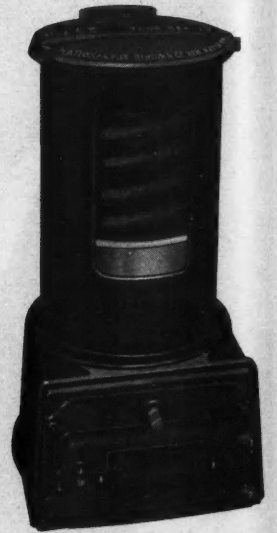


### Coal-Burning Copper Coil Heater

**H**ERE is a coal-burning, copper coil, tank heater which is made in three sizes to meet all requirements for domestic hot water supply. The smaller size, shown here, is for a tank capacity of 150 gallons, suitable for the average single family house. The next size, 300 gallons, is adapted to large residences, small hotels or apartments, while the largest size, 600 gallons, is adapted to still larger installations, including summer hotels, clubs and similar installations.

The two larger sizes are also said to give excellent results in hot water radiation heating of small bungalows or single rooms requiring extra or separate heating. These heaters are equipped with grates suitable for burning low grade coal, pea or buckwheat, and will maintain the water supply, with a low steady fire, 24 hours a day with little expense and little attention.

The outside case is heavy gauge iron and the top and base of high grade gray iron. The copper coils have brazed seamless manifolds and there is no danger of cracked water jackets due to sudden expansion or contraction strains. The coils are tested to 600 pounds pressure and will stand up under the city water pressure. All parts that come in contact with the water are of copper or bronze, eliminating all danger of rust in the water. The absolutely smooth copper tubes offer no pockets for lodgment of dirt or sediment from the water mains, to be stirred up by overheating.

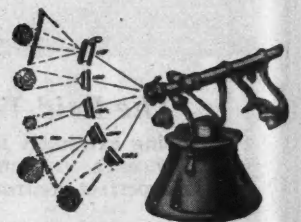


This Heater Is Made in Three Sizes to Meet All Domestic Requirements.



### A Versatile New Air Brush

**H**ERE is illustrated a spray painting equipment which is announced as the newest product from the oldest manufacturer of spray paint equipment. It is described as a brand new, convertible, multiplehead, pressure feed airbrush. It operates successfully on air pressures ranging from six pounds to 100 pounds. It is supplied with multiple heads that convert the one airbrush into any type desired, providing an unlimited range of air painting with one brush. It handles from the lightest to the heaviest materials up to plastic consistencies. It is also stated that this brush operates on less than one-half the air consumption required by other standard syphon or gravity feed, spraying devices and at one-half to one-quarter the air volume generally required. This is due to its exclusive new design and construction.



This New Paint Spray Handles from the Lightest to the Heaviest Materials.



# The "Applesauce Twins" make painting a farce

"The Applesauce Twins" are the new bombshell we are setting off in the fall chapter of the powerful "SWP vs. 'cheap' paint" campaign. "Cheap" paint tagged with "cheap" painter . . . together they have cost America's home owners millions of dollars per year by the farce they make of painting.

Through pages of the most widely read magazines in the country we are laying bare this farce of the Applesauce Twins before paint users of the country. Home owners are approving more than ever when you give them beautiful SWP House Paint and a master painter job on the homes you build. They have learned now what builders and architects have known for years—that the "quality" house paint and the "master" job last longer, cost less by the year, actually *save money*. "Cheap" paint and "Cheap" painter—far from economical—are the *most expensive combination in the world*.

The same story is true of all "cheap" paint products, varnishes, enamels and lacquers. It takes "quality" products to

cover well, to look rich and to give years of service. *Every product bearing the Sherwin-Williams label is of superior quality.*

It is this superiority of Sherwin-Williams paints—immediately recognized—that makes their use a strong selling point for homes you build. It inspires the buyer's confidence that other materials used are also of high quality.

Moreover, a rich, beautiful painting job throughout a home, exterior and interior, helps to sell it.

Our technical staff will be glad to assist you with painting specifications. Address—



**THE SHERWIN-WILLIAMS Co.**  
 Dept. 450 601 Canal Road, N. W.  
 CLEVELAND, OHIO

# SHERWIN-WILLIAMS SWP HOUSE PAINT

LARGEST PAINT AND VARNISH MAKERS IN THE WORLD

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

**New Contractors Saw Bench**

A COMPANY which has, for some years, been producing high grade, quality woodworking machinery for industrial uses has recently added to its line a new, tilting arbor saw bench, of great adaptability for the varying needs of the contractor. This new machine embodies several distinctive features, it is stated.

The right hand table is fixed, but the left hand table may be moved from the saw far enough to use a dado saw, or it may be removed entirely, allowing free access to the saw. The table may be locked in any position by two hand nuts. The ripping gauge may be used on either side of the saw, while the cut-off gauge may be set either side of the saw at any angle up to 120 degrees.



Here Is a New Saw Bench Particularly Designed to Meet the Varying Needs of the Contractor.

The saw is mounted directly on the motor arbor and may be tilted 45 degrees to the vertical by means of a hand wheel and screw, the degree of the angle being registered on a scale.

The saw may be lowered beneath the table or

raised through the table when in either a vertical or angular position by means of a hand wheel or screw, or by a foot treadle. When using the latter, a stop may be used to control the maximum projection of the saw through the table, insuring the same depth of cut for each full stroke of the foot treadle. By using the graduated cut-off gauge and the scale of the tilting saw, any desired, compound, angular cut may be made, the stock during this operation being supported by a perfectly level table.

A saw guard of special design covers all portions of the saw teeth when the saw projects either vertically or at an angle above the table, allowing the stock free access to the saw and closing over the saw again immediately the end of the stock reaches the front edge of the saw. As the end of the stock travels across the saw, the guard follows and when the stock leaves the saw, the saw is fully guarded. A 14-inch saw is used. The height of the table is 35 inches. The shipping weight is 690 pounds.



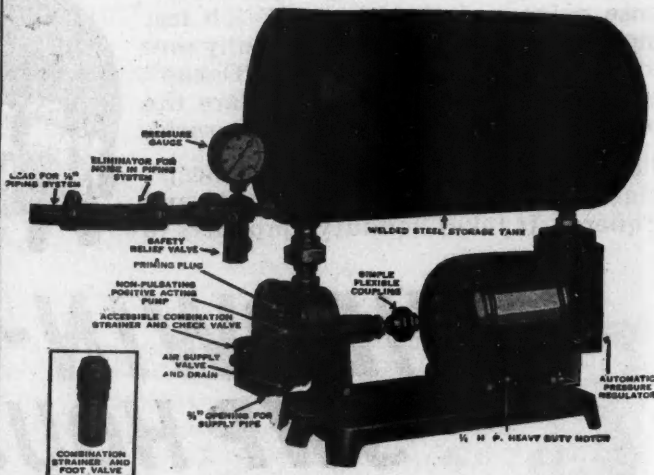
**Complete Water Supply System**

THE equipment shown is a complete water supply system, electrically driven and automatically controlled, which operates economically and quietly and gives water under pressure at the faucets, as from city service. The pump operates at between 15 and 35 pounds pressure. When the air pressure in the tank gets below 15 pounds, the pressure switch automatically starts the pump and when it reaches 35 pounds, the pump automatically stops.

An air supply valve is screwed into the bottom of the pump and when necessary, permits the proper amount of air to be taken in with the water. This valve also serves as a drain. The pump is direct connected to a repulsion-induction type motor, assuring uninterrupted service. There are only two working parts, gears, in a case and the gear construction is such that they absorb the speed of the motor with no detriment to the life of the unit.

The design of the pump is such that it is entirely noiseless in operation, it is said. There are no valves, packing leathers or burnt belts to replace and bills for labor are said to be unnecessary with this type rotary gear pump. If, after long service, repairs should be necessary an entirely new pump head can be substituted for the old head in a few minutes' time, and at a very small cost.

This outfit is furnished in two sizes, with a six-gallon tank, capacity 250 gallons an hour; with a 10-gallon tank, capacity 500 gallons; or with 42 or 85-gallon tanks at the same capacities. It is available with either black or galvanized tank. It is used on shallow well installations where the depth does not exceed 20 feet.



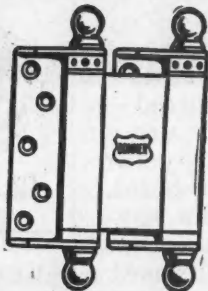
A Complete, Automatic, Electric Water System Which Is Economical and Quiet in Operation.

**Bommer**

**Spring**

**Hinges**

are the best



are the best

**Millions and Millions**

of People are Pushing

**Them**

whenever they open a door

Follow the line of least resistance

Use **Bommer** Always

They are the best

Bommer Spring Hinge Co., Brooklyn, N.Y.

# These Real Blue Prints and two Books Sent FREE



**Just mail the coupon below! Send no money!**

Every builder can get these real blue print plans and our book "How To Read Blue Prints" without sending us a penny. Just send the coupon. Lots of valuable and interesting information—all free. Yes, and we'll send along another book on building; it tells why "the big money goes to the man who *knows*." It explains the practical Chicago Tech. easy method of home-training for men in the building trades. Learn how to get the jobs that pay most money or how to get into your own business as a building contractor.

## Plan Reading—Estimating—Superintending, etc.

Train at Home to **MAKE MORE MONEY** No Schooling Necessary

Learn how to read plans, lay out work and run jobs. Your spare time is enough. Wherever you may be—whatever your job—we can help you quickly to fill a higher place and have a bigger income. Age does not matter. Previous school training is not needed. This is a practical course for practical men, prepared by practical instructors who have been through every branch of the building game themselves. You owe it to yourself to find out how to make more money.

### To Builders Living in or Near Chicago

Visit our Day or Evening School for builders and see with your own eyes the work we do. 1000 builders attend each year. You can get the same training *at home*. Same lessons—same blue prints—same practical instructors—same successful results.

**Get the Facts** Find out how little time it takes to make more money—much more money—in building. Write today. The coupon brings all Free.

**Chicago Technical SCHOOL for BUILDERS**

Dept. N-121, 118 East 26th St., Chicago, Ill.

### Mail the Coupon—NOW

**Chicago Technical SCHOOL for BUILDERS**

Dept. N-121, 118 East 26th St., Chicago, Ill.

Please send me without obligation, Free and Postpaid, your two Books and Blue Prints for Builders. It is understood that no salesman will call on me.

(Please Write or Print Name Plainly)

Name .....

Address .....

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

Age..... Occupation.....

# Cabot's

## Get the Breaks!



House at Portland, Oregon. Architect, L. L. Dougan.  
Roof stained with Cabot's Creosote Shingle Stain.  
Insulated with Cabot's Quilt.

Every hour and every dollar saved in construction means better service for your customers and the jump on your competitors.

Insulating with Cabot's Quilt helps you to get these winning breaks.

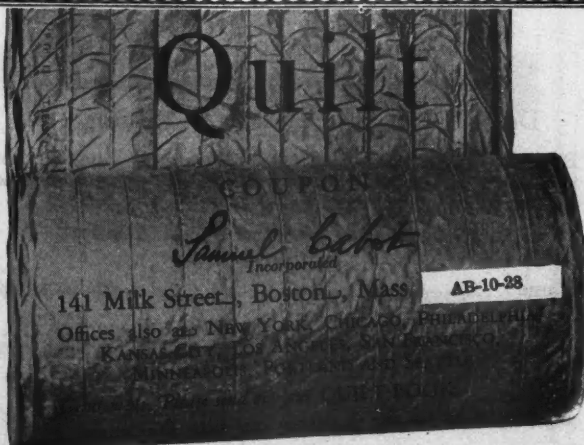
Cabot's Quilt saves time because it is easy to install. It goes around corners and tacks in place; it can be cut with knife or shears accurately and quickly (no sawing necessary); it is light and easy to handle.

And because it reduces the amount of plaster and the size of boilers necessary for warmth, Cabot's Quilt saves money. In addition, it is less expensive to install, and is a more efficient insulator than any wall-board of equal cost and thickness.

Mail the coupon below for full Quilt information and U. S. Bureau of Standards Insulation Tests.

## Cabot's Quilt

Resists the Passage of Heat In or Out



# NEWS of the FIELD



## "Own Your Home" Exposition to Be Indoor and Outdoor Show

THE Annual "Own Your Home" Exposition, held for the last eight years in the Coliseum, under the auspices of the Chicago Real Estate Board, has overflowed the confining walls of the Coliseum which is no longer large enough to contain it. Next April it will be held on a new site. Almost an entire city block is vacant just east of the water tower on Michigan Blvd., running from Pearson St. to Chicago Ave. The City of Chicago has provided this site and it will be prepared for a great Indoor and Outdoor Exposition.

The Exposition will be patterned after the great indoor and outdoor expositions held for many years in Europe and will be a miniature world's fair devoted to one subject. The entire area has been laid out in accordance with the most modern methods for creating striking effects, with the home idea paramount throughout. Pierre Blouke, A. I. A., with the aid of Philip B. Maher, A. I. A., and Ralph E. Stoetzel, A. I. A., conceived the new exposition plan.

In view of the immensely larger scale on which the Exposition will be held, it has been necessary to extend the dates from one week to two weeks. It will open on April 27 and continue until May 11, 1929. It is felt that these dates, early in the spring, instead of in March as formerly, are the logical time for the Exposition because it is a time when people are thinking most about home owning.



## Erect Fourth Factory Unit

THE Chain Belt Company has under construction a new manufacturing building on its 59-acre tract at 39th and Orchard St., Milwaukee. This is the fourth unit to be erected and is a part of a general plan for extension. The new building will be 104 by 150 feet, and is to be completed by September 15th. It will be modern in every respect, with a saw-tooth roof, brick and concrete sidewalk construction and concrete flooring throughout. At present there are five buildings on this tract, but the main office is still on the 16th St. Viaduct, where the company has the gray iron foundry and the chain assembly plant, machine shop and other assembly building.



## Jacobsen Joins Ambler Company

AN announcement states that Wm. Jacobsen, recently associated with the Asbestos & Mineral Corporation, New York City, has been appointed sales manager of the Fiber Department of the Keasbey & Mattison Company, of Ambler, Pa., which is sales agent for the Bell Asbestos Mines, Inc., at Thetford Mines, P. Q., Canada.

# Simplified Working Cost and Estimate Sheets Free!



## A Guide to Greater Profits

A complete, yet simple method of knowing "just how you stand" on every job—both before you get it and while under construction.

**Increase your profits**—You'll find our Working Cost & Estimate Sheets a guide to greater profits. They are the result of a close study of various building operations under a great variety of conditions.

**Simplify your work**—In this connection you can simplify not only your records but also the work itself. How? By using the DeWalt Wonder Worker for cutting all framing, sub-flooring, concrete forms, interior trim, cabinet work and a wide variety of special work found on frame, brick and row house developments. For the DeWalt is fast, powerful and portable—a decided asset on any building work where wood is used.

Send for a supply of sheets—use coupon

DeWalt Products Company  
673 New Holland Ave., Leola, Pa.

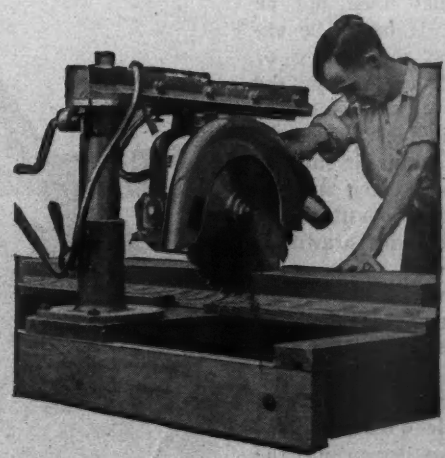
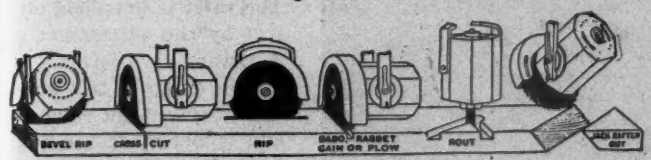
Without any obligation on my part—I'd like you to send me a supply of Working Cost & Estimate Sheets.

Your Name \_\_\_\_\_  
Firm Name \_\_\_\_\_  
Address \_\_\_\_\_

**FREE**

# DEWALT Wonder Worker

The Economy Wood Worker



Over Three Thousand Users—Over Fifty Distributing Points

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

# MOTOR TRUCKS *and* TRAILERS



## Points on Truck Maintenance

### Part III—Bearings, Backfiring and Drivers Instructions

#### Bearing Adjustments

**N**OTHING is more fatal to the life of a motor truck engine than for an inexperienced operator to attempt to make adjustments of bearings. This is not a difficult task for those who know how to do it, but it is decidedly beyond reach of the novice's ability.

Most of us know that the life of a motor depends to a very large extent upon its bearings. Many times, one ruined bearing has caused the disabling of the entire motor.

Above all, a motor truck should never be driven for any length of time with a loose bearing until it finally burns or hammers out, sometimes causing a connecting rod to crash through the side of the crankcase, or some other serious result. The symptom of a loose bearing is distinct engine knock. Sometimes the bearings will only need tightening, that is, the tightening of the bolts that hold the bearing caps in place. Other times it may be necessary to remove one or more of the liners or shims placed between the cap and the upper half of the bearing, so that when the cap is pulled up snugly, the journal will show the correct contact on the bearing surface.

But unless the driver is experienced at this kind of work, it is much better to turn it over to an expert.

#### Spare the Choker Valve

Nowadays, since the grade of gasoline obtainable is of such low gravity and is so much less volatile than that available in previous years, motor truck operators are confronted with a unique problem that must not be neglected. It might be explained that the heavier or less volatile the fuel is, the greater is the difficulty of mixing this fuel to correct proportions with air suitable for combustion and the greater is the possibility of liquid fuel being drawn in the cylinders.

This results in some difficulty in starting the engine and encourages a generous use of the carburetor choker valve, since, in this way, a considerable quantity of liquid fuel is drawn into the cylinders, making starting easier. However, this fuel, in a liquid state, tends to dilute the lubricating oil and,

with the action of the piston and piston rings within the cylinders, causes the liquid fuel to partially cut away the lubricating oil film from these parts and to dilute the oil in the crankcase.

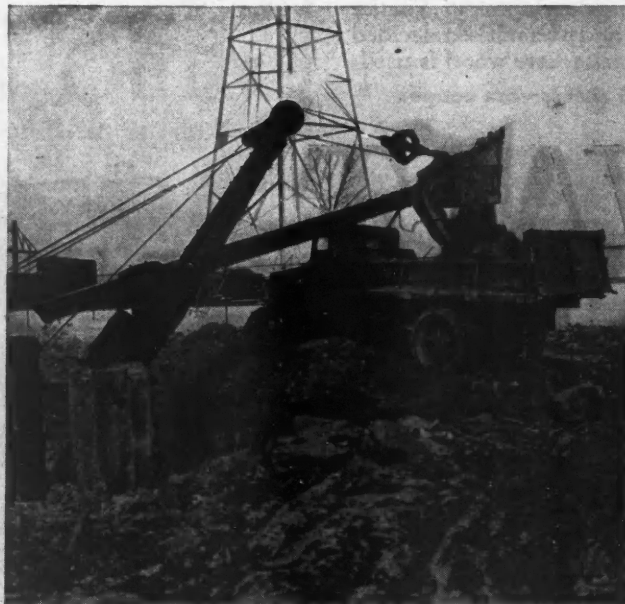
#### When Truck Backfires

Backfiring is a common symptom of trouble and often a cause of considerable danger. There are three principal causes of backfiring into the carburetor: a bad mixture, improper seating of the valves and a defective ignition system. Eighty per cent of the causes of this trouble are due to a weak mixture caused by improper carburetor adjustment, i.e., too much air or too little gasoline.

Another cause of weak mixture which leads to backfiring into the carburetor is a poor or uneven flow from the tank to the float chamber of the carburetor, due to an airlock in the piping, a closed vent in the gasoline tank, or a gasket in the gasoline pipeline which has been squeezed into the pipe when the union nut was tightened. A weak mixture is also very commonly caused by a leaky gasket in the intake manifold connections. Air is sucked through this leak and rarifies the mixture to such an extent that the backfiring into the carburetor is a natural consequence.

The second cause of backfiring into the carburetor is a defective intake valve seating. The valve itself might not be defective, as a flake of carbon on the valve seat will hold it open and allow flame to penetrate into the intake and fire the gases in the manifold and carburetor. A warped or pitted valve will give the same results. If the valves are warped or pitted they should be renewed, as either of these conditions bespeak poor material and grinding is no cure.

The valve adjustment itself may have been made without allowing for the expansion of the valve stem when the engine is warm. The valve is thus held off its seat by the adjustment nut. A visiting card forms a very reliable gauge to test the distance between the valve stem and tappet when the engine is cold. The adjustment should not be made so tight that the card cannot be slipped between the tappet



The Truck Driver, if Properly Trained, Can Do Much to Keep a Truck from Being Abused and in Anticipating Trouble Before It Becomes Serious.



# Hauling Equipment Can Be Made the Source of Handsome Extra Profit

**Building Supply Dealers Using INTERNATIONALS  
Consider Their Trucks Good Investments**

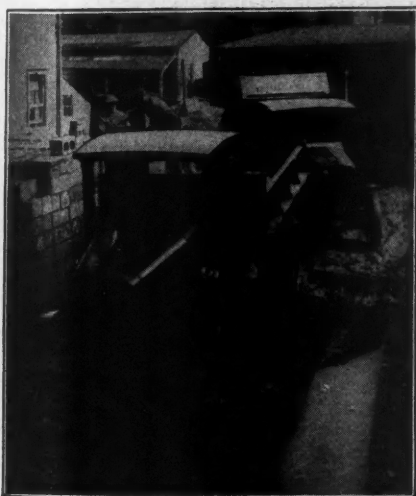


**M**ONEY saved in repair and maintenance costs and lower operating expense keeps Internationals working for the profit side of the balance sheet, as proved by the cost records of hundreds of building supply dealers.

If you are looking for a thrifty, dependable truck... a truck that will *earn* money as it transports



International trucks are rendering effective service to building supply dealers everywhere, both in hauling ability and low operating cost. Above are two recent additions to the fleet of Internationals owned by Hugh O'Haire Co., Bronx, New York.



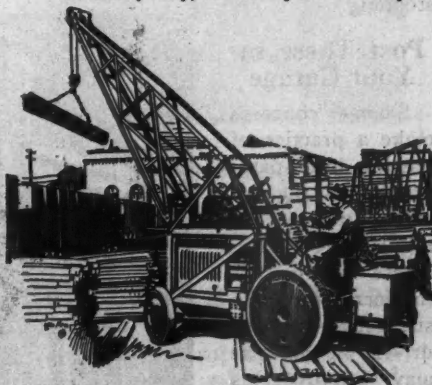
your loads, you can end your search pretty quick in the showroom of the Branch or International Truck dealer near you.

An inspection of the trucks on display will show you why building supply merchants consider Internationals serviceable, profitable investments.

The International line offers a variety of models of different size, capacity, wheelbase and power, including the 3/4-ton Special Delivery; Six-Speed Special [1-ton]; 4 and 6-cylinder Speed Trucks for 1 1/4, 1 1/2 and 2-ton loads; and Heavy-Duty models, double reduction and chain drive, 2 1/2 to 5 tons. Write for descriptive literature on any of the trucks listed above. Address

## MIGHTY HANDY Around the Supply Yard

A McCormick-Deering Industrial Tractor. These sturdy, compact power units are finding favor wherever the job calls for heavy-duty, low-cost power. They



can be used with trailers, semi-trailers and a wide range of special equipment. Power is available three ways; through drawbar, belt-pulley, and power take-off.

## INTERNATIONAL HARVESTER COMPANY

606 So. Michigan Ave.

OF AMERICA  
(Incorporated)

Chicago, Illinois

and seat when the cam is not lifting the valve.

The third cause is rare. Weak batteries will give the trouble occasionally, and there will sometimes be a ground in the high-tension circuit which will give a spark at the wrong time, perhaps exploding the charge just as it is entering. Look for this last.

### Drivers Need Help

A good way to impress important points on drivers is through the use of typewritten bulletins posted in the garage. The following is the copy which appeared in a bulletin used in this way by one concern. It was entitled, "Points Worth Remembering":

1. Use all gears in starting. Slip the clutch only when necessary to make a smooth start, as this often causes burned-out or glazed clutch discs.
2. Shift gears to lower speed when driving slowly in traffic. When traveling through sand, use the highest gear possible and keep the truck rolling, but do not permit the engine to knock.
3. Do not wait until the engine knocks before shifting to a lower speed. When climbing a grade, shift to a lower gear as soon as the engine gives the slightest indication of laboring.
4. When descending steep hills use the engine as a brake. Avoid heating of brakes on long descents by applying hand and foot brakes alternately.
5. If the accelerator is used, set the throttle lever to give just enough opening to prevent stalling motor if the foot is moved from the pedal for braking.
6. Remember that spinning wheels do not give traction. In attempting to drive in mud or slippery spots, wheels should revolve slowly, as this increases traction. Apply stones or planks around rear wheels to obtain traction in getting out of holes.
7. Immediately after turning off ignition switch in stopping it is helpful to open the throttle wide, so that the momentum of the engine, as it slows down, will draw full shares of gas into the cylinders to enable easy starting.
8. If engine becomes overheated, turn it off immediately, or serious damage may result. Allow it to cool and add warm (not cold) water before proceeding. Never pour cold water directly into a hot motor, as this often causes the cylinder walls to crack or warp.
9. Avoid emergency stops, as far as possible. Anticipate situations far enough in advance to permit slow, gradual stopping.

### Post These in Your Garage

Some concerns make a practice of posting brief paragraphs on the garage bulletin at regular intervals. These usually take the form of definite suggestions to the driver on how he may improve his knowledge of truck operation. The following two items are typical of what may be done along this line.

### How to Prevent Skidding

When a truck skids the tendency

is for an inexperienced driver to apply the brakes and turn the front wheels in the opposite direction to that in which he is skidding. This should not be done, as it only accentuates the skidding and the truck may be ditched or skid into another vehicle or the curbing.

When the machine starts to skid, turn the steering wheels in the direction in which the truck is skidding and partially close the throttle, but not entirely, or it will have the same effect as applying the brakes. When the truck straightens out, the power may be again applied gradually and the machine brought back to the center of the road.

When skidding on narrow roads it is best to apply the power and steer for the center of the road. This will aggravate the skid for a moment, but brings the machine around at an angle with the front wheels in the center of the road. The momentum of the truck will cause the rear wheels to climb back on to the road again.

### How to Manipulate Truck at Curb

The proper way to park a truck in a narrow space at the curb is to turn into the space driving forward, then out to get the truck at an angle to the curb and back in, turning the wheels as a bit of practice will show best. In manipulating the truck, the front wheels should never be turned by moving the steering wheel when the vehicle is not in motion. This puts undue strain on the steering apparatus and will cause too much play in the steering gear. If it becomes necessary to turn the front wheels of a truck while it is standing still, they should be moved by forcing not only the steering wheel, but also by pulling the front wheels around.



### Motor Truck Deliveries Help Develop Lumber Business

IN spite of discussions at various conventions to the contrary, J. M. Harlan, of the J. M. Harlan Lumber Company, Indianola, Iowa, considers it necessary to make deliveries in order to get the business. Mr. Harlan prides himself on the type of delivery service he is able to give his customers.

The J. M. Harlan Lumber Company makes use of a two-ton motor truck, provided with platform body. The body is 12 feet long and has side panels and stakes. The truck is painted red and the name of the company appears in attractive letters on the side panels. Mr. Harlan said that the truck serves as a traveling billboard, and the advertising the concern derives from it is indeed worth while.

The truck is also utilized to make deliveries of sand and various building materials and travels considerably in the country over rough roads as well as in town. For delivering sand, boards are placed inside the stakes; this method serves just as well, according to Mr. Harlan, as a special box body.



This Two-Ton Truck Is Used by the J. M. Harlan Lumber Company, of Indianola, Iowa, for Delivery of Building Materials and Gives Satisfactory Service in Handling Not Only Lumber but Also Sand, Cement and Specialties.

# CERTIFIED EARNING ABILITY



**EARNING  
POWER-  
THE ONLY TRUE  
MEASURE OF  
TRUCK VALUE**

Behind the remarkable fact that more than 70% of all Federal trucks are sold to Federal owners is another fact—still more significant. This 70% of repeat buyers is made up almost entirely of men and firms who operate fleets of trucks and who keep accurate cost records... who

Ask for  
the free "Federal System of Truck Expense Control" that is doing so much to lower haulage costs. No obligation.

know their haulage costs... who have measured Federal superiority in actual dollars and cents.

It is CERTIFIED EARNING ABILITY that keeps these leading business institutions of the world buying Federals, year after year.

THE FEDERAL MOTOR TRUCK COMPANY, 5842 Federal Avenue, DETROIT, MICHIGAN

"Leading Specialists in Commercial Transportation"

# FEDERAL TRUCKS

ALL SIZES—FOURS AND SIXES

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

# BRADLEY

## The Frames That Sell on Merit

The durability of Bradley-Miller Frames, their good manufacture, their quality reputation sells 'em. They're strictly a merit proposition. They cost your customer a little more, because of their quality, but builders readily pay the difference when they know about Bradley-Miller construction—how we use Genuine Michigan White Pine and how it is free from splitting, warping, rotting.

The dealer who is building business for the future should by all means sell Bradley-Miller Frames.

*Write for our free booklet*

**BRADLEY-MILLER & COMPANY**

Marquette Street  
BAY CITY, MICHIGAN

# MILLER

GENUINE  
White Pine FRAMES

## Telephotograph Speeds Service

It was 3:30 p. m. when the American Telephone & Telegraph Company's special messenger panted into the Ryerson Chicago Plant with this telephotograph and accompanying telegraphic order.

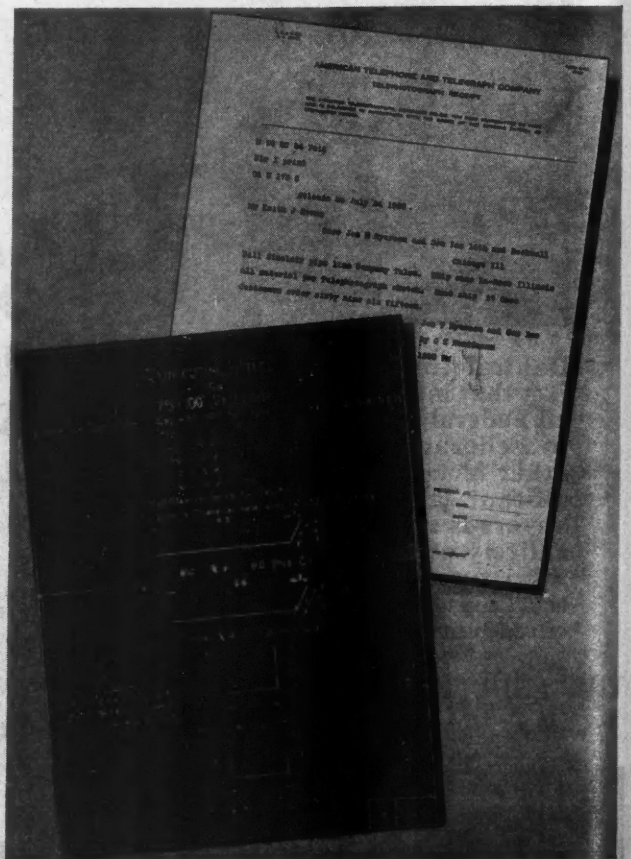
The Sinclair Pipe Line Company of Tulsa, Okla., was in urgent need of reinforcing material for building a large reservoir at La Rose, Ill. The order called for 1,890 reinforcing bars with 1,100 bends, 7,300 bar ties, and 14 rolls of wire mesh, and had been given to W. T. Branson, Ryerson Tulsa representative, for personal and quickest possible action.

As the order was in the form of a blueprint with sketches of the bends, etc., it could not be transmitted by telephone. It was late in the day so Branson taxied to the Tulsa station, dispatching the order and sketch on the fast mail train to St. Louis. The order was received at the St. Louis Plant in the morning. As La Rose could be served quicker from Chicago, the order was immediately telephotographed to the Ryerson Chicago Plant.

The Reinforcing Steel Department wrote up the order in the usual way and copies were in the shop at once. The bonus time chart showed 3.1 hours shearing time and 3.5 hours bending time, but crews double up and in one hour and twenty-five minutes the material was ready. In the meantime the traffic department had lined up a car and in thirty minutes more the order was moving out of the plant.

The car number and routing were then wired to the Ryerson St. Louis Plant for advising the customer. The carload was switched from the Pennsylvania to the Santa Fe Railroad and left Chicago that night. The car reached La Rose, Ill., at 4:20 in the morning ready for use in the reservoir the next day.

This is the first reported use of the telephotograph for speeding steel service and points the way to more general use of this new and valuable aid to industry.

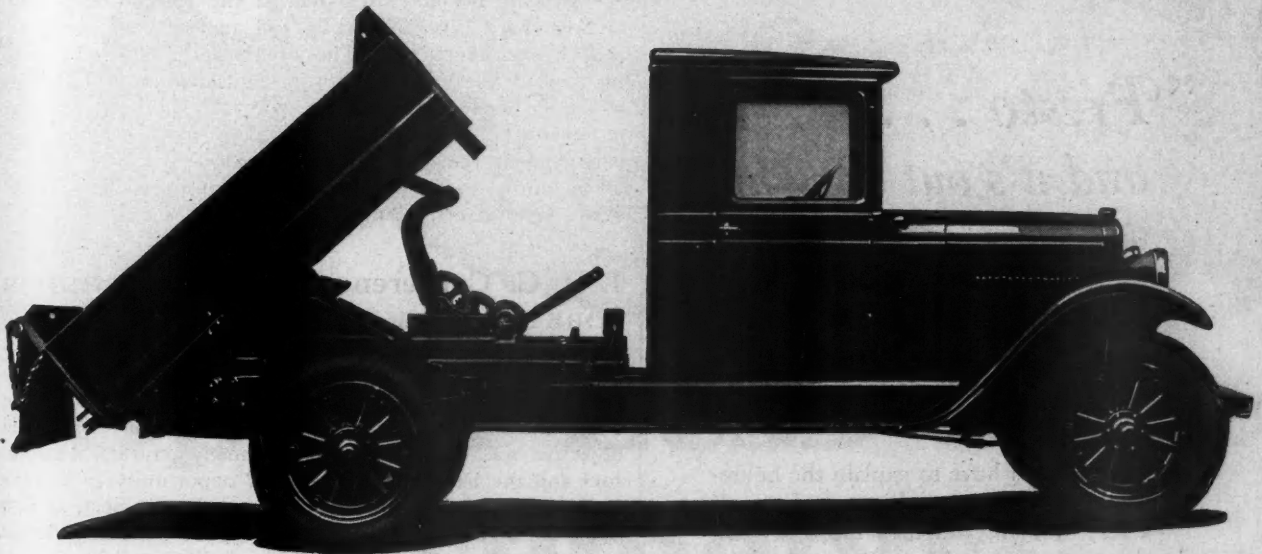


Telephotographic Order Which Was Handled by the Ryerson Company in Record Time.

for Economical Transportation



# The Year's Greatest Truck Sensation



The World's Lowest Priced Truck With  
4 Speeds Forward and 4-Wheel Brakes!

The tremendous success of the new Chevrolet Utility Truck in every section of the country has established it as the greatest commercial car sensation of the year!

Truck users in every line of business have hailed it as an outstanding achievement — for it offers every feature needed for modern transportation . . . at the lowest price ever placed on a

truck with 4 speeds forward and 4-wheel brakes. And not only does it give you, to an amazing degree, those basic truck elements of power, speed, endurance,

economy and handling ease — but it is also available with a body type designed especially for your business.

Visit your Chevrolet dealer today and see this remarkable truck!

The UTILITY TRUCK

**\$ 520**

(Chassis Only)

also

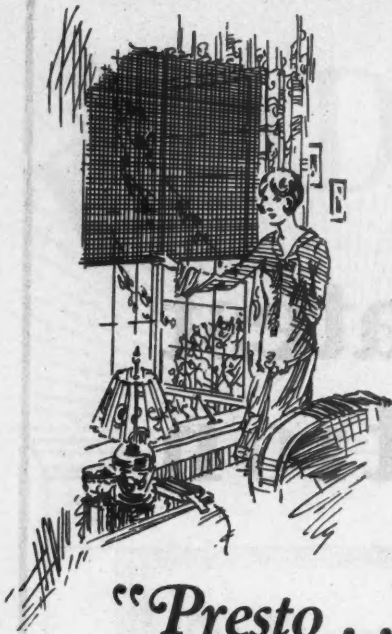
Light Delivery Chassis . . . . . **\$375**

f. o. b. Flint, Michigan

CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN  
Division of General Motors Corporation

WORLD'S LARGEST BUILDER OF TRUCKS

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



**"Presto . . .  
and it's out of sight!"**

Here's a screen that helps you sell the homes you build - - the new Higgin rolling screen!

Demonstrate its superior performance . . . how smoothly and quickly it disappears from sight. Point out its improved construction . . . how taut and even the mesh.

You won't have to explain the household conveniences of this type of screen. Every woman, and man too, fully understands the trouble it eliminates - - the storing, removing, painting.

This new rolling screen is every bit as outstanding in *its* class as are the other types of Higgin screens in *theirs* - - rigid tests and experiments prove it!

And we *know* you will find it a selling point for your residences and buildings. The coupon will bring full information.

**THE HIGGIN MFG. CO.**

*Specialists in Screens since 1893*

General Offices: Washington Ave., Newport, Ky.  
Kansas City, Mo., Toronto, Ont.

**HIGGIN**  
ALL METAL  
**SCREENS**

The Higgin Mfg. Co.  
502 Washington Ave.  
Newport, Ky.

Please send complete information regarding your new rolling screen.

Name \_\_\_\_\_

Street \_\_\_\_\_

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Screens that last longest, cost least—Higgin Screens last!

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

**A Building Construction Chart**

A "BUILDING CONSTRUCTION CHART" has been prepared, for free distribution to building material dealers, by the Ideal Steel Products, 308 N. Michigan Ave., Chicago, and will be sent to any dealer upon request. The idea behind this chart is based on the fact that most dealers take their orders over the telephone. This chart, hanging on the wall before the salesman, will serve as a reminder of all the articles and materials which must be bought for an ordinary dwelling.

The items are listed in groups such as "Foundation Materials," "Trim Specialties," etc., so that when a contractor calls up for any item the salesman can see at a glance just what other items will be required in this part of the job and will have a chance to talk his line.



**Gypsum Institute Organized**

RECOGNIZING the need of co-operation, certain gypsum manufacturers met at the Hotel Commodore in New York City on August 2nd and 3rd and organized the Gypsum Institute. The organization will take over the properties of The Gypsum Industries, Incorporated, which suspended activities on May 1st, and will function in much the same manner and with some of the same personnel as the old association. Already a headquarters office and a traffic department have been opened at 110 West 40th Street, New York City.



**I. H. C. Conference and Demonstration**

THE first conference and field demonstration of its kind ever held between a tractor manufacturer and manufacturers and distributors of tractor equipment was successfully conducted this summer at the tractor works of the International Harvester Company, in Chicago. The main objective was to afford equipment manufacturers, distributors and the harvester company an opportunity to become better acquainted in a business way and to inspect, at first hand and under actual working conditions, the many classes of high grade equipment now being built especially for use with McCormick-Deering tractors.

It is stated that over 75 of the world's leading manufacturers of tractor equipment are today manufacturing a variety of machines and attachments for use with McCormick-Deering tractors. Fifty of these manufacturers, from 14 different states, attended the conference bringing with them sample machines for demonstration and from one to a dozen salesmen and service men. With the exception of a few distributors located at distant points on the Pacific Coast, all of the McCormick-Deering industrial tractor and equipment distributors were present.



Demonstrating a Tractor Mounted Shovel at the International Harvester Company's Conference, and Field Demonstration.

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# Holt Bid

## Spend Less Time Estimating

*Use the Modern Up-to-Date HoltBid Service Method*

Copyrighted and patents pending

**A building starts with an estimate.**

**An estimate means tedious hours of labor, trying to anticipate the cost.**

**Figuring, checking, counting. Listing dimensions, pieces and prices.**

**Countless chances for mistakes and omissions.**

**Uncertain of this and doubtful of that.**

**Is the bid too high? or, Are my costs too low?**

**The relief from all this grief is HoltBid.**

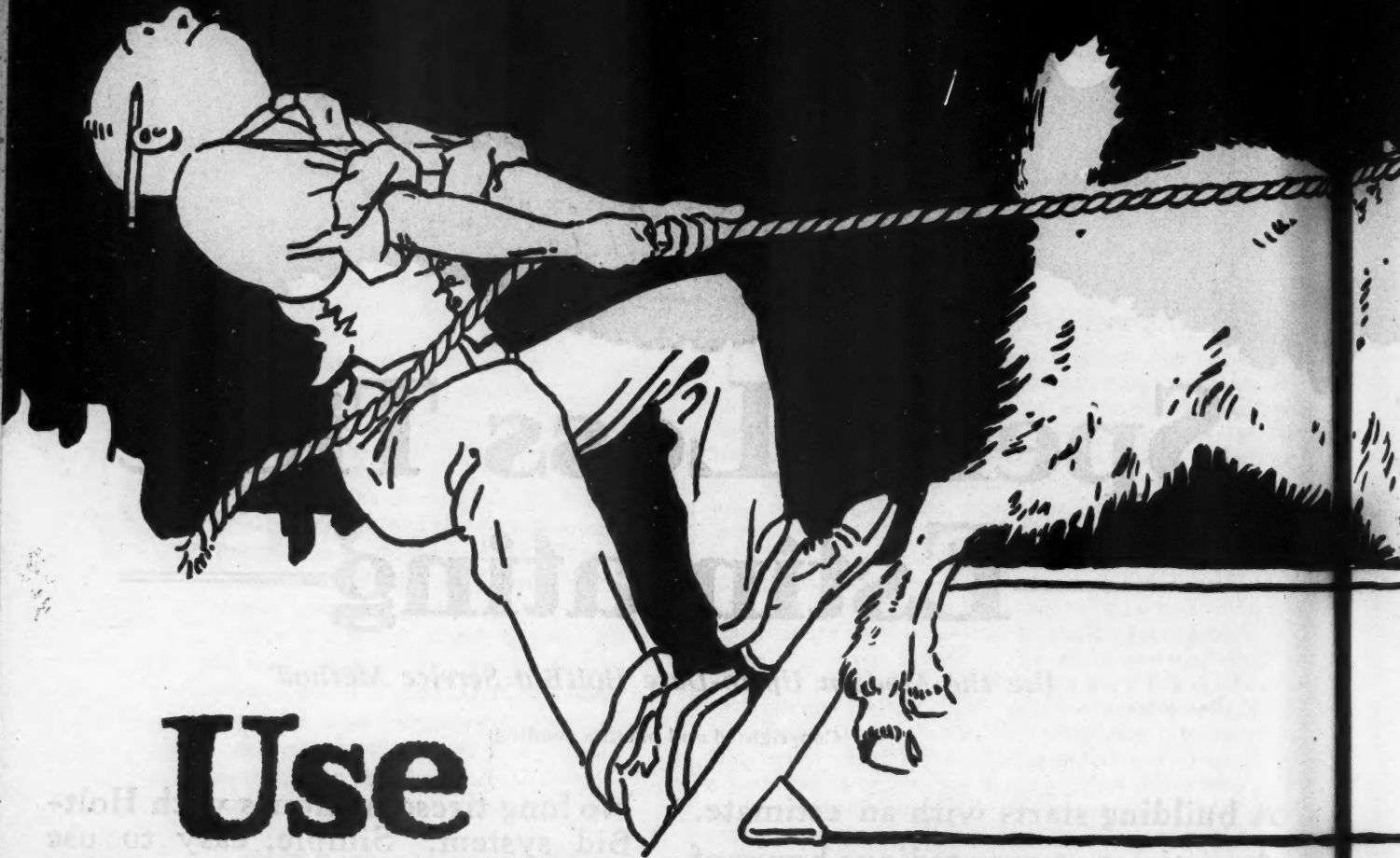
**No long tiresome hours with Holt-Bid system. Simple, easy to use and absolutely accurate.**

**Can be applied in eight hours. No study, no problems in mathematics or rules to memorize.**

**No complicated specifications. HoltBid is complete—Includes all structural material and labor costs.**

**HoltBid will give accurate building costs on Homes, Apartments, Flat Buildings, Stores, Barns, Garages or any other ordinary building in less than an hour.**

# Don't let Get Your



## Use **HOLT BID** the

You make estimates always in hope of closing a contract. If you landed every job you figured, that would be fine.

But what is your chance of getting the job?

Maybe your prospect hasn't enough finances, or changes his mind, or lets the job by the day. Maybe your competitor figures a little lower.

And yet you have spent valuable time, probably extra time in the evenings, figuring and re-figuring,—for which you get nothing.

It's the same with job after job. For every four or five you estimate, you may land one.

Then another time after you have wasted several evenings and perhaps a Sunday on a nice job, your customer decides to switch to another plan altogether.

?\*! Now you must go over the same process again—wondering what will turn up next.

Is it any wonder estimating gets your goat?



# Estimating Goat



## Short, Easy Method

With HoltBid it's entirely different. You can quote a definite cost to your prospect in minutes instead of hours.

If Mrs. Customer wants to alter the plans, urge her to do so—Because you can revise your costs easily with HoltBid.

If they are undecided between two or three designs—figure all of them and show the comparative costs. With HoltBid this is quickly done.

All types of construction are covered: Frame, Brick, Brick and Tile, Brick Veneer, Stucco, etc. Think of the satisfaction of having people come to you for consultation on building costs. A HoltBidder is an authority on construction costs in his community.

Be the best informed builder in your town. The bigger jobs, the profitable jobs, will naturally come your way because of your increased ability.

# Holt Bid

Sent for Only

\$ 1.00



## My Personal

I GUARANTEE that the HoltBid Method of Estimate Building Costs will be satisfactory to you in every respect. All I ask is that you give it a fair trial, and that is the only condition. If at the end of thirty days you do not find the HoltBid Method exactly as represented, I will refund the small down payment you have made.

## Guarantee

During the thirty days of free examination it is understood that our corps of expert HoltBidders will hold themselves in readiness to answer any question, and to give you true appreciation of the great value of the HoltBid Method. In accepting your order I place my full confidence in your intentions to give the HoltBid Method a fair trial.

WILLIAM A. RADFORD, President  
The HoltBid Service Company

**PIN A DOLLAR BILL TO THIS COUPON AND MAIL TODAY**

William A. Radford, President,  
HoltBid Service Company,  
1827 to 1901 Prairie Ave., Chicago, Ill.

I would like to give your HoltBid Method a personal trial. I enclose herewith \$1.00 that you may send me the complete service on 30 days' approval under your money-return guarantee. If I keep the material more than thirty days it is understood that I wish to continue with HoltBid Service and will pay you \$5.00 per month until the full price of \$85.00 has been paid. The shipment I am to receive includes all units and a year's subscription to American Builder.

Name .....

Town ..... State .....

Street Address..... Occupation .....

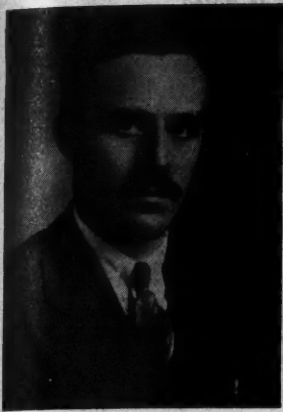
Note:—The service must be entered in the name of the individual and not the firm.

A.B. 10-28

(Without the American Builder, we shall deduct \$1.00 from the total purchase price. If you already are a subscriber, we can readily extend your subscription for a year.)

**A New Service Offered**

**A**N interesting and valuable service for realtors and builders is revealed with the announcement of the appointment of G. M. Stickney as service manager of the



**G. M. Stickney, New Service Manager of the Creo-Dipt Company, Inc.**

Creo-Dipt Company, Inc., of North Tonawanda, N. Y. Mr. Stickney, who is an architect with an exceptional knowledge of color and design, will serve in an advisory capacity with builders or realtors who are planning developments of 10 or more houses. His work will be to confer personally with the architectural staff of builders and realtors and to help them plan new roof and sidewall treatments and every detail of color.

It should be clearly understood, of course, that Mr. Stickney in no way supplants or conflicts with the realtors' architects. His only function is to contribute to these architects the advantage of a long and specialized training in colors and color harmony. He will draw no plans and offer none of the usual services.

**Testing Device Perfected**

**ALFRED V. DE FOREST**, research engineer of the American Chain Company, was recently honored by the National Society for Testing Materials, which organization awarded him the Dudley National Medal in recognition of his achievement in perfecting the non-destructive test for materials. With the device Mr. de Forest has developed, it is now practicable for any young woman to sit in front of a machine and, by means of a graph on which appears a hysteresis loop, determine instantly whether or not the material passing in front of her has the slightest defect. The problem of magnetic analysis has been solved by Mr. de Forest, whose sensitive, galvanometer will detect a flaw no bigger than a pin head in the center of a large steel wheel.

**Equipment Companies Consolidate**

**BACON, Hibbard, Eichman, Inc.**, is the name of a new firm in the contractors' equipment field, in Cleveland, Ohio. This company has been formed by the consolidation of two organizations, both of which are well established in the equipment business and are joining forces in the interests of larger and more efficient sales and service. The company's major factory account will be the line of mixers, pavers, elevators, conveyors, pumps, saw tables, plaster and mortar mixers manufactured by the Chain Belt Company, of Milwaukee, Wis. The new company will maintain both the business locations and telephone numbers through which they have been serving the trade. The office of the Bacon Engineering Sales Company, 251 Erie Building, will be retained as stenographic and accounting headquarters, while that of Eichman & Hibbard, at 917 Central Ave., will be the headquarters and show rooms.

**New Chase Policy Announced**

**A**RECENT announcement by F. S. Chase, President of the Chase Brass & Copper Company, Incorporated, states that all products formerly sold by the Waterbury Manufacturing Company and the U. T. Hungerford Brass & Copper Company, including the well known Alpha brass pipe, will now be sold under the Chase name and mark.

**Oil-Textd**  
 New—  
 Permanent—  
 Textured—  
 Wall Covering

Reg. U. S. Pat. Off.



No. 626—Hangs Like Wallpaper

**Applied to Any Smooth Wall Surface**

Most Serviceable and Permanent Decoration Obtainable.

Inexpensive—Easily Applied—Washable—Decorative—Built up in Linseed Oil—No Surface Cracks—Easily Repaired—Can be removed, permitting any other type decoration.

The wall is finished in one operation without smudging the woodwork and a uniform texture is assured.

Made in any color and in a variety of designs suitable for any room in the home, public halls, stores, etc. Applied like wallpaper.

FREE SAMPLES and literature sent upon request.

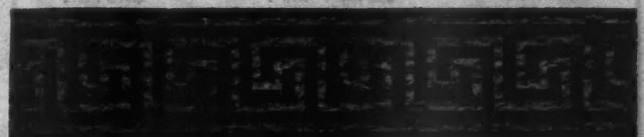
Write today

PRODUCT OF

**Lincrusta-Walton Co.**

Hackensack

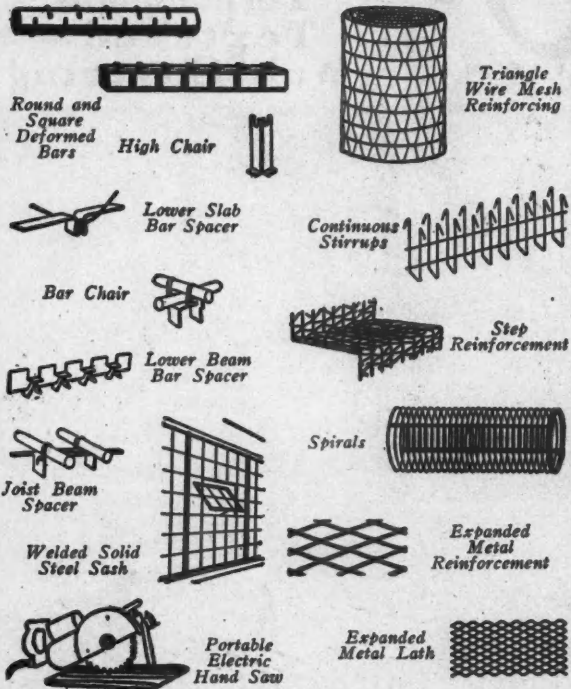
New Jersey



No. 618—2 3/4 inches wide

•• BINDERS AND PANEL MOULDINGS TO MATCH ••

# Buy Reinforcing and Building Steel from Headquarters



**Ryerson combined service  
saves time, money and trouble**

The Special Contractors and Builders Division of Ryerson Steel-Service is without parallel in the building fields.

This department has its own warehouses and provides complete service on all reinforcing for concrete. Steel Joist, Metal Lath, Steel Sash, and all the various steel building products are also included.

In addition, structurals, bars, plates, sheets, rivets, bolts, wire, etc., are furnished from the general steel departments. Trench braces, jacks, electric drills, and hundreds of other tools needed on every job are supplied by the machinery and small tool departments.

Contractors use the Ryerson Warehouses as if they were their own. Reinforcing steel, lath, sash and other miscellaneous materials are kept under cover until they are ready to use each item. Delivery is according to their schedule.

Large fleets of trucks and private switch tracks help provide service unequaled by any other source of supply.

All types of jobs are figured and lump sum or pound price quotations prepared.

Write for Complete Information.

**JOSEPH T. RYERSON & SON INC.**

CHICAGO  
CINCINNATI  
BUFFALO

MILWAUKEE  
DETROIT  
JERSEY CITY

ST. LOUIS  
CLEVELAND  
BOSTON

# RYERSON

STEEL SERVICE

## Books, Bulletins and Catalogs for You

THE literature and publications listed here are available to the readers of American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

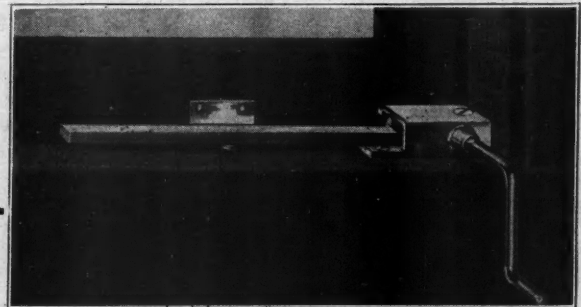
The Walter Bates Steel Corporation, Gary, Ind., has published a new booklet under the title, "Walter Bates Steel House Frames," which very fully describes and illustrates the type of steel frame construction which has been perfected by the company and presents a number of plans for various styled homes to which it is adapted.

P. & F. Corbin, New Britain, Conn., has prepared a new catalog, No. K-527, of "Colonial and Early English Hardware," which it manufactures, offering a wide assortment of designs to suit varying tastes and harmonize with Colonial and early English architecture.

"Copperclad—The Modern Copper Roof," is the title of a new booklet published by the Flintkote Company, Park Square Bldg., Boston, Mass., illustrating Copperclad roofing and supplying full information on its qualities and application.

"Grade Marking of Lumber for the Consumers' Protection" is the title of a recent bulletin published by the National Committee on Wood Utilization, and obtainable from the Superintendent of Documents, Washington, D. C., for 10 cents. Ten thousand copies of this bulletin are being distributed in Wisconsin and Michigan by the Northern Hemlock and Hardwood Manufacturers' Association, Oshkosh, Wis.

The Standard Sanitary Mfg. Co., Pittsburgh, Pa., has published a number of additional pages for its loose leaf catalog of plumbing fixtures.



**3 1/2 Turns { OPENS OR SHUTS**

**Casements equipped with this No. 94 Operator**

Locked at any position. Designed for stools as narrow as 1 1/2 inches. Include No. 94 when writing for details on Rixson Hardware Specialities.

**The Oscar C. Rixson Company**  
4450 Carroll Ave., Chicago, Ill.  
New York Office: 101 Park Ave., N. Y.

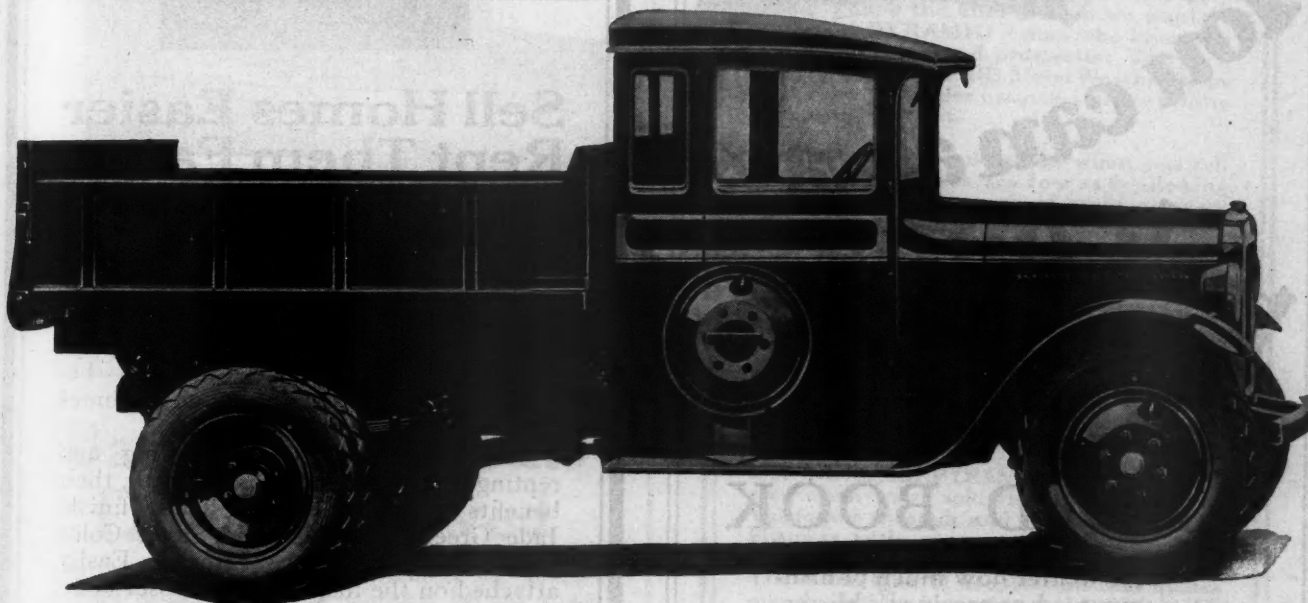
# RIXSON

## Builders' Hardware

Overhead Door Checks	Friction Hinges	Concealed Transom Operators
Floor Checks, Single and Double Acting	Adjustable Ball Hinges	Butts, Pivots and Bolts
Olive Knuckle Hinges	Casement Operators	Door Stays and Holders
	Casement Hinges	

# AND NOW A 3 TON TRUCK AT \$1745

[ CHASSIS F. O. B. DETROIT  
—135 INCH WHEELBASE ]



**PRICES**

MERCHANTS EXPRESS —110" wheelbase	<b>\$ 665</b>
COMMERCIAL TRUCK —120" wheelbase	<b>775</b>
1¼-TON—130" wheelbase	<b>995</b>
1½-TON—140" wheelbase	<b>1065</b>
1¾-TON—150" wheelbase	<b>1345</b>
1¾-TON—165" wheelbase	<b>1415</b>
2½-TON—150" wheelbase	<b>1595</b>
2½-TON—165" wheelbase	<b>1665</b>
3-TON—135" wheelbase	<b>1745</b>
3-TON—165" wheelbase	<b>1775</b>
3-TON—185" wheelbase	<b>1845</b>

Chassis f. o. b. Detroit

**T**HREE fast, powerful rugged 3-Ton Trucks are now part of the famous line of Graham Brothers Trucks, built by Dodge Brothers.

Three wheelbases—135 inch at \$1745 for dump or trailer work; 165 inch at \$1775 and 185 inch at \$1845.

Note the list of capacities in the complete line . . . .

The right truck for any job.

Read the prices . . . . low on any basis of comparison . . . . *lowest*, if you consider the work they will do and the money they will make for you.

All sixes . . . . All with 4-wheel brakes—Lockheed hydraulic on the heavier types . . . . 4 speed transmissions in all 1¼, 1¾, 2½ and 3-Ton Trucks.

# GRAHAM BROTHERS TRUCKS

BUILT BY  
TRUCK DIVISION OF  
DODGE BROTHERS

SOLD AND SERVICED BY  
DODGE BROTHERS  
DEALERS EVERYWHERE

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



You can always  
pick out a

# K & E FIELD BOOK

No matter how much punishment it has received—blistering tropical heat, cold rain, rough handling—your records are always safe in it.

Small wonder, when one considers these cardinal points in its construction—

- 1** 100% Rag Stock  
(Does not grow brittle with age).
- 2** Waterproof  
(Sheets do not blot after being soaked).
- 3** Wire-stitched  
(No pulling apart, no dilapidated appearance, no valuable pages lost.)

Write for further information

## KEUFFEL & ESSER CO.

New York, 127 Fulton St. General Office & Factories, Hoboken, N. J.

CHICAGO  
SAN FRANCISCO

ST. LOUIS  
MONTREAL



## Sell Homes Easier Rent Them Faster

CARDINAL TOGGERY RACKS give the space of two closets in one. They keep toggery smooth, hats in shape, shoes off floor—all in plain sight, within easy, instant reach. Cardinals lighten women's work. There are thousands in use everywhere. Housewives like Cardinals—because they add a finishing touch to homes and make them really modern.

Cardinals are important selling and renting features. Their cost is small, their benefits great. Beautiful Duco finish. Jade Green, Old Rose and Silver Color Cadmium. All metal. Strong. Easily attached on the inside of any closet door.

## CARDINAL Toggery Racks

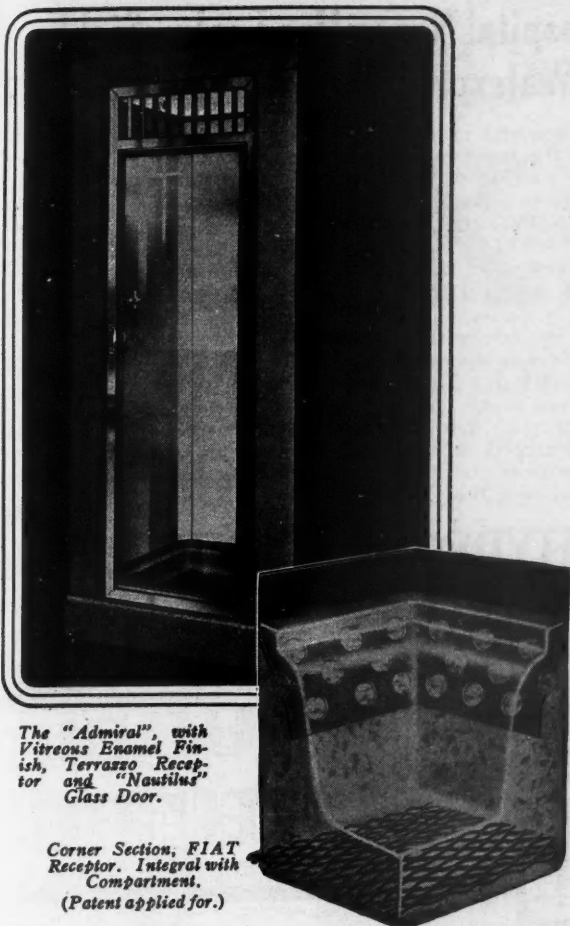
are a necessity in the small apartment, an added convenience in large ones—and in all houses, city and country, they not only save closet-room—but make it. You can see for yourself the appeal in them to every family, large or small.

Write today for prices and quantity discounts. For a very small outlay, you can add a big profit factor. Cardinals have a mighty persuasive force—the instant you swing open the closet door. They are certainly a big talking point.



## THE CHAS. FISCHER SPRING CO.

244 Kent Ave. Brooklyn, N. Y.  
Telephone, Greenpoint 10,000



## Bathing Problems Quickly Solved

A Fiat Shower Bath Compartment is the ultimate solution to the problem of adequate bathing equipment in the modern home. Regardless of the number of grown-ups or children, Fiat Enclosures fulfill all requirements from the standpoints of facilities and cost. They have no equal in providing families with an inexpensive, quick, clean, healthy way of bathing.

### **FIAT** Shower Bath Compartments

Preferred by architects and builders because of permanent leakproof construction. A complete unit that "rides" the building. Not affected by expansion, contraction or shrinkage. Occupies merely corner or closet space and therefore readily provided for in designing or remodeling homes. Only one trade involved—complete installation by plumber. Several models—doors or curtains optional.

*Our catalog is a practical help to architects and builders. Mail the coupon.*

**FIAT METAL MFG. CO.**  
1201 Roscoe St. Chicago, Ill.

**FIAT METAL MANUFACTURING CO.**  
1201 Roscoe St., Chicago, Ill.

Please send me full information regarding Fiat Shower Bath Compartments.

Name .....

Street .....

City ....., State .....

Please check—I am a Contractor , Plumber , Architect , Dealer , Realtor , Home Owner .

# WANTED EXPERIENCED WEATHERSTRIP MEN

**M**EN who know the weatherstrip game can sell PYRAMID Metal Weatherstrips fast with our new sales-help plan. That's the kind of men we want to represent PYRAMID—men who know the ropes and can stand prosperity. There's a big profit in PYRAMID Metal Weatherstrips and sales are easier because you are selling a superior product.

You have every advantage when you sell PYRAMIDS. Prices are lowest—allowing you a substantial margin of profit on every sale. Delivery is quickest—our stock and shipping facilities enable us to ship your order 4 to 16 hours after it is received. Quality is highest. PYRAMID Metal Weatherstrips look good—come to you in perfect condition. And they are good—made of zinc and bronze with up-to-the-minute construction features. P-D-Q (Prices lowest. Delivery quickest. Quality highest.) That's the PYRAMID motto—and it's lived up to every day.

Our interest in PYRAMID dealers doesn't stop when we've sold them weatherstrips. We follow through and help them build business with a cooperative selling plan that costs the dealer not a single penny. That's the kind of cooperation that makes our dealers enthusiastic about PYRAMID and it's the kind of cooperation that we will give to you.

Get all the details about the PYRAMID proposition. Compare it with others. You'll see why PYRAMID representatives are making better money. We'll send all the dope on the cooperative selling plan, too. You will not be obligated in the slightest. Just mail the coupon.

### MAIL THE COUPON

**PYRAMID METALS CO.**  
2014 Wabansia Ave., Chicago, Illinois

I am an experienced weatherstrip man and would like complete information about the PYRAMID proposition and selling plan. It is understood that this will obligate me in no way.

Name .....

Street .....

City .....

## PYRAMID METAL WEATHERSTRIPS

## This Hospital Never Has Leaky, Sickly Walls —It's Waterproofed with "ANTI-HYDRO"



The brick mortar in this building was mixed with "ANTI-HYDRO." As a result the masonry is permanently dampproof, and the walls are not stained with efflorescence from the mortar joints.

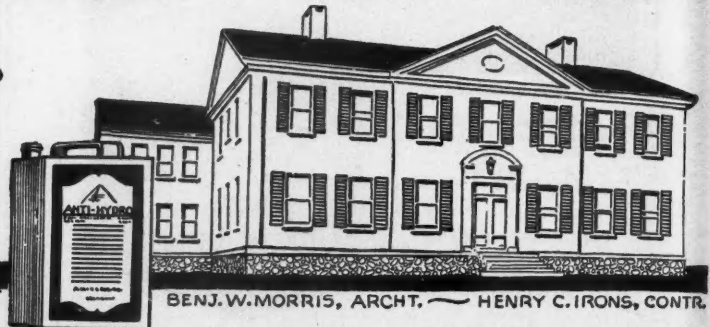
The concrete foundation walls and basement floor are waterproofed with "ANTI-HYDRO." Springs were struck in the foundation excavation, but "ANTI-HYDRO" waterproofed the concrete so thoroughly and permanently that the basement is always dry.

Although the "ANTI-HYDRO" for this job was illustrated through a local supply dealer, the manufacturer's own engineers and field men co-operated in pouring the concrete. This service is available wherever necessary for extreme conditions.

"ANTI-HYDRO" is very easy to use. It is a liquid integral compound. Mixes easily with the water used to wet down concrete and cement mixtures. Both hardens and waterproofs in one operation. Results guaranteed permanent. Twenty-four years of continuous use takes all the guess out of "ANTI-HYDRO" results. Use it on your next job and save time, worry and money.



**ANTI-HYDRO WATERPROOFING Co.**  
265-291 Badger Ave. Newark, N. J.



NORTH WESTCHESTER HOSPITAL, MT. KISCO, N. Y.

BENJ. W. MORRIS, ARCHT. — HENRY C. IRONS, CONTR.

# ACCEPT NO SUBSTITUTE



Sterling barrows wheel easier because of their "self-lubricating" axle bearing. The axle assembly is unusual—the wheel revolves on the bearing—the bearing on a fixed, axle keyed to malleable iron brackets.

## Sterling

**"perfect balance" — the load is carried over the wheel — not on the arm.**

More capacity loads per man per day—means more work—more profit. This is one of the many reasons why Sterlings are found on more jobs. With a Sterling the man *pushes* the load—not *carries* it. This feature is not found in ordinary barrows—and it is possible in a Sterling only because of scientific designing of tray and supporting braces. Try them on your next job.

Leading Hardware and Equipment dealers have them—or they can get them quickly from our complete stock warehouses at Chicago — New York — Philadelphia — Pittsburgh — Cleveland — Detroit — St. Louis.

# STERLING WHEELBARROW COMPANY

STERLING ON A WHEELBARROW MEANS MORE THAN STERLING ON SILVER

Milwaukee Wisconsin



100% EFFICIENT  
**O-K**  
 Portable Elevators

**ALL-STEEL  
 CONSTRUCTION**

Portable, Easily Moved  
 From Job to Job

MADE ANY DESIRED HEIGHT  
 BY ADDING  
 TEN-FOOT SECTIONS

Safe, Strong and Convenient



O. K. Elevators and Hoists are a permanent investment. The saving in time, labor and material will pay for them in a short while.

O. K. Elevators are equipped with a single drum O. K. Hoist and 8 or 12 H. P. Gasoline and Electric Engine. We have a complete line of Gasoline and Electric Hoists in all capacities.

*Write for our catalogs; they are yours for the asking*

**O. K. Clutch & Machinery Co.**  
 COLUMBIA - PENNSYLVANIA

Check and Mail  
**COUPON**  
 For the O-K  
**CATALOG**



**“If it’s in the  
 Willis Catalog—  
 I’ll know how to figure this Job”**

I get a big laugh out of some of the boys who bid on sheet metal jobs against me. They have to “guess.” On some jobs they lose money—and on other jobs they are so far out of line that they can’t even be classed with the “also rans.”

I haven’t any secret—they, too, could use the Willis Catalog if they were wise. Willis is really my authority and reference guide for sheet metal skylights, ventilators, cupolas, marquise, gutters (both plain and molded), conductors, fittings, metal lath, corner bead, roofings, sidings, steel basement windows, coal chutes, clean-out doors, ash dumps, fireplace dampers and underground garbage receivers.

*Willie Willis*

**WILLIS MANUFACTURING CO.**  
 Dept. 128 GALESBURG, ILLINOIS

CLIP AND MAIL THIS

**O. K. CLUTCH & MACHINERY CO.**  
 Columbia, Pa.

Please send your latest catalogs of equipment as checked.

PORTABLE ELEVATORS     HOISTS     PORTABLE AIR COMPRESSORS

Name.....

Address.....

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

Willie Willis, WILLIS MANUFACTURING CO.  
 Dept. 128, Galesburg, Ill.

Tell your boss to mail me Catalog No. 9 on Sheet Metal Building Products.

Firm Name.....

Address.....

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

## Speedmatic "8"

is revolutionizing the floor sanding business. Heretofore real floor machines have been bulky, unwieldy, and hard to handle. Now with the SPEEDMATIC "8" you can carry it to the job alone—plug in the wall plug—start work—no time lost. The high speed drum (surface speed 2300 ft. P.M.) gets in low spots and small places with astounding rapidity and less abrasive cost. One owner wrote, "Had 18 years' experience with floor machines and can state true facts that the Speedmatic machine is unbeatable at the present time." You, too, will be enthusiastic when you see the SPEEDMATIC "8" turn out more square feet at less cost and with effortless operation. Many other features. Moderate price makes it just the machine with which to start a paying business and one every contractor should own.

Porter Cable Machine Co.

1721 No. Salina St.  
SYRACUSE, N. Y.

# HERE IT IS New!

## The Speedmatic "8"



Despite the small size of the Speedmatic "Eight" it is a high production surfacer and will cover large areas of floor. More square feet per day is the result of its ease of operation and the small diameter high speed drum. Surface speed (2300 ft. P.M.).



## A "Slate Roofed House" Means Better Construction

**B**BETTER CONSTRUCTION MEANS GREATER SALES AND BRINGS HIGHER PRICES.

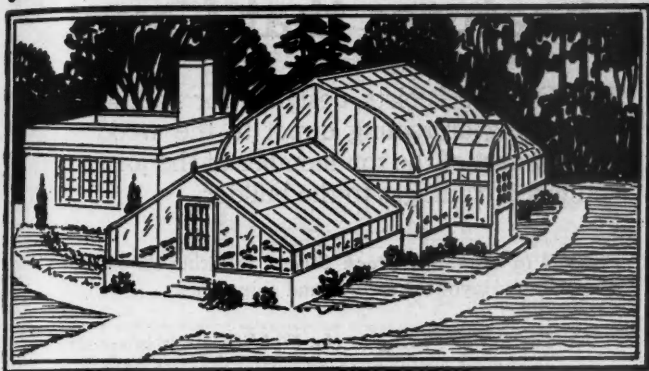
PEOPLE NOWADAYS WORRY ONLY ABOUT THE "DOWN" PAYMENT—THE BALANCE IS IMMATERIAL SO LONG AS THE HOME IS CONSTRUCTED OF SUBSTANTIAL MATERIALS.

GAY, ARTIFICIAL COLORS ALONE, NO LONGER ATTRACT. *IT'S THE CALIBRE OF MATERIAL THAT CLOSES THE SALE.* AND WHERE IS A ROOFING MATERIAL SO WIDELY KNOWN FOR DURABILITY AS NATURAL SLATE?

LITERATURE on our Special "Quarry Cleft" Slate as well as standard varieties will be mailed upon request.

**VENDOR SLATE CO.**  
INCORPORATED  
EASTON, PENNSYLVANIA

# USE — KUHLS for Glazing



You will find KUHLS' ELASTIC GLAZING COMPOSITION unequaled for bedding and glazing sash, skylights, conservatories and glass construction work, tile-setting, etc. Fine for pointing stone and terra cotta work. Ideal for window calking.

Kuhls' Composition is elastic, never sets hard, adheres strongly to wood, metal, glass, concrete, etc. Never cracks or crumbles. Stands heat and cold and is not affected by moisture or changing weather.

Kuhls' Elastic Glazing Composition can be economically and efficiently used in all construction work—from a four-room cottage to a 25-story building. It is now used by the best builders, contractors and architects and greenhouse builders in the country.

Fill out the coupon below; we will mail you a Free Sample, literature and prices.

**H. B. FRED KUHLS**  
6415-21 THIRD AVENUE  
BROOKLYN, NEW YORK



## Get These Booklets and FREE SAMPLE

H. B. FRED KUHLS,  
6415 Third Ave., Brooklyn, N. Y.

Please send me free of charge your literature and a sample of KUHLS' Elastic Glazing Composition.

Name.....  
Street.....  
City.....  
State.....

My occupation is

Builder  Dealer  Architect  Real Estate  Home Owner



Garage

## There's Sales Talk for You In a Sunshine Room Put It Where You Will

**B**UILDERS who are using our sunshine rooms or small greenhouses, find them to be worth twice what they cost. Worth double in what they add to property value. Worth even more in clinching sales.

Put one against the garage, or make it directly part of the house. It's an unflinching attraction for the women, and you know that means selling made easier.

You can get all the materials and full equipment,—concrete only excepted,—for a house 11 by 25 feet, for \$874. Others for less and more.

It's an easy job to put it up as everything so far as possible, comes all cut to fit.

Glad to give you complete plans and the facts as we have found them in the building field.

## Hitchings Company

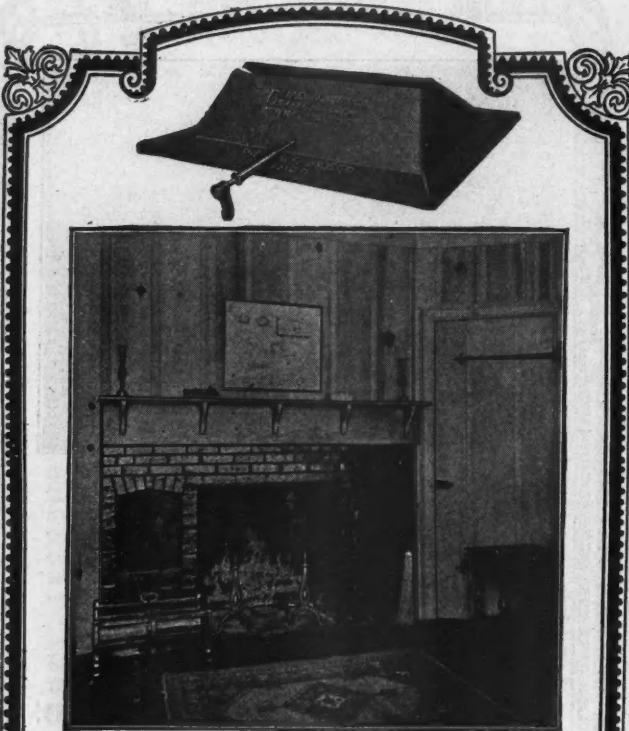
General Offices and Factory:  
ELIZABETH, N. J.

New York 136 Liberty St.	Philadelphia 6701 North Broad Street
Wilkes-Barre 402 Coal Exchange Bldg.	Boston 161 Massachusetts Ave.
Bridgeport P. O. Box 96	Albany, N. Y. P. O. Box 1094
	Buffalo P. O. Box 242
	Hempstead Long Island, N. Y.

(Please print plainly—Name and Address)

Send me full facts about your Sunshine Room.

Name.....  
Address.....  
AB-10-38



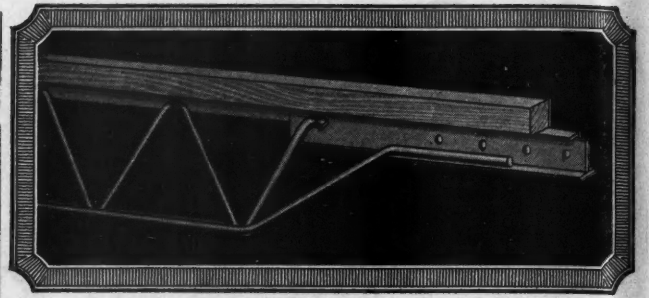
## Get These Fireplace Designs!

THE Donley Book of Successful Fireplaces is prepared especially for the builder—

- (1) Who wants a book of modern fireplace designs to show customers
- (2) Who wants to be sure every fireplace he builds is 100% successful
- (3) Who wants to avoid or correct various fireplace evils, such as smoking
- (4) Who wants to know the best in construction and equipment for the fireplace

This book is the finest work published on fireplace building and equipment. Every builder should have a copy. Send 25c in stamps or coin to cover mailing, together with your dealer's name, and your copy will be forwarded immediately.

**The Donley Brothers Co.**  
13910 Miles Avenue • • • Cleveland, Ohio



## Massillon Nailer Joist Features that Count

THESE steel joists, designed for nailing wood flooring or roofing direct to the wood strip forming part of the top member of the joist, have manifest advantages to the builder.

**Built in Standard Stock Sizes:** resulting in prompt estimates, layout drawings and shipments.

**No Cutting or Fitting in the Field:** A direct labor saving as against ordinary wood joists. Smaller openings are framed with standard Massillon headers, larger openings in the usual manner.

**Ease in Erection:** With center of gravity below line of support, joists are rapidly placed, nailed to wood supports, clipped to beams with simple clips or bricked into masonry. Braced laterally with wire bridging they are ready to take their load.

**Standard Flooring or Ceiling:** Wood flooring is nailed direct to the top member of the joist. Standard ceilings such as plasterboard or metal lath and plaster are readily fastened to bottom bars of joists.

**Piping Installations:** As conduits piping and plumbing are run through as well as parallel to the joists, savings in material, labor and head room result.

Floors with a high degree of fire resistance, elimination of shrinkage and warping, with advantages of steel insuring strength, permanence and security, are built with Massillon Nailer Joists at a cost approaching that of ordinary construction.

*We solicit opportunities of preparing estimates and recommendations on work under your control. Designing data mailed on request.*

**THE MACOMBER STEEL CO.**  
909 Belden Ave., Canton, Ohio  
Manufacturers of

**MASSILLON**  
NAILER U.S. PATENTS NO. 167052, NO. 164226, NO. 167627, NO. 164629 JOISTS





## REDYBORD

**Equip Every Home—  
Apartment and Hotel  
With REDYBORDS**

If you want to improve your present property or save money on new construction equip with "Redybords." This modern ironing board needs no special construction work. Can be installed by any one in a few minutes' time. Fastens to the back of any closet or bathroom door or on the springs of a Disappearing Bed.

Home owners and prospective renters are quick to notice the added convenience of a Redybord, and they can be installed at such a low cost that you cannot afford to be without them.

You can modernize old homes and buildings by this simple installation. It will increase rentals and sale values.

Let us send you full information.

**DISTRIBUTORS**

There is a large field in Hotels and Apartments for energetic and reliable contractors who wish to specialize. Some territory still open to the right men.

REDYBORD, Inc., Mfrs.  
Builders' Exposition, 226 N. La Salle St.,  
Chicago, Ill.

Please send complete information regarding REDYBORD. Please check the square, so we may know your requirements. If am interested in proposition as distributor.

Name.....  
Address.....  
City..... State.....  
Contractor  Dealer  Architect  (?).....

## All the Products

Advertised in these pages  
can be recommended to

### American Builder Readers

Dealings with these advertisers will prove to be highly profitable to you.

Be progressive and investigate what these important houses have to offer you.

If you are interested in any product that is not mentioned here, please write us. We will gladly put you in touch with the manufacturers best fitted to supply your needs.

**American Builder**  
1827 Prairie Avenue, Chicago

# Big Profits in Sana-bestos Tiles



## Exclusive Selling Agents Wanted—

### A few Desirable Franchises still open!

Sana-bestos Floor Tiles enable contractors and others to build up a profitable specialty business. They answer every flooring requirement of the modern builder, whether he is building for speculation or on contract.

Sana-bestos Floor Tiles are unequalled for either new work or remodeling. They are easy to stock, handle and install. They combine beauty, durability and comfort with moderate cost.

*Investigate TODAY this practical,  
permanent, modern flooring.*

FRANKLYN R. MULLER, Inc.  
Manufacturers of Asbestone Flooring, Stucco and Sana-bestos Tiles  
210 Madison St., Waukegan, Illinois

Please send us a sample and details regarding Sana-Bestos Tiles.

Name.....  
Address.....  
City..... State.....

I am  Contractor  Builder  Dealer  
I am interested in your  Exclusive Agents proposition

# Manufacturers, Service and Supply Organizations

## Keep Your Name in the Spotlight!



**H**ERE is a chance to please your customers and to increase your business. Soon the gift season will be here. You wish to present your customer with advertising gifts which are distinctive. It is a problem, perhaps, which has become increasingly difficult each year.

Why not avoid last minute uncertainty, and select the FARRAND RAPID RULE? You, perhaps, are the proud possessor of one of these unique measuring instruments. You know what an invaluable companion it has become, and how often you find use for it. Your customer will also appreciate its many features.



Your name imprinted upon the nickel plated cup will be a constant reminder that you are always as ready to serve him, efficiently and promptly, — as the FARRAND RAPID RULE.



Favorable discounts on quantity lots may be obtained.

*Ask Your Dealer or Write*

**H. A. FARRAND, Mfr., Room 639A, 149 Broadway, New York City**



# CONCRETE MIXERS



# LANSING COMPANY

LANSING MICHIGAN

Chicago, Ill., American & Wilson  
Chicago, Ill. 1235-27 24, 25, 26, 27, 28

London, 22, Cannon St., London, E.C. 4  
New York, 25-26, Broadway, N. Y. C.

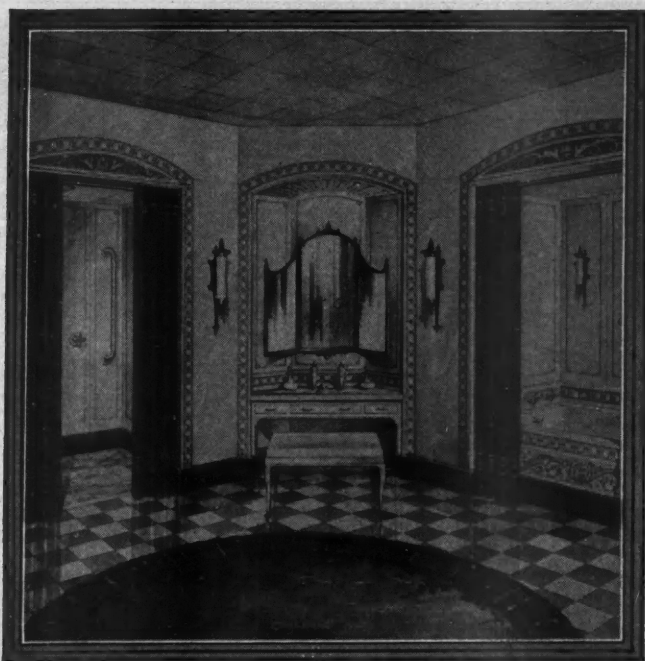
London, 22, Cannon St.

# KIMBALL SA LIGHT ELECTRIC ELEVATORS

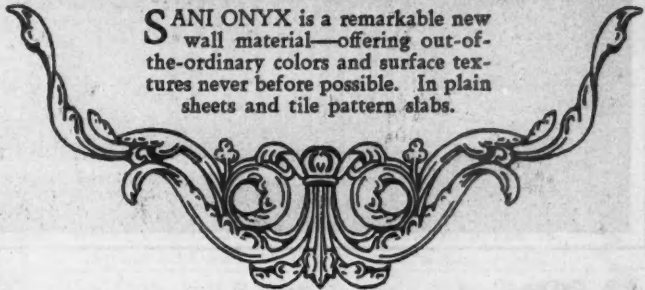
Now, a Light Electric Elevator for every class of retail store, warehouses, hospitals, apartments, bakeries, mortuaries, office buildings, factories and other institutions where fast, safe, low cost elevator service is an absolute business necessity.

It meets a need for a safe, practical, inexpensive outfit for smaller business institutions.

Furnished complete. Information and prices upon request.



**S**ANI ONYX is a remarkable new wall material—offering out-of-the-ordinary colors and surface textures never before possible. In plain sheets and tile pattern slabs.



**Y**OU know how it is in selling homes. People are quick to seek and spot the *unusual* touches.

And Sani Onyx is distinctly and distinctively different. No longer are you limited to commonplace materials and ordinary effects, in designing bath rooms and kitchens.

Sani Onyx lifts the old-time limitations and opens a whole new world of decorative possibilities.

What's more, Sani Onyx, you know, doesn't crack, chip, check or discolor, even after years of service. What a talking point that will make!

MARIETTA MFG. COMPANY  
80 Brookside, Indianapolis



You will want, for your files, the new Sani Onyx book picturing a variety of installations all in full color. Surely you may have a copy. Just drop us a line today.

We have some choice territory available for Construction Houses or representatives. If interested, write for particulars.

Beautiful **SANI ONYX**  
A VITREOUS MARBLE

# SAMSON SPOT SASH CORD

SOLID BRAIDED COTTON

**S**AMSON SPOT SASH CORD is made of extra quality cotton yarn spun in our own mills and is guaranteed to be free from imperfections of braid or

finish. It is the most durable material for hanging windows. It can be easily distinguished by our trade-mark, the Colored Spots. Send for samples.

**SAMSON CORDAGE WORKS - BOSTON, MASS.**

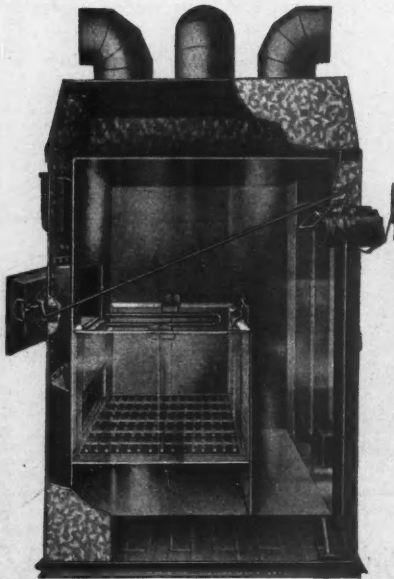
*"There is a Difference  
in Sash Cord"*



## THE LUXURY

of even, moist, heat, making Summer in the home throughout the Winter, is obtained with the

## HESS ELECTRICALLY WELDED STEEL FURNACE



at a remarkably low cost for installation and fuel. Guaranteed leak-proof as long as it shall stand. The lowest possible price is obtained by buying **DIRECT FROM THE MAKERS.**

Send us a sketch of your building requiring heat and we will make a detailed heating plan, with estimate of cost of the complete equipment, laid down at your door.

Ask for our 48 page illustrated booklet, with supplement showing our latest 1929 model furnaces.

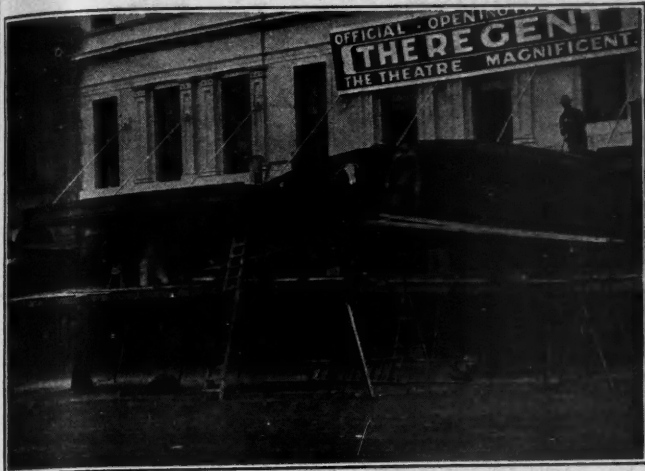
**HESS WARMING & VENTILATING COMPANY**  
Furnace Makers Since 1873

1220 South Western Avenue, Chicago, Illinois

Makers of Hess Snow-White Steel Medicine Cabinets. Distributors of Miami Wall Tile— a superior wall covering at half the price of clay tile.



# Trouble Savers



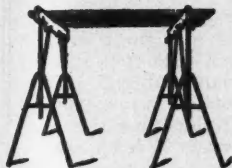
## GO TO NEW ZEALAND

*They're Everlasting Money-Makers---Everywhere!*

60 Trouble Saver Adjustable Steel Trestles were used on this New Zealand Theater Building which was completed in 29 weeks—including time spent in clearing the site.

The same Trouble Savers were used on the interior that were used on the exterior.

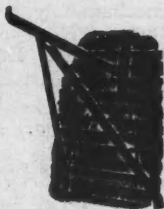
Trouble Saver Adjustable Steel Trestles are erected in a few minutes, and disassembled, compactly folded and moved to another part of the structure or another job in a saving of time that means *extra profits*. Practically everlasting—no repair or replacement expense.



Trouble Saver Adjustable Steel Trestles (patented) are quickly adjusted to desired heights, 8 sizes. Each size adjustable from 5 to 15 different heights, giving a range from 16 inches to 12 feet by 3 inch lifts. Save countless sets of wooden horses.



Trouble Saver Studding Brackets support a ton. Will not bend. Hook around studding. Braced by two legs. Fold compactly.



Trouble Saver Nail Attached Brackets support a ton. Held by four nails and braced by two legs. Fold compactly.



Trouble Saver Bolt Brackets approved by State Industrial Commissions. Detachable rail standard. Held by 5/8" bolts. Fold compactly.

### Trouble Saver Steel Products

- Studding Brackets
- Nail Attached Brackets
- Bolt Brackets with Safety Railing
- Adjustable Trestles
- Ladder Jacks
- Wood Shinglers
- Mortar Board Stands
- Sectional Steel Scaffolding

## The Steel Scaffolding Company

1101 No. Governor St., Evansville, Ind.

### MONEY BACK TRIAL OFFER

Please send me details on your 30-day free trial offer and full information and prices on Trouble Savers .....

Name.....

Address.....

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



## HERE

is SKILSAW, the original electric hand saw that has proven itself to be a profitable investment to thousands of contractors and carpenters who demand speed in sawing and want to lower construction costs.

This 10 lb., 1/2 H. P., portable saw will do all your sawing -- and do it 10 times faster than the old fashioned hand saw. That's why SKILSAW saves time and money, every time you put the blade to the wood -- and it is a muscle saver.

The SKILSAW, illustrated above, cuts 2" dressed lumber -- ZIP -- just like that -- in a matter of seconds.

There are three other sizes.

Let us show you, free of charge, what any model SKILSAW can do right on your own work.

Just fill out the coupon below and mail it to us.

Show me how SKILSAW will save me time and money in sawing.

Name .....

Address .....

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

### SKILSAW, Inc.

3822 Ravenswood Ave., CHICAGO, ILL.

# There are certain things that make houses sell

*And oak flooring is one of the most important*

WATCH any prospective buyer of a home as he steps through the front door. It makes little difference whether the house is listed at \$5000 or \$30,000. The first thing he looks at is the floor. Other things count, naturally. Location, design, bathrooms, closet-space—all are important. But if the house is floored with oak, upstairs and down, it gives an immediate impression of being *worth the money*.

"This," says the buyer, as he walks on oak floors, "is a house well-built—a house built to last."

The profit in flooring a house with oak is all out of proportion to its slight additional cost. Get the figures on it. Compare the cost of laying oak floors, while the house is being built, with the item of ordinary soft-wood floors. Then consider the gain in selling value. Often the oak-floored house will bring at least \$1000 more, and bring it sooner.

This advertisement is published by the OAK FLOORING BUREAU, 1238 Builders' Building, Chicago—a bureau maintained by the oak flooring industry. Write us for helpful literature. And if you would like specialized advice on any flooring problem, our technical staff is at your service—without obligation.

## OAK FLOORS

*increase house values*

Oak flooring advertising will be carried on during 1928-29 on an increased scale. Look for the advertisements in "House and Garden," "House Beautiful," "Good Housekeeping," "Better Homes and Gardens" and "The Literary Digest."

## Make \$2 to \$3 an Hour in Spare Time this Winter

*While Building Up a Clean Business That Will Make You Independent*

LAUGH at slack seasons . . . be your own boss . . . make more than your regular wage as carpenter! Sounds good, doesn't it? You can do it, just as many others have, by starting a saw-filing business with the Foley Automatic Saw Filer. No experience or skill as a filer needed, no canvassing necessary (our Free Plan starts you right), very little capital required. Listen to these reports, typical of many in our files:

"I am kept quite busy filing saws. To tell the truth I get more saws than I can handle. Everybody who uses a saw that is sharpened on the Foley says how well it works. If I could not buy another, I would not take my money back, three times for it."—William G. Diederich, Mendota, Ill.

"I received the Model F-5 this morning and am well pleased with it. I filed five circular saws today and six meat saws."—J. W. LeMaster, North Platte, Neb.

## FOLEY AUTO MATIC SAW FILER

files all kinds of hand saws, band saws  $\frac{1}{8}$ " to  $\frac{1}{2}$ " wide and cross-cut circular saws 3" to 24" in diameter. Teeth, bevels and pitches are all made uniform and mechanically accurate. Saws cut cleaner, truer and faster. No eye-strain. More than twice as fast as hand filing. Easy work.

Think of the steady business you can get from carpenters, contractors, schools, factories, woodworking shops, farmers and homes.

**Special Offer!** Let us show you what Foley-filing means on your own saws. Write for special demonstration offer to readers of this magazine and the FREE plan that will help you start a prosperous saw-filing business of your own. Write today to—

Foley Saw  
Tool Co., Inc.  
134 Foley Bldg  
11 Main St. N. E.,  
Minneapolis,  
Minn.



### Foley Saw Setter

Model 281 Bench Type for hand saws, operated by foot pedal. Positive hammer action on an anvil, producing a uniform set adjustable for any amount of set or size of teeth. Write for information.

# Miami Catalog

SHOWS THE WAY TO

# Quicker Selling

Write for your copy TODAY... give us details as to your problem

Miami Cabinets are designed for the modern home, apartment, office and hotel or public institution. A cabinet for every purpose.



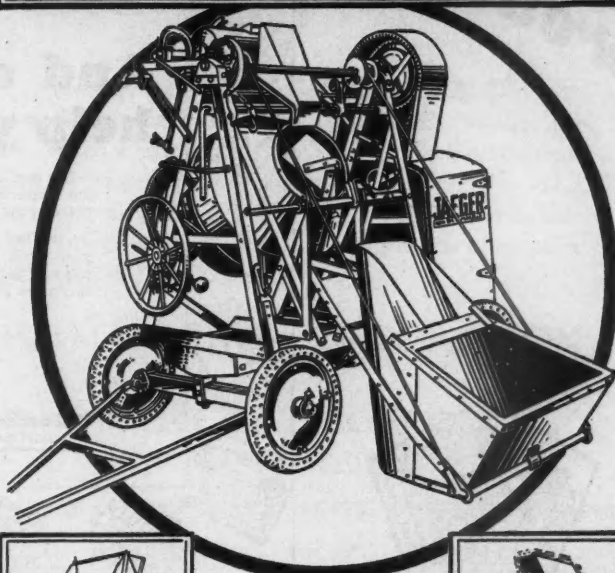
## New Miami Cabinets

BUILDERS and real estate men need MIAMI CABINETS... the premier line of America... the cabinets which help sales and turn the deciding vote in your favor. Write for catalog today!

THE MIAMI CABINET CO.  
MIDDLETOWN, OHIO

THE MIAMI CABINET CO.  
Middletown, Ohio Date.....  
Gentlemen: Please send me, without obligation, copy of your new 1928 Catalog.  
Name.....  
Address.....  
City.....  
 Owner  Architect  Contractor  Dealer

# Full One Bag Tilters - at usual Half Bag Price



Only \$179.50 buys Half Bag Trailer complete with engine and rubber tires!



## Jaeger-Built, All-Steel, 100% Timken Bearing—FAST!

For the usual price of a half bag mixer you can get this Timken bearing, full one bagger, with Automatic Skip Shaker Loader, Accurate Measure Water Tank, "Flat Spot" Drum and 5-second discharge.

It's built of steel and forgings with semi-steel gears—light, portable and 50% stronger. Serviced by Jaeger stations in over 100 cities, no delay. Write for price and terms.




### HEAVY DUTY NON-TILTERS 7-10-14-28 FT. SIZES

From Speed King 7-S, a faster, full one bag mixer for \$200 less, to full half-yard machine for skyscraper work. Jaeger's 10DL holds 2 bags, is all-steel, 1/2 ton lighter, 50% stronger, easier handled than many a 7-S mixer.

MAIL THIS FOR CATALOG, PRICES AND TERMS!

The Jaeger Machine Co. Date.....  
521 Dublin Avenue, Columbus, Ohio  
 NON-TILT MIXERS  TILTERS  PLASTER  
 MORTAR MIXERS (Check where desired)  
Name.....  
Address.....  
City..... State.....

**NOW** is the time to get in to the business of concrete products manufacture!

**BLOCKS** 


**And our Engineers will help you—**

—lay out an efficient plant, select the best machinery for your particular need, show you how to make a good product at minimum cost—show you how to sell it at a good profit.


Just tell us what kind and how many concrete units per day you want to make—then Consolidated Engineers will give you the full benefit of the accumulated experience of the largest manufacturers of concrete products plant machinery in the world.

*Write us in detail—TODAY!*

**Consolidated Concrete Machinery Corp.**



UNIVERSAL ANCHOR  
ADRIAN, MICHIGAN

**TILE** 

**BRICK** 



*There's more profit in a*

# HUTHER SAW



Thin High Speed Steel Knife



Ortoding Attachment



Cylinder Cutter Head



Cutter Head

**Backed by fifty years experience in the making of highest grade saws, each Huther Saw has a quality built into it that insures maximum length of service.**



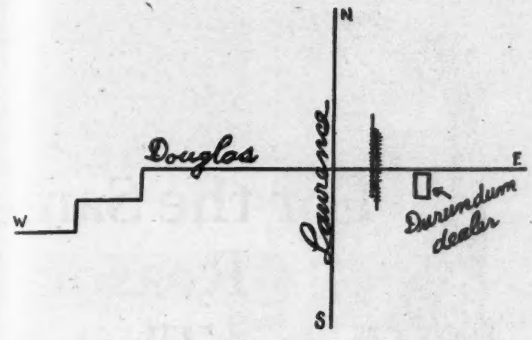
Circular Mitre Saw with Cleaner Teeth



Cutter Head

**Huther Bros. Saw Mfg. Co.**  
ROCHESTER, N. Y.  
Makers of Better Saws for More Than Fifty Years

# FLOOR SANDERS TELL THEIR FRIENDS about DURUNDUM



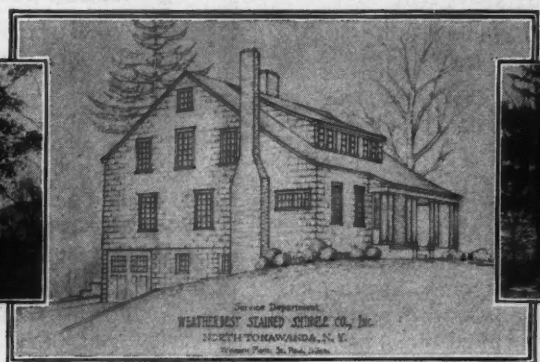
Satisfied users of DURUNDUM PAPER have done much to spread the fame of its merits within the trade. When a floor sander uses DURUNDUM and finds it right, he passes the word along to his friends. As a result, in one city, the DURUNDUM dealer reports that 90% of the floor sanders within a 50 mile radius of his store are DURUNDUM customers.

One enthusiastic DURUNDUM booster drew this map for a friend to direct him to the DURUNDUM dealer to insure that he obtained genuine DURUNDUM PAPER. That's the way they tell their friends. Let us send you prices on this quality abrasive paper, and tell you more about it and its advantages.

**BEHR-MANNING CORPORATION**  
Successor to  
**MANNING ABRASIVE COMPANY, Inc.**  
TROY-NEW YORK



*The Old Home*



WEATHERBEST Service Dept. Sketch



*The Remodeled Home*

## An Example of WEATHERBEST Remodeling Service

**Y**OUR opportunity to keep busy is to go after the enormous remodeling business that will break big for builders who offer remodeling suggestions.

The big appeal to the home owner is improved appearance. WEATHERBEST Stained Shingles, more than any other material, when laid over old side-walls and roofs, modernize their appearance and save repair and repainting costs.

Try out this Service. Send

photograph of an old house and let us render sketch and give you suggestions. WEATHERBEST STAINED SHINGLE Co., Inc., 143 Main St., North Tonawanda, N.Y. Western Plant—St. Paul, Minn. Distributing Warehouses in Leading Centers.



WEATHERBEST STAINED SHINGLE Co., Inc.,  
143 Main St., North Tonawanda, N. Y.

Send Book "Making Old Houses Into Charming Homes" and explain your Remodeling Service.

Enclosed is photograph of an old house. Give us your suggestions to help sell the owner.

Name.....

Address.....

**Positive Results**  
with this New Insulation  
— Sprayed on with Guns



**SPRAYO-FLAKE** is creating a sensation. Architects, builders and homeowners, everywhere, are interested in this efficient, low-cost insulation sprayed on with guns. Now, for the first time, it makes available a tight-sealing insulation that penetrates every nook and crevice, seals every opening, covers around pipes and window jambs—blankets every space perfectly.

Sprayo-Flake is manufactured and applied in one operation. It sticks where it strikes and stays put. Tests prove its superior insulating efficiency. Fire-resisting, sound-deadening, vermin-proof. Can be sprayed on in any thickness. Low cost application—you can meet all competition and make bigger profits.

**Distributors Wanted**

Men established in or affiliated with building industry. Write us on your letterhead for full information regarding exclusive franchise.



*Sprayo-Flake as it appears when sprayed between studding.*

**SPRAYO-FLAKE COMPANY**  
56 So. Bay St., Milwaukee, Wisconsin

*Burnham Boilers*

**For the Same Reason That A Giraffe's Neck Is Long**

**THE** Giraffe can reach food that short necked animals can only look at. Just so Burnhams, with their long fire travel reach for and get heat, that any ordinary boiler will let scoot up the chimney.

That's why, for its size, every Burnham is a big producer of heat on a small ration of fuel. That's why Burnham ratings are not to be taken with a grain of salt, as so many ratings are.

*Get all the Burnham heating thrift facts, from Catalogue—free on request.*

Three times from end to end of the Burnham, the heat laden gases pass over and through every section.

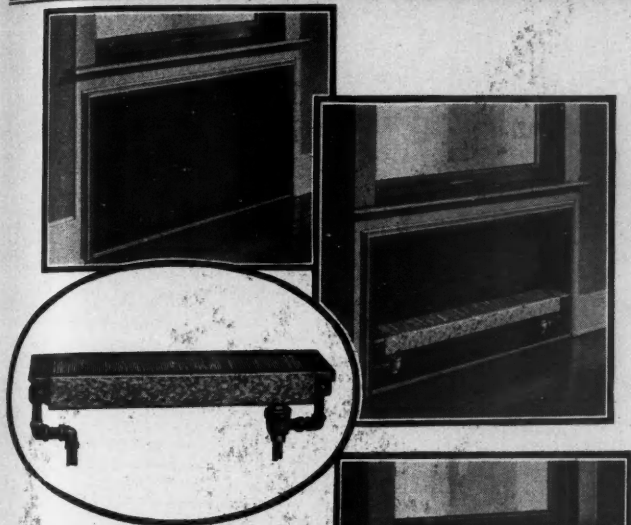
*Burnham Boiler Corporation*

Irvington, New York

*Representatives in all principal cities of the United States and Canada*

### Another Big Trane Achievement

## UNDER-WINDOW CONCEALED HEATER



The famous Trane copper-fin heating element is now part of a standard three-piece unit, ready to install under windows.

### Another Big Step Forward in Room Heating

Here's what you asked for! A Trane Concealed Heater especially designed for installation under windows. A complete outfit to slip in the wall without fuss, bother, or extras to buy. A concealed heater with the entire front panel removable, so you will have no plastering problems and so you can easily and quickly inspect the heater, trap, or valves. An outfit with underslung piping connections, which will save you at least a foot in length. A heater with universal fittings. A lower installed cost than we could ever promise before. *Write us.*

HEAT TRANE CONCEALED CABINETS HEATERS PUMPS, UNIT HEATERS AND HEATING SPECIALTIES

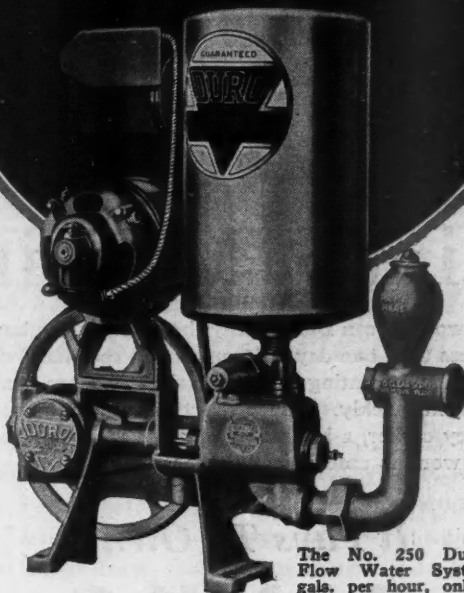
THE TRANE CO., (Est. 1886)  
276 Cameron Ave., La Crosse, Wis.

Send complete information on the new Under-Window Concealed Heater.

Name.....  
Address.....  
City..... State.....

MOST GALLONS PER DOLLAR

*Never before a Pump Value like this!*



The No. 250 Duro Fresh Flow Water System—250 gals. per hour, only \$68.50, f.o.b. Dayton.

The Improved No. 250 Duro Fresh Flow Water System stands out sharply as the supreme water system value for builders.

The No. 250 Fresh Flow Water System is another triumph of Duro engineering. It is a complete, electric water system for shallow well or cistern—completely automatic in operation with a capacity of 250 gallons per hour—for only \$68.50, f.o.b. Dayton. Never before has there been a water system value like this—never before such water system performance.

The nearest Duro dealer or factory representative will give you complete information on this and other great Duro values. Send in the coupon below for a free copy of the new Duro Catalog.

THE DURO COMPANY

110 Monument Ave. Dayton, Ohio

# DURO

## Automatic Water Systems

Send for NEW CATALOG

THE DURO COMPANY,  
110 Monument Ave., Dayton, Ohio.

AB-10

Please send me the new Duro Catalog.

Name.....  
Street.....  
City..... State.....



*Cut Your Painting Costs  
60% to 80%*

## Paint by Machine

Two men can Binks-spray the exterior of a house in less than one day. Compare this speed and cost with hand painting time. Interiors, too, are Binks-sprayed quickly. The property is ready for occupancy earlier, a big saving is made in the cost and the work is mechanically perfect.

*It Pays To Own a*

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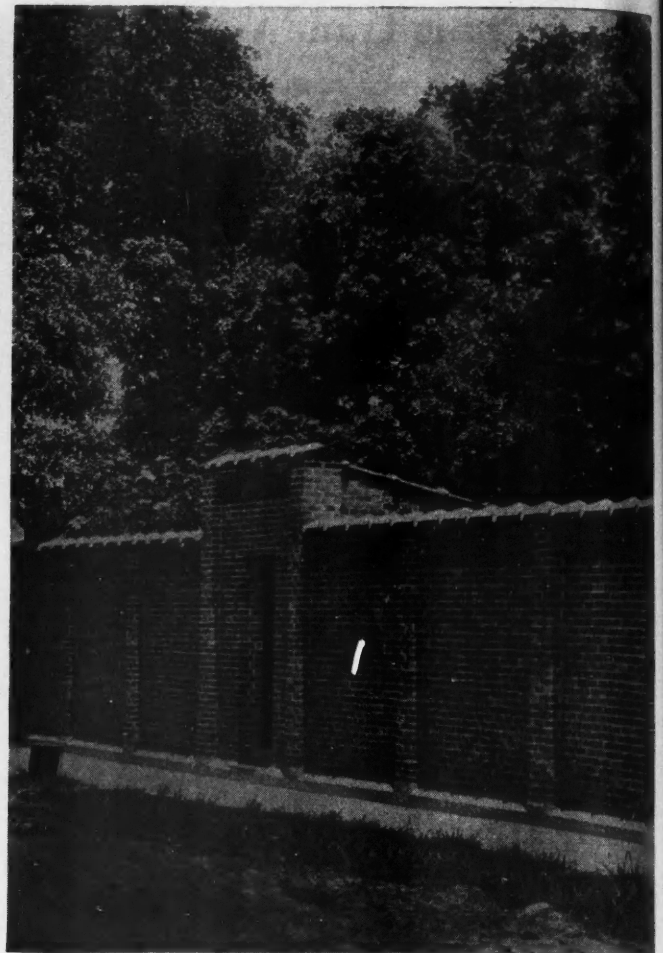
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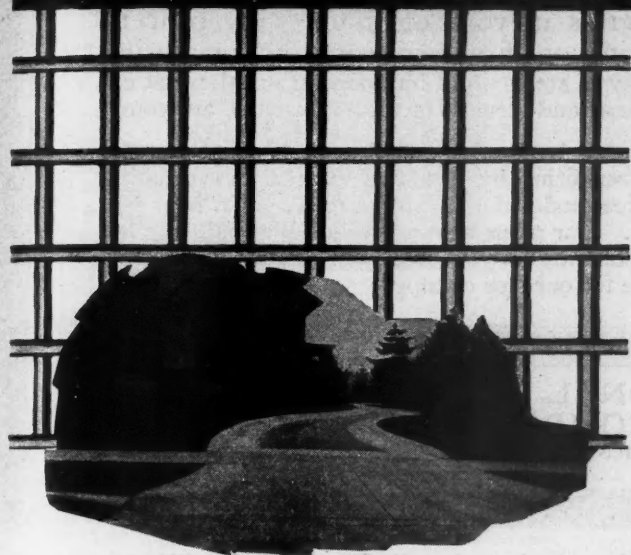
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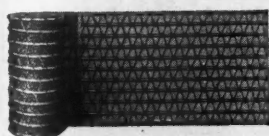
"The Steel Backbone for Concrete"



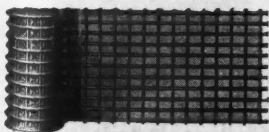
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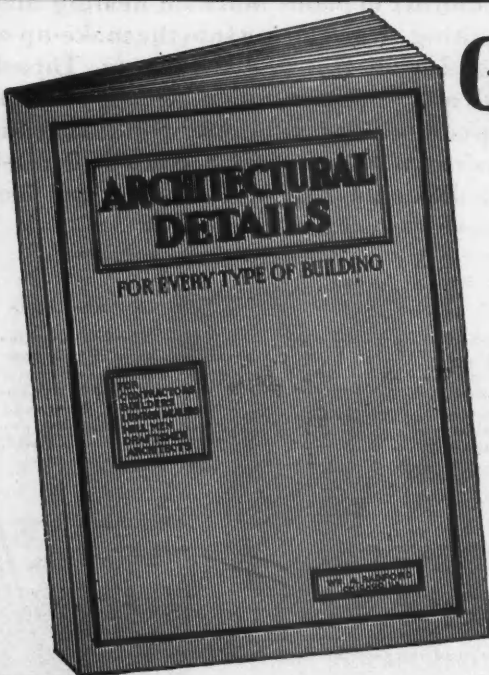
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The Holmes Roller Bed, Model 39, may be placed in any part of the room. It may be concealed in any convenient closet and is easily moved from one room to another.



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Holmes was the first to build concealed beds and the idea of comfort has always been foremost in the designer's mind. The result is that Holmes beds are the only concealed beds using full width and length double deck coil springs, which make them the most restful of beds.

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## CONCEALED BED CORPORATION

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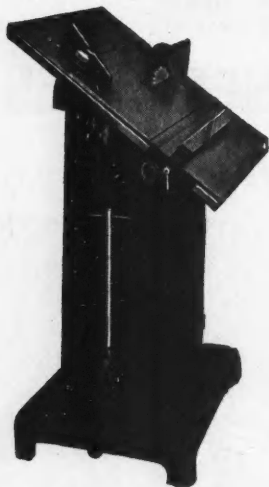
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IN EVERY job of interior decoration, there are rooms where a fabric wall-covering gives extra satisfaction. For nurseries, hallways, kitchens and baths—for every room—Wall-Tex offers many beautiful and decorative patterns to choose from. Fresh stimulating colors. Soft subdued tones. Simple, yet interesting designs. Both dull and glossy finishes.

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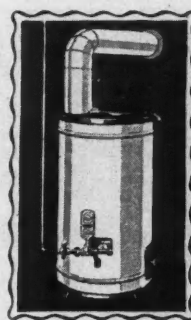
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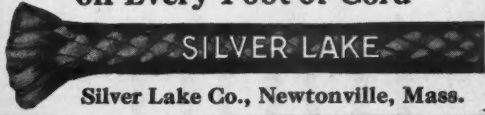
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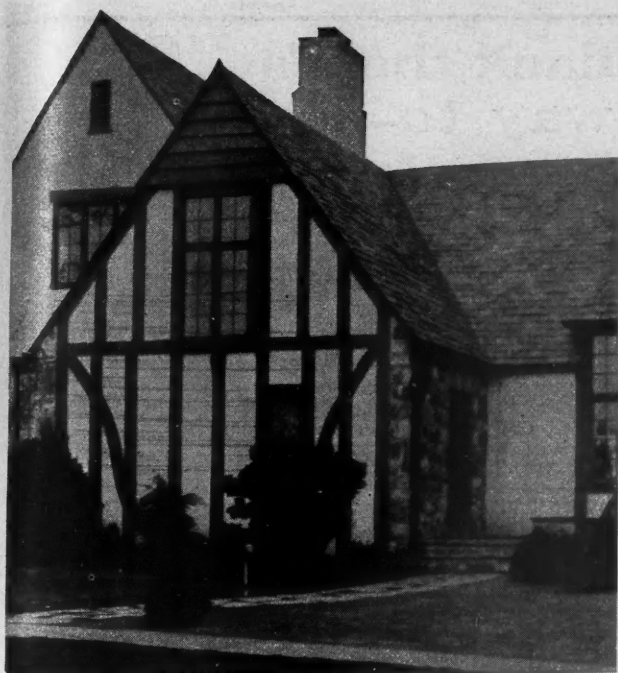


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Showing buck applied to wood stud

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A home at University Gardens, Great Neck, Long Island  
Arthur W. Cooté, Architect

## Why did this house sell so quickly?

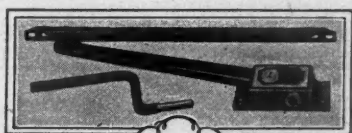
Down East, along the Sound, this development project is a tremendous success.

What makes one project sell out while others wait hopelessly for buyers?

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So, while Casement Window Hardware is not a big item in size or in cost, it is a big item in convenience, comfort and owner satisfaction as long as the house stands.

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The Casement Hardware Co.  
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CASEMENT HARDWARE HEADQUARTERS



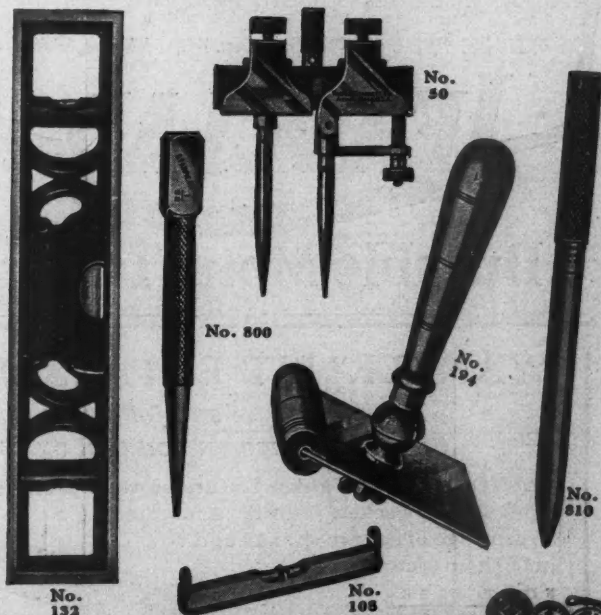
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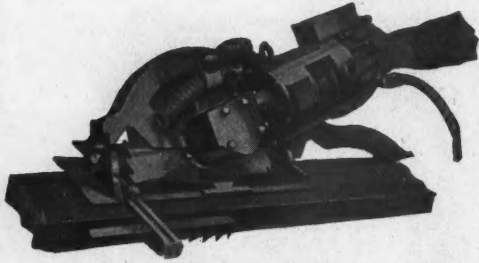
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# Use Starrett Tools

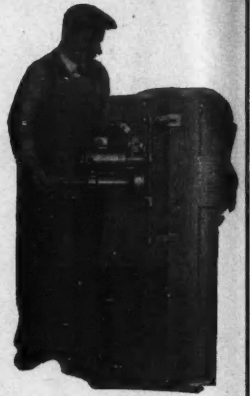
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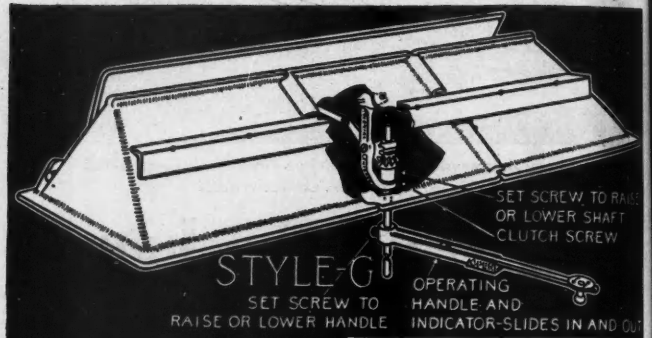
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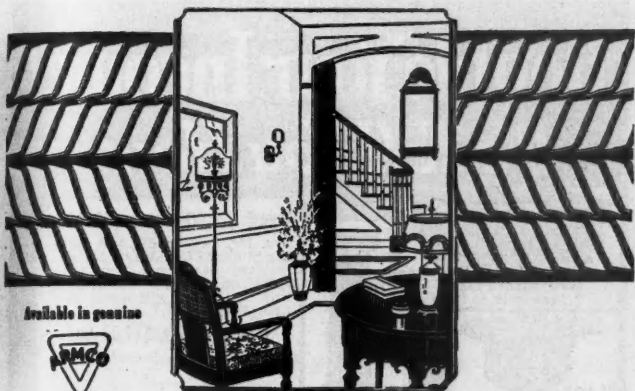
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"—started in here together"



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"Back in the days when he was still Joe Potter, he and I and Billy Todd started in here together. We were close friends then — in the office and outside.

"Our first small raises came sort of automatically. Like lots of other fellows, we just sat back and waited for promotion—'getting the breaks,' we called it.

for promotion—'getting the breaks,' we called it.

"—and then—General Manager"



"But Joe kept going ahead steadily — from one job to the next and finally into the General Manager's chair. Nothing like that for us! We congratulated him and then told each other afterwards that he was 'lucky.'

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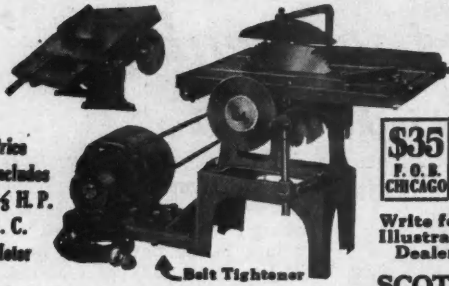
The only machine that you can tilt the table to 45° without removing insert. Big advantage on pattern work.

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Price includes 1/2 H.P. A. C. Motor

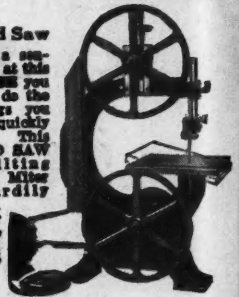


**\$35**  
F. O. B. CHICAGO

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THE S & B 8-in. COMBINATION SAW (18 tools in one) is the ideal machine for the shop, factory or the home; will rip, cross cut, bevel, miter, mortise, groove, drill, tenon, grind, rabbet, buff and polish. Motor is mounted on a base that is a part of the machine proper. Run from any light socket, also provides for other purposes when the saw is not in use. Complete with attachments and price includes 1/2 H. P. Motor, 60-cycle, 110-Volt A. C. Price \$35.00 F. O. B. Chicago. Shipping weight 100 lbs. (Planer attachment to fit on table top will smooth pieces up to 2 inches wide, \$10 extra.)

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**F**AST! Fast from materials in the wheelbarrows to concrete in the forms!

It's the high-speed, money-making hustler — the long distance dependable, fast performer—a typical Koehring super-value, yet within the price range of light mixers!

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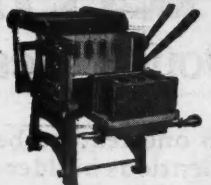
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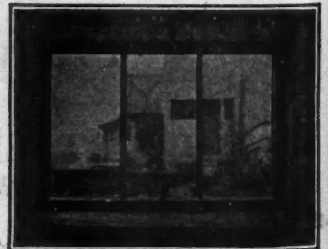


Residence Casement

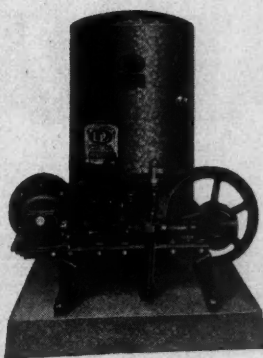
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**Windows for Basements**  
The Bayley Window for basements in residences, apartments and other buildings. Fine for side walls in garages and small buildings. Cost no more than wood, yet give 50 per cent more light—made in four standard sizes.



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This  $\mathcal{L}$  shallow-well electric pump is always ready to go. It's ready to start any pumping job you have . . . and able to finish it on time. It's compact, but powerful . . . quiet, but efficient . . . low in price, but high in quality. And it's proved dependable under all conditions. It's the pump for you . . . now, and for the years to come.

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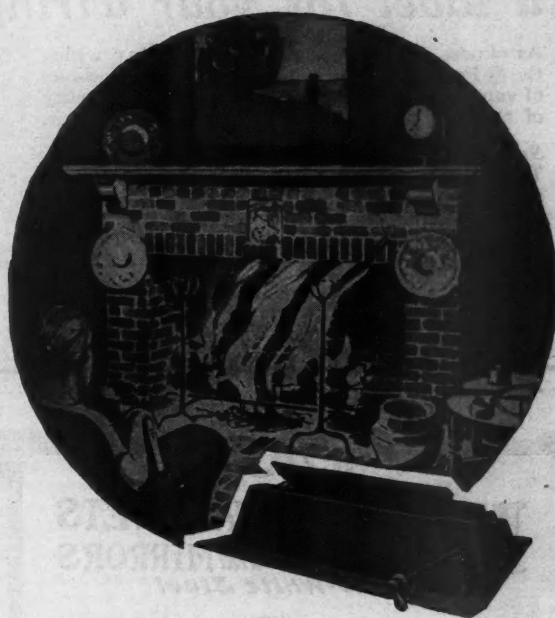
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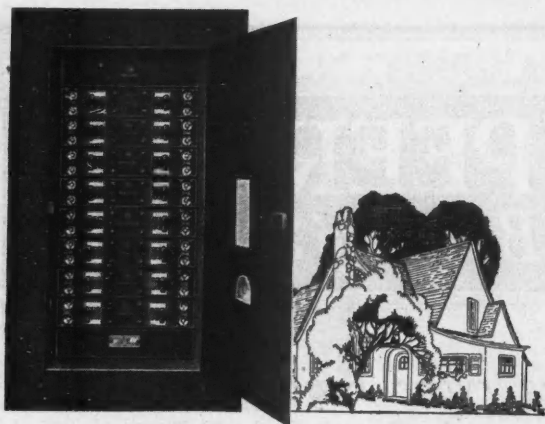
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**No Upkeep Cost —  
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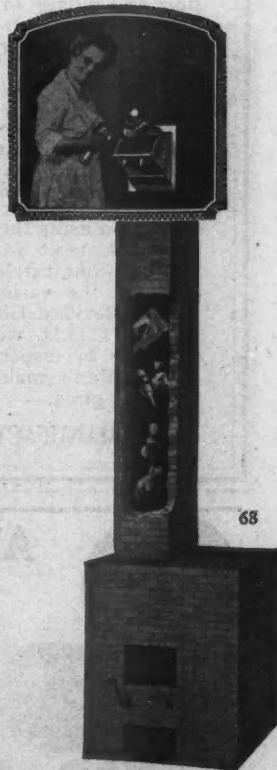
All waste—not only garbage but sweepings, tin cans, broken glass and crockery, paper, and the like —dropped through the handy hopper doors, falls to the brick combustion chamber, where an occasional lighting is all that's needed. No gas, oil, wood, coke or any fuel required. Metallic objects (tin cans and the like) are flame-sterilized for removal with the ashes.

*See Sweet's, write for Kernerator literature or phone your local Kernerator representative. Offices in 89 cities.*

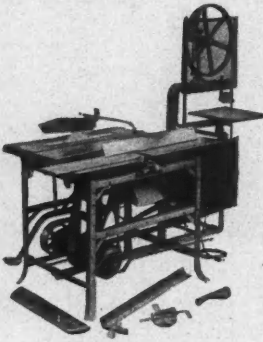
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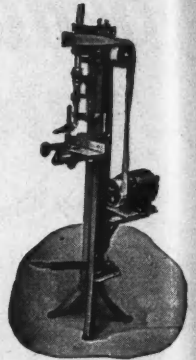
*Garbage and Waste Disposal  
without Leaving the Kitchen.*



ONE OF THE MANY WAYS  
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MODEL 501



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"We can make frames for doors and windows cheaper than we can buy stock frames, and on odd lots and sizes we save considerably."

The Builder who made this statement has our models 501 and 101 installed in his shop, and he is saving money right along.

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**One Sure Way to Make Money  
On Any Construction Job**

Use the  
**SAFE, SAVING, STURDY**

**Reliable Scaffold Brackets**

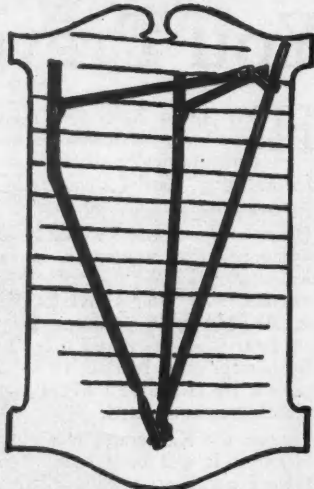
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No holes to plug after they are removed

Stronger and cheaper than costly wooden scaffolding—quickly erected and quickly taken down, they are time and money savers on any job—wood, brick, stucco.

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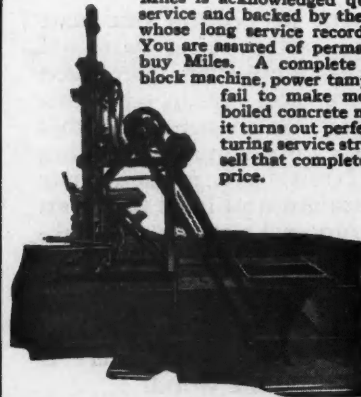


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It has an all-steel construction, ample power, large capacity, rubber tired disc wheels.

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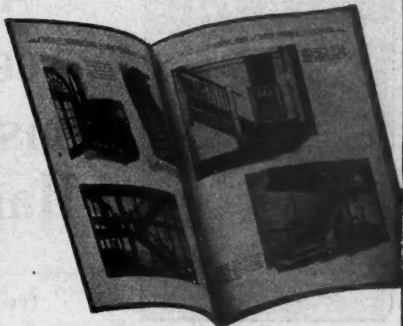
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## 506 Studdings . . . . all the Roofing . . . .

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SEND THIS COUPON TODAY FOR DETAILS

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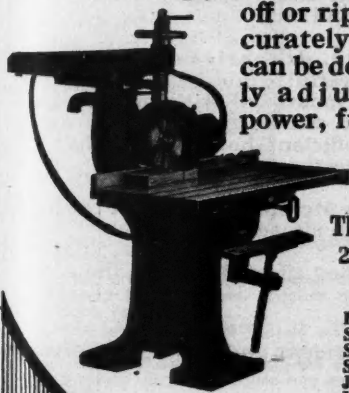
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**ALUMINUM  
GENERAL PURPOSE  
(90 lb.)  
FLOOR SANDER**



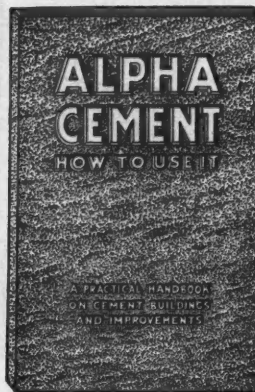
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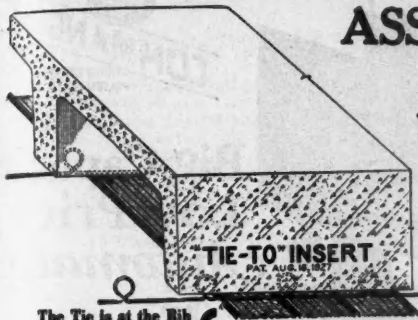
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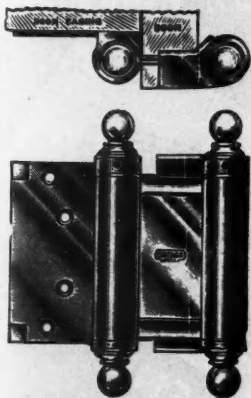
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Type 9001

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Applied Direct  
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without  
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The Simplex Spring Hinge, designed for simplicity and economy in application, requires no jamb strip and only one mortise cut.

The construction of barrels and web from one continuous piece of metal eliminates joints where the metal forming the barrels continues as the web and avoids exposing the spring to moisture which would cause rust and breakage.

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Chicago Spring Hinge Company.

CHICAGO

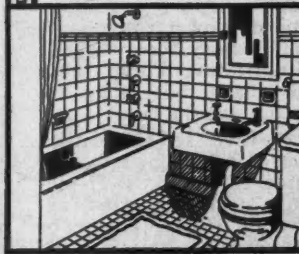
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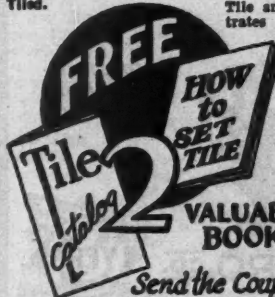
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DIRECT SERVICE WATER SYSTEM

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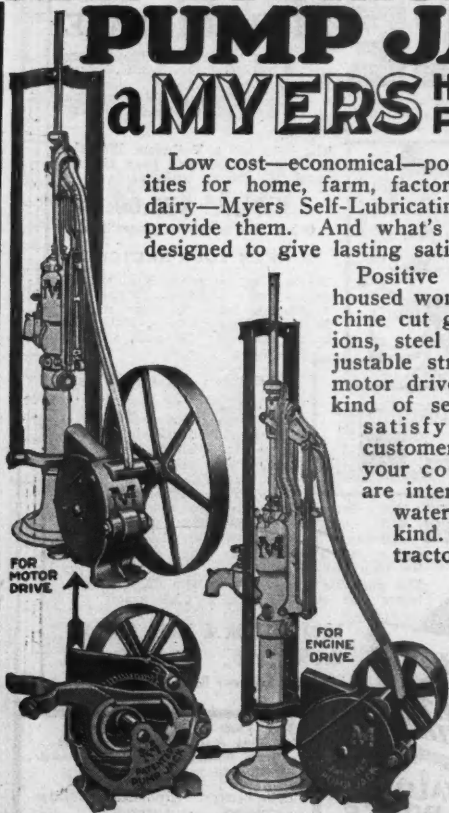
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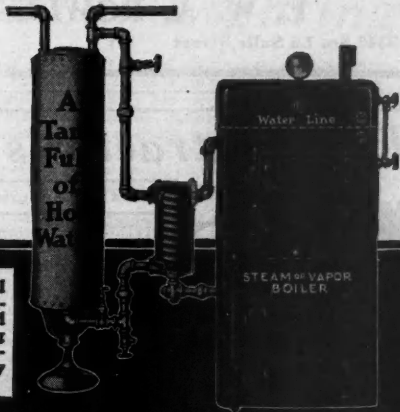
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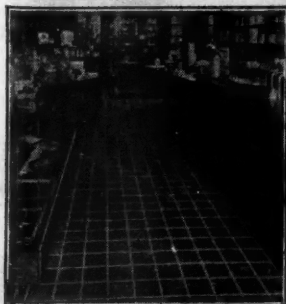
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Directions For Laying



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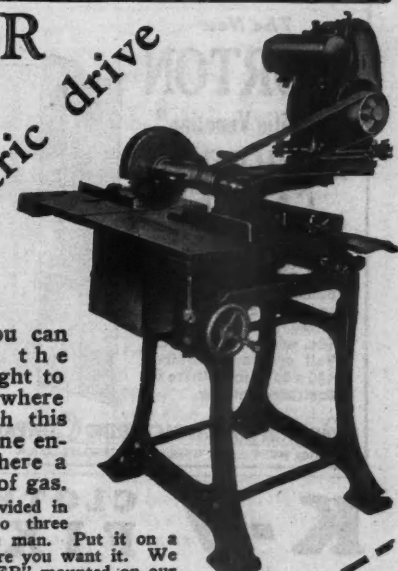
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THE FINEST Tool Manufactured for important wood work.

Specially adapted for Hardwood operations; indispensable to the High Class Carpenter and for Cabinet and Pattern Works.

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Specially Designed for Contractors



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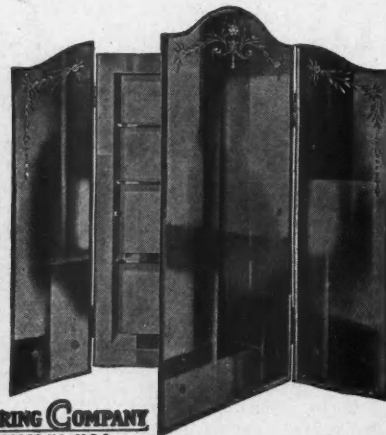
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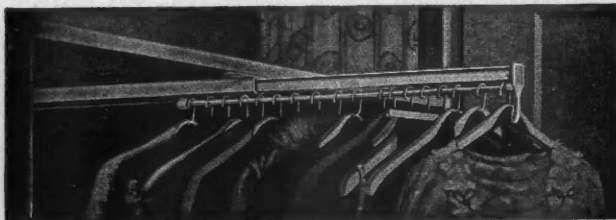
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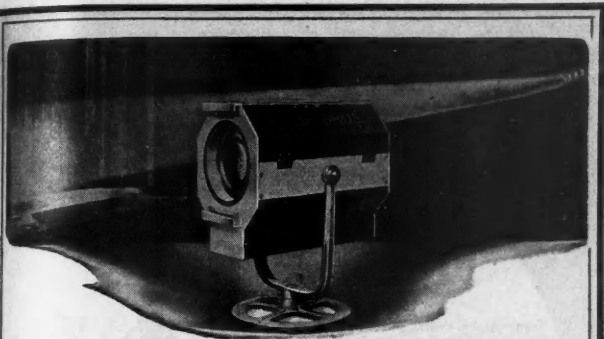
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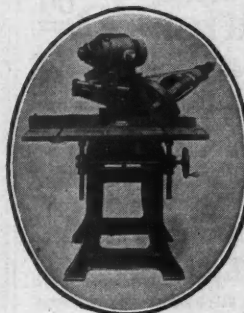
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The 20th Century can be equipped with a Briggs & Stratton 1 1/2 H. P. Gasoline Motor — which is absolutely dependable and efficient. This motor is very economical to run and makes it possible to use your Woodworker in any location. No power delays — no power expense. An exclusive 20th Century feature.

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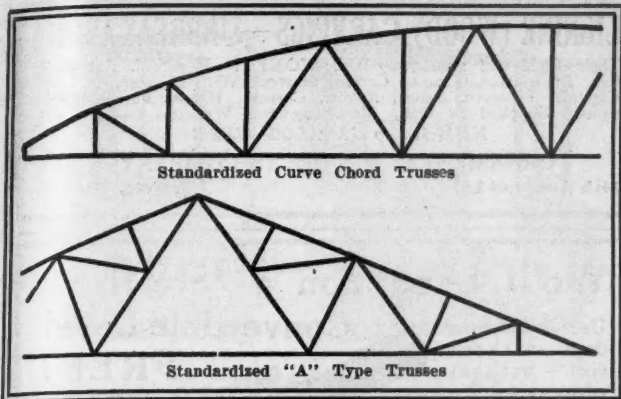
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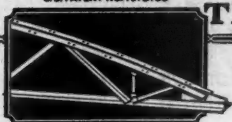
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# MASSILLON

ROOF TRUSSES



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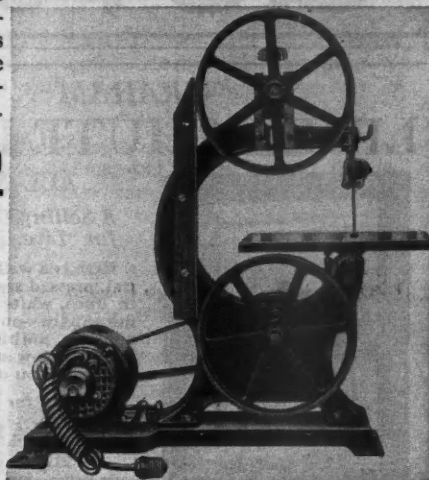
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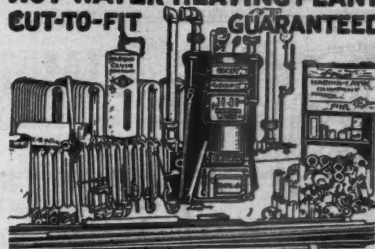
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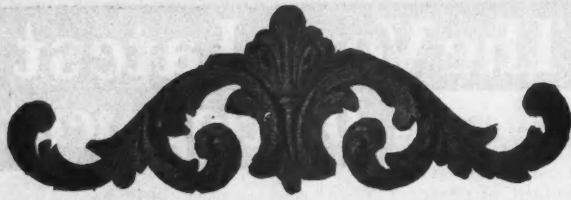
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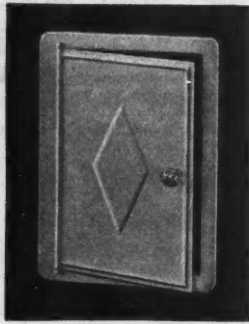
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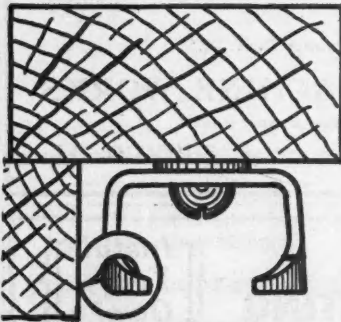
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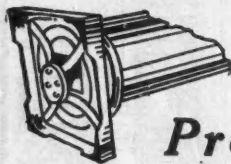
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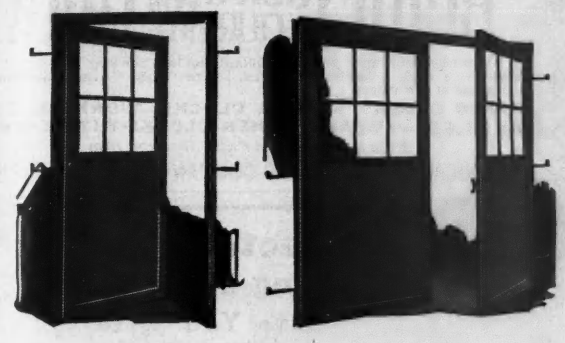
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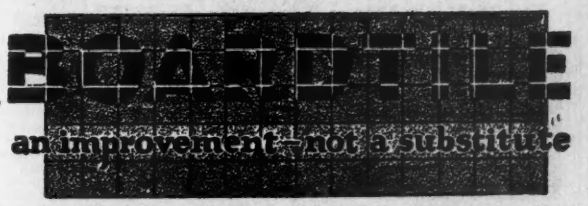
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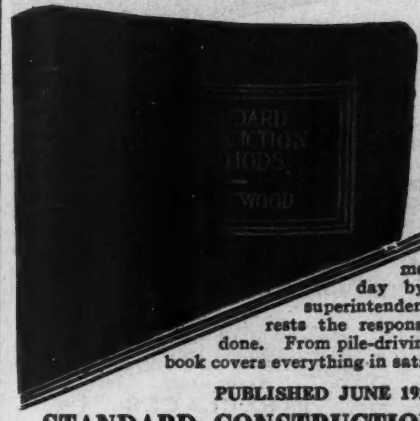
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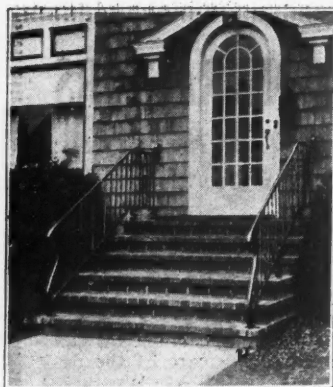
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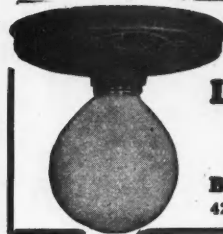
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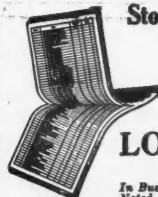
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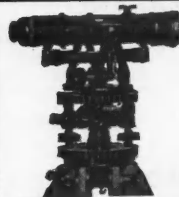
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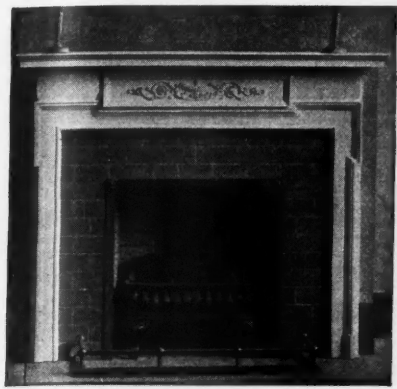
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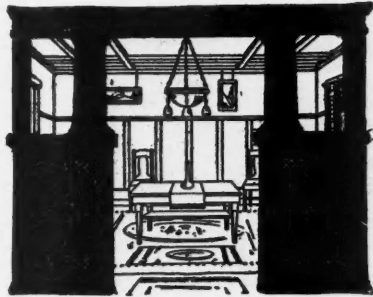
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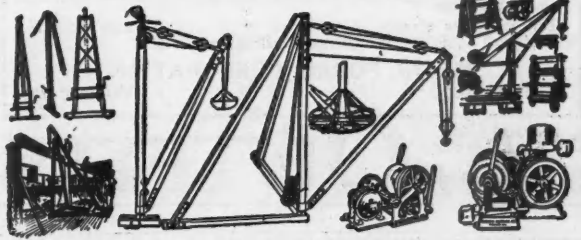
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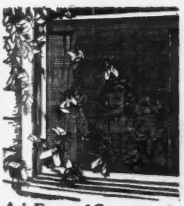
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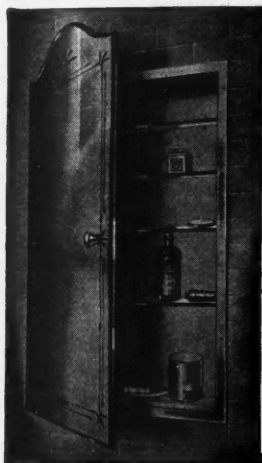
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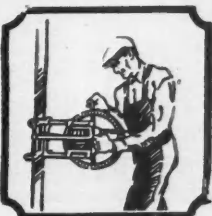
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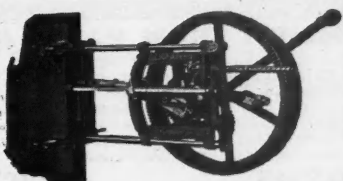
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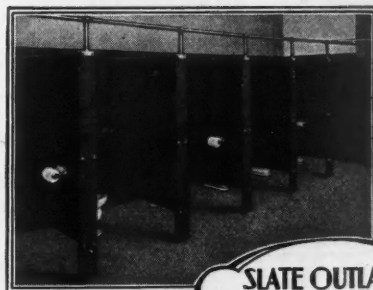
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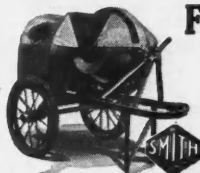


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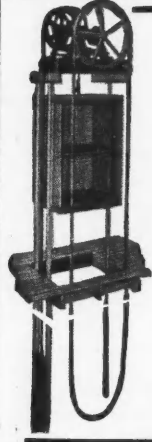
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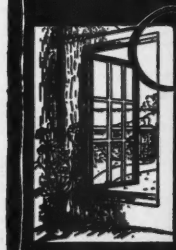
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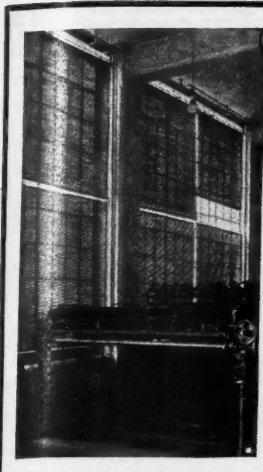
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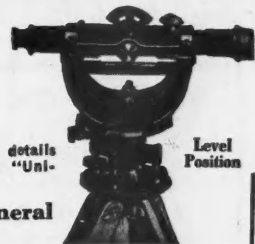
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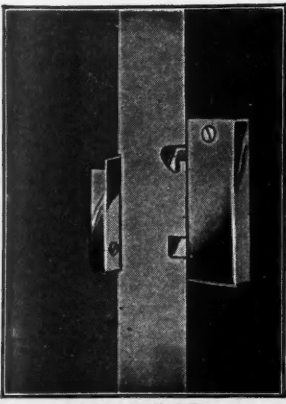
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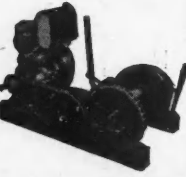


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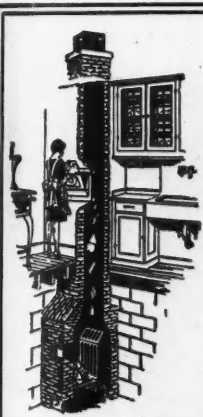
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Provide for safe comfortable staging, easily attached and detached. The quickest ever—safe as the earth under your feet.

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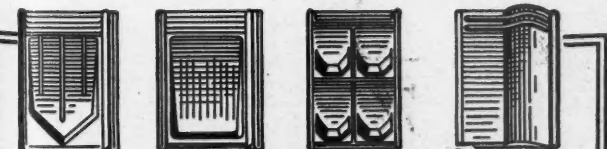
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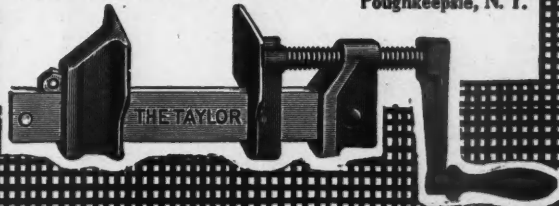
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August 4, 1928

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After trying several makes of tires we are pleased to advise that we are satisfied with the service we have been obtaining from Fisk Tires.

In the past three and one half years we have been operating ten Dump Trucks on 36 x 6 Pneumatics. We have found your Fisk Transportation Cord the most economical equipment for this fleet.

Our eight Solid Tire Trucks, equipped with 36 x 6 Fisk High Tread fronts and 40 x 8 Fisk Non-Skid Dual rears have given us the maximum service with the minimum expense. This, we feel, is due to the quality of your products linked with the service rendered by the L.F. Joliat Company.

Very truly yours,  
*Oliver J. Trudeau*  
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FISK TIRES

NEARLY 2,200 BUILDERS ARE NOW USING

# THE CARTER DOOR SET

OVER 300 OF THESE HAVE ORDERED THEIR SECOND SET OR MORE

CONVINCING — ISN'T IT?

Man Energy Tires—Electric Energy Never Tires. Then Fit—Hinge—Mortise and Cut for Face Plates—Electrically

IN the construction of the new Edge-water Beach Apartment Hotel, Chicago, three Carter Door Sets were used, which not only affected a tremendous saving in time and man energy, but made possible a degree of finish and accuracy that is practically impossible by the old method.

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There's a Templet for Lock Face Plates and Transoms, too, using the Hinge Butt Router. (All Templets fully adjustable.)



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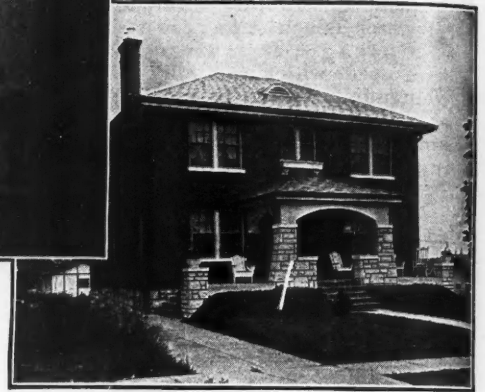
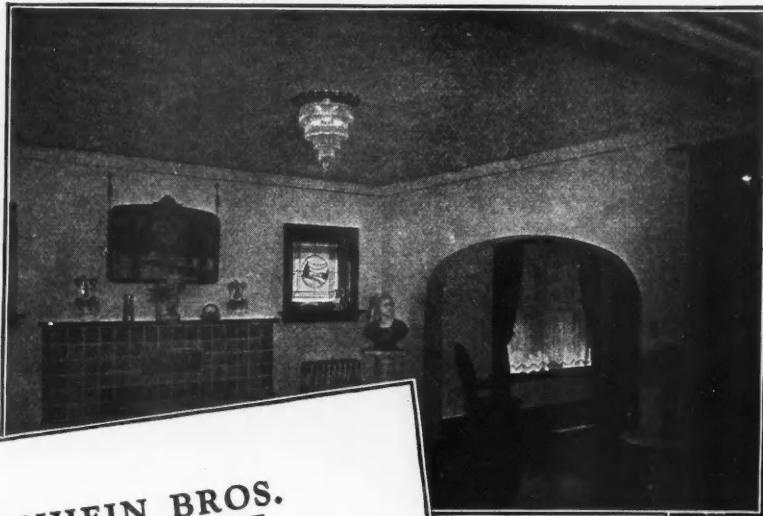
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**ZIEGENHEIN BROS.**

2621-2623 CHEROKEE STREET  
SAINT LOUIS

July 28, 1928

North Western Expanded Metal Co.  
Chicago, Ill.

Gentlemen:

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Yours very truly,

*Jno L Ziegenhein*

JL2-K

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Of how many other structures, in which *ordinary* plastering bases have been used could such a statement be truthfully made?

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Indeed the contrast between his own flawless walls and ceilings and the streaked, cracked plastering he sees elsewhere *re-sells* him day by day.

And yet his “100% plastering” cost is surprisingly little more than an inferior job. By using North Western 1/8" flat rib PLASTA-SAVER Metal Lath, any good plasterer can secure fine plastering at astonishingly low cost. That explains PLASTA-SAVER'S great popularity. It is the best reason why *you* should use this economical, satisfaction-giving, steel plastering base and reinforcing in *your* work.

Yes! We gladly send Samples of PLASTA-SAVER and information.



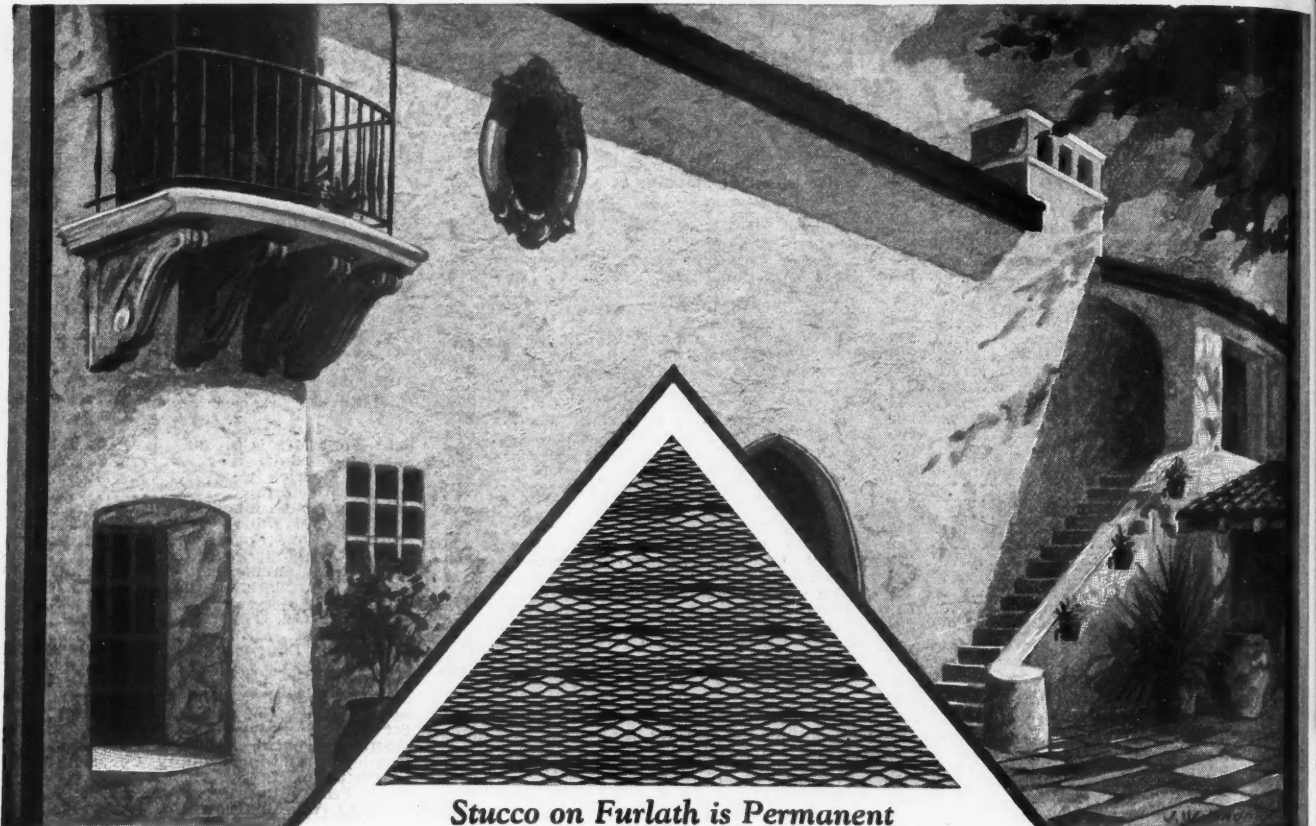
**NORTH WESTERN EXPANDED METAL CO.**  
1203 Old Colony Building  
CHICAGO

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139	Hunt, Helm, Ferris & Co.	194	North Brothers Mfg. Co.	214	Wedell & Boers
205	Hutchingson Mfg. Co.	222	North Western Expanded Metal Co.	30-144-145	Weyerhaeuser Forest Products
182	Huther Brothers Saw Mfg. Co.	180	Oak Flooring Bureau	65	Wheeler, Osgood Co.
8-9	Indiana Limestone Co.	171	O. K. Clutch & Machinery Co.	68	Wheeling Corrugating Co.
81	Insulite Co., The	210	Ornamental Products Co.	194	Wheeling Metal & Mfg. Co.
72	International Casement Co., Inc.	60	Overhead Door Corp.	135	Wheeling Sanitary Mfg. Co.
195	International Correspondence Schools	215	Paramount Electric Co.	218	Whisler Mfg. Co.
155	International Harvester Co.	43	Parks Woodworking Machine Co.	217	White Co., Inc., David
188	International Steel & Iron Co.	197	Peerless Mfg. Co.	213	Williams & Co., C. K.
181	Jaeger Machine Co.	217	Penn-Greg Mfg. Co.	171	Willis Mfg. Co.
218	Jamestown Screen & Mfg. Co.	172-218	Porter Cable Machine Co.	30	Wood Conversion Co.
27	Johns-Manville Corp.	206	Progressive Mfg. Co.	205	Wright Rubber Products Co.

NOTICE TO ADVERTISERS

Forms for the November number of the American Builder will close promptly on October 10. New Copy, changes and orders for omissions of advertisements must reach our business office, 1827 Prairie Ave., Chicago, not later than the above date. If new copy is not received by the 10th of the month preceding date of publication the publishers reserve the right to repeat last advertisement on all unexpired contracts.



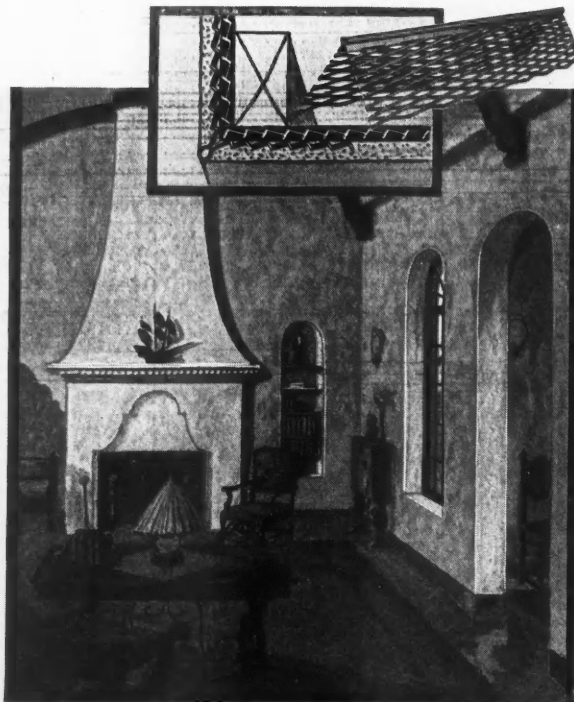
*Stucco on Furlath is Permanent*

## Walls That Retain Their Beauty

The principle that Portland Cement Stucco must be properly reinforced and of an even thickness has been proven sound.

Furlath, a special Milcor Metal Lath for stucco is indented at regular intervals to provide  $\frac{3}{8}$ " furring. This furring places Furlath within the stucco slab as reinforcement and permits of an even thickness throughout the slab. The illustration above clearly shows the furring indentations and indicates their value.

Complete data on Furlath sent gladly on request.



Subjected to strains that crack the highest grade textured finishes on other bases, plastering on Milcor Stay-Rib Metal Lath is safe from cracks, fire-safe and permanently beautiful.

Corners are perfectly protected with Milcor Expansion Corner Beads, which permit plaster to key through expanded metal close up to the rigid corner. Bull Nose Expansion Corner Bead No. 10 is especially designed for heavy duty in public buildings. May we send you the Milcor Manual which contains valuable data on Furlath and Stay-Rib metal lath?

MILWAUKEE CORRUGATING CO., Milwaukee, Wisconsin  
CHICAGO, ILL. KANSAS CITY, MO. LA CROSSE, WIS.



# FRANTZ HASPS

## Have Construction Features That Make Them Unusually Convenient

With the introduction of the new line of Frantz Hasps it now is possible to use a hasp in many instances where the common type has been found unsatisfactory heretofore. There is a Frantz Hasp for all types of doors whether on garages, barns or storage units, such as cabinets, chests, cupboards, etc.

Each hasp has been designed to be as near burglar-proof as possible—an important feature where the use of a padlock is desired. You will also find convenience features incorporated in the designing of these hasps that greatly increases their utility.

Ask your dealer to show and demonstrate to you the Hasps in the Frantz line of Guaranteed Builders' Hardware. You will readily see the high quality materials and skilled workmanship so evident in all Frantz Products.

## FRANTZ MANUFACTURING COMPANY

Dept. A-11  
STERLING, ILLINOIS

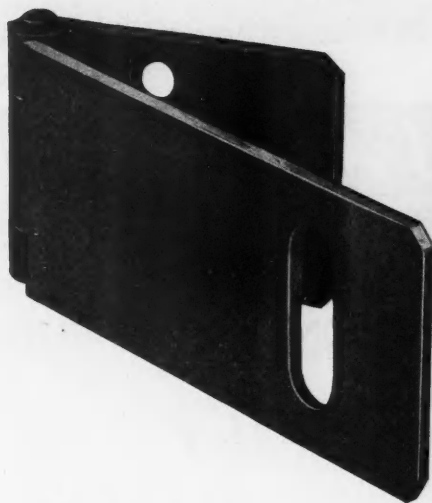
No Hardware is Genuine FRANTZ QUALITY Without the Red Label



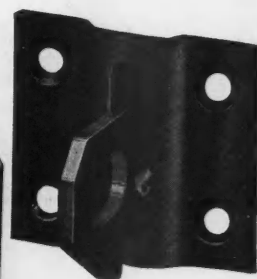
Door Hangers and Tracks  
In all Styles and Sizes  
Garage Door Fixtures  
In all Styles and Sizes  
Door Latches  
Door Holders  
Foot and Chain Bolts

Door Pulls  
Strap and Tee Hinges  
Ornamental Hinges  
Butts Hasps  
Screen Door Sets  
Cupboard Catches  
Plated-Finish Hardware

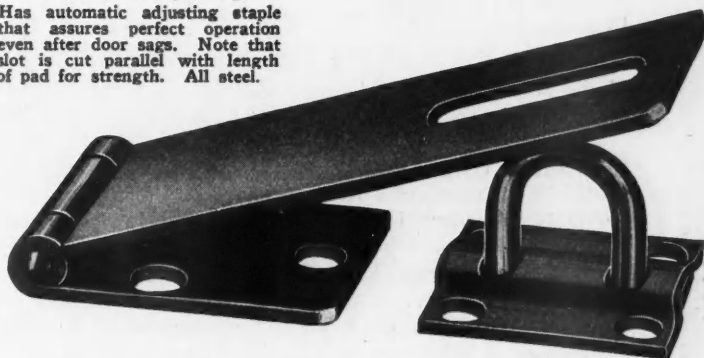
WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



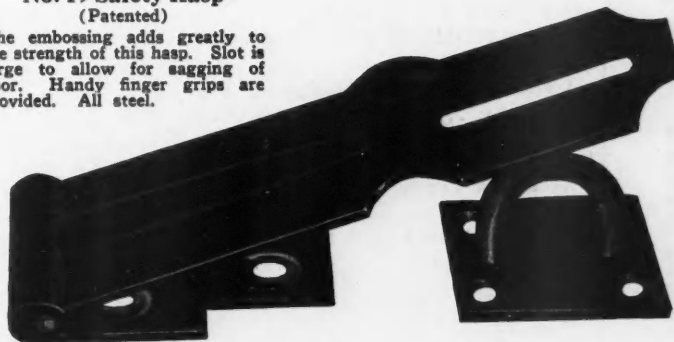
**No. 715 Safety Hasp**  
Has automatic adjusting staple that assures perfect operation even after door sags. Note that slot is cut parallel with length of pad for strength. All steel.



**No. 717 Safety Hasp**  
(Pat. Applied for)  
An unusual safety hasp that can be used for a latch. Staple lifts and drops as it passes through slot in pad. Made entirely of steel.



**No. 19 Safety Hasp**  
(Patented)  
The embossing adds greatly to the strength of this hasp. Slot is large to allow for sagging of door. Handy finger grips are provided. All steel.



**No. 96 Hinge Hasp**  
A heavy hasp for store or warehouse doors. Screws in staple concealed. Bolt hole provided in pad, making removal of hasp from outside impossible. All steel.

