

AMERICAN BUILDER

THE WORLD'S GREATEST BUILDING PAPER

Vol. 46.

CONTENTS FOR NOVEMBER, 1928

No. 2.

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Published on the first day of each month by American Carpenter and Builder Co.; Wm. A. Radford, *President, Treasurer and Editor-in-Chief*; Wm. A. Radford, Jr., *Vice-President*; E. L. Hatfield, *Vice-President and General Manager*; Bernard L. Johnson, *Vice-President and Editor*; Roland D. Radford, *Secretary*; S. C. Kellenberger, *Dealer Service*; Charles G. Paker, *Eastern Editor*; Juan Homs, *Export Editor*; Delbert W. Smith, E. B. Wolfrom, C. R. W. Edgcumbe, L. H. Reich, O. H. Sutter, Cecil W. Blashill, H. P. Sessions, J. J. Dubro, R. E. Clement, *Advertising Staff*.

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SUBSCRIPTION RATES—One year, United States, Canada, Mexico, and U. S. Possessions, \$2.00; six months, \$1.00; single copies, 35 cents. Foreign countries, \$4.00.

PROTECTION FOR OUR READERS—The publishers of the AMERICAN BUILDER reserve the right to decline any advertising they believe is detrimental to the interest of its readers; to edit advertising copy and to change or eliminate any statements that reflect injuriously or cast discredit upon other building products, machinery, equipment, supplies or tools.

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MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS

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LET

TRUSCON

TWENTY-FIVE YEARS OF PIONEERING & LEADERSHIP

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

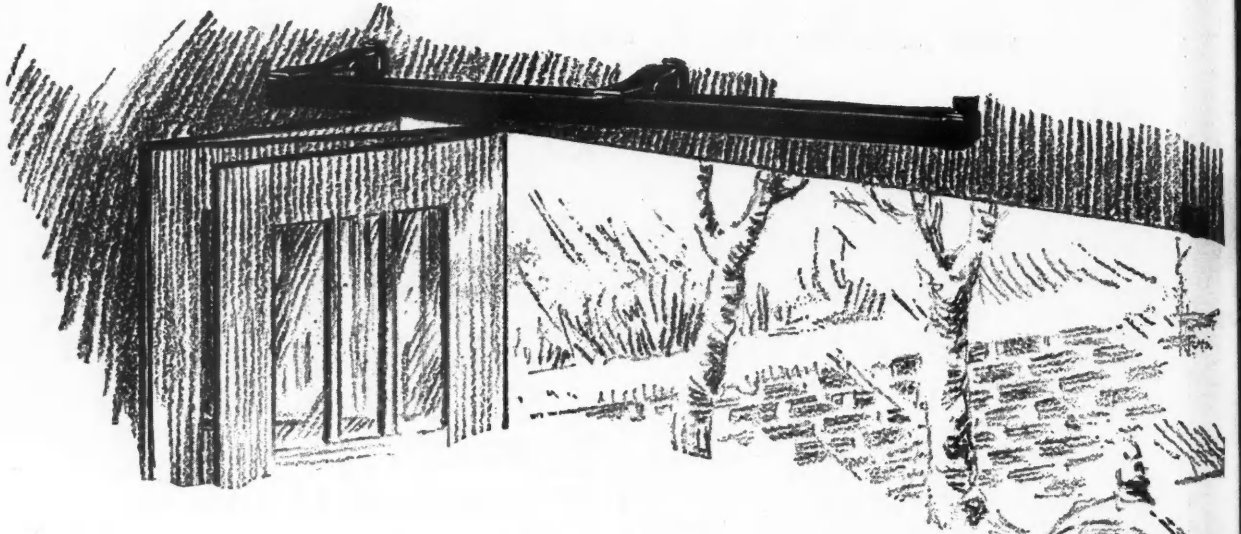
Warehouses and Engineering Offices in All Principal Cities

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

The Complete Truscon Line of Steel Building Products includes

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

Slidetite SLIDES

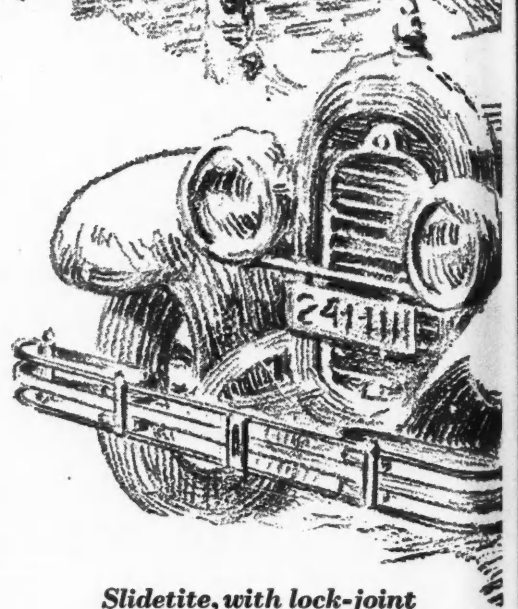


No garage is better than the doors which enclose it. That is why *Slidetite* equipped doors are such a good investment.

And they not only assure your car the protection it deserves, but they save you an endless amount of time, trouble and annoyance.

Because they slide *inside* the garage, *Slidetite* doors are not exposed to wind, rain, sleet, ice or snow. They won't blow shut. They won't stick. They won't sag, shrink or rust.

Another advantage of *Slidetite* garage doors is that they do away with dangerous center posts, and thus give you an unobstructed, full-width opening.



Slidetite, with lock-joint brackets, is packed in complete sets for 3, 4, 6 and 8 doors. To insure satisfaction buy complete sets only.

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

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

S DOORS INSIDE

*Where they are
away from snow and ice*



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



You Should Have These *Free* Books

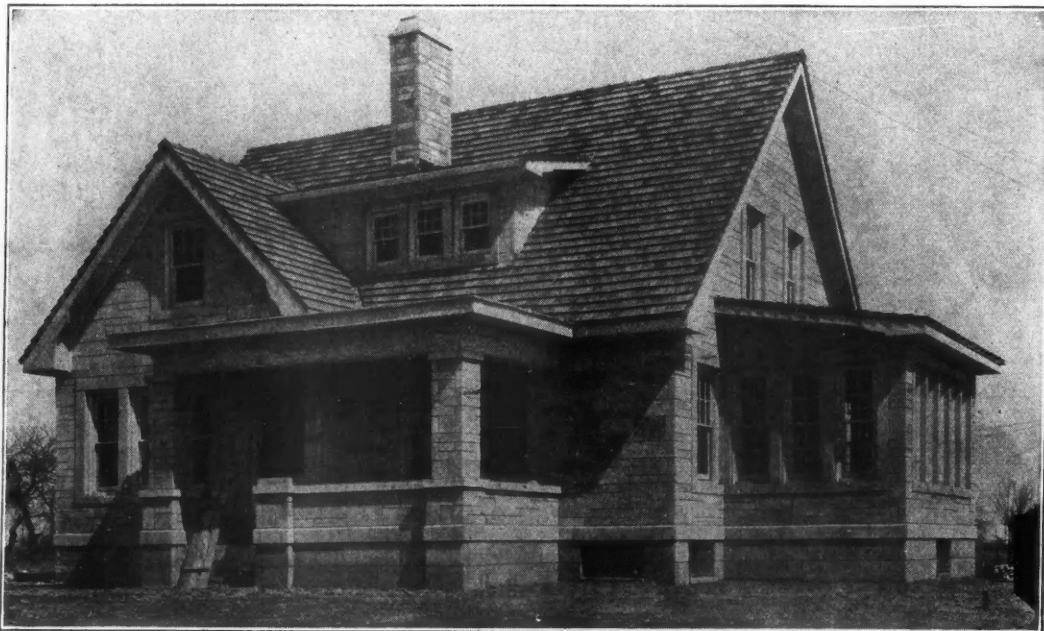
They give the facts about the use of Indiana Limestone Random Ashlar. Write for them now. Use coupon.

IN the past few months a large number of contractors have written us in response to these announcements describing the new way to use our limestone in residence construction.

Why not post yourself on this new development just as they are doing? Send for full information. Just mail the coupon on the opposite page.

Indiana Limestone Random Ashlar is now just

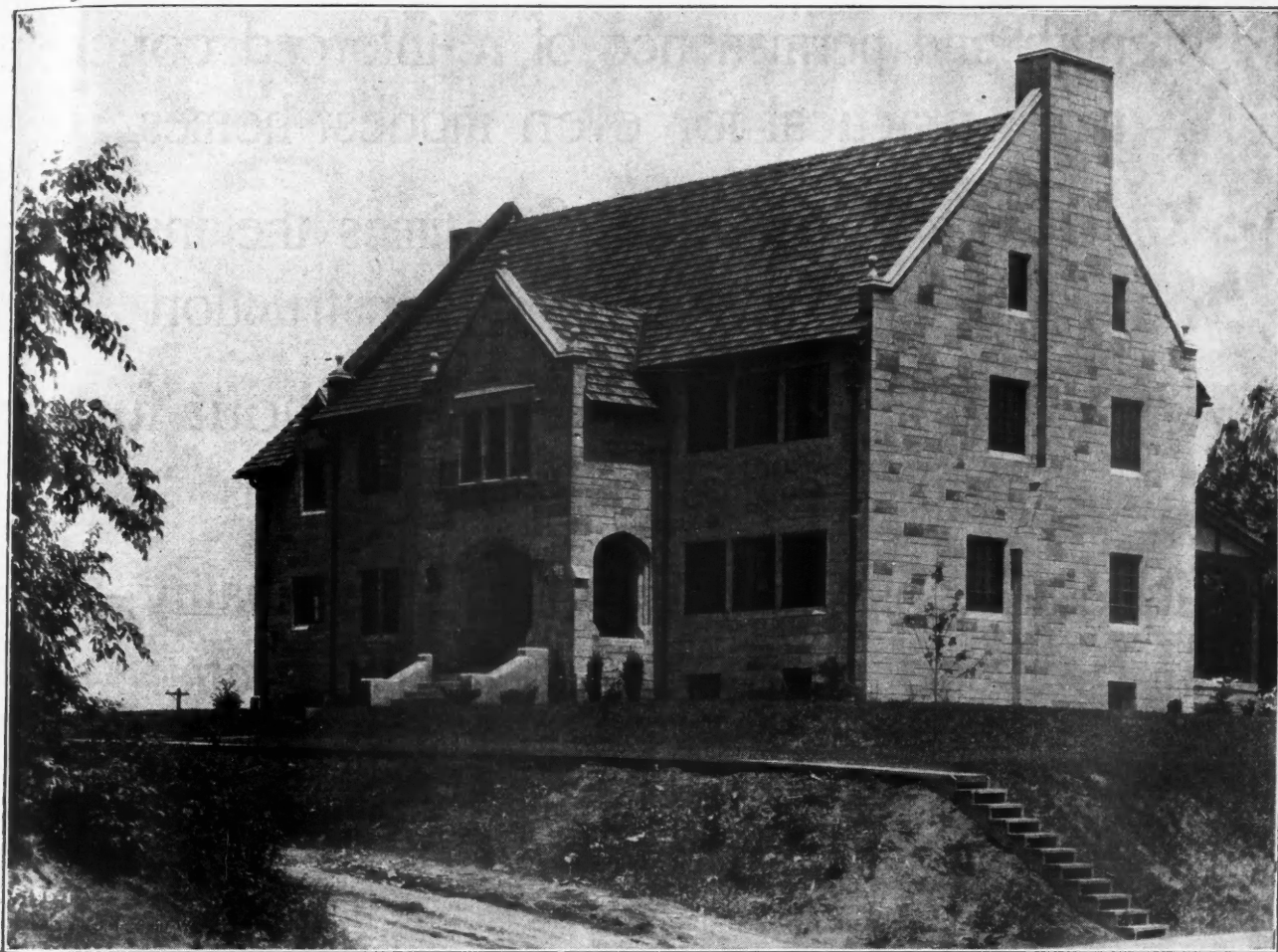
as practicable for residence use as brick, stucco or wood. A house built of it costs only 5% to 6% more than one in which other building materials are used. Residences built of Indiana Limestone never "grow old." This beautiful, natural stone becomes more attractive with age. Thus re-sale value is extremely high. And these houses are so different, so appealing to the eye that they sell readily.



Residence, Bedford, Indiana. Frank Williams, Architect. This shows Indiana Limestone Random Ashlar used in a very moderate-priced house, the kind that is being built right along the country over.

INDIANA LIMESTONE COMPANY, General Offices: BEDFORD,

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE



*Residence, Bloomington, Indiana. Alfred Grindle, Architect.
Here is a residence that will always be beautiful and therefore always salable.*

In Random Ashlar construction, the stone is sawed into strips four inches thick at our quarries. It is sawed on four sides: face, back, top, bottom. These strips are shipped right to the job. There they are broken, jointed and laid up in the wall. A stonemason or bricklayer does the laying up. No cut stone is required, unless for trim. Even this may be omitted. No need of carefully prepared drawings, either.



An electric carborundum saw, or an ordinary hand- or buck-saw, is used for breaking Indiana Limestone. One man keeps a number of stonemasons or bricklayers busy laying up stone.

Indiana Limestone prepared this way may also be used as a veneer applied to stud frame walls. Used as a structural facing over hollow tile or brick, galvanized metal ties secure it. This construction is rapid, yet permanent.

Some of the leading contractors everywhere are

taking up this new way of using Indiana Limestone. We are ready and able to give you every assistance in undertaking a residence or other building constructed of our stone. Here is a profit opportunity that is unusual. Get the jump on your competitor in this new field. Just one Indiana Limestone house will advertise you as nothing you've engaged in to date has done.

Mail Coupon

Just fill in your name and address below and we'll send you the free plan books, together with full information about this new way of using stone. Do it now.

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

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

Name

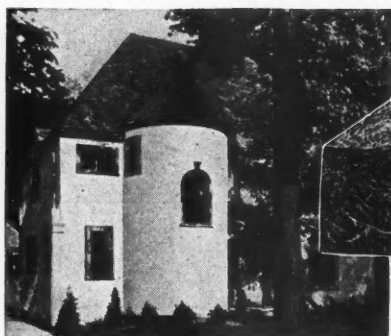
Address

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

INDIANA • Executive Offices: TRIBUNE TOWER, CHICAGO

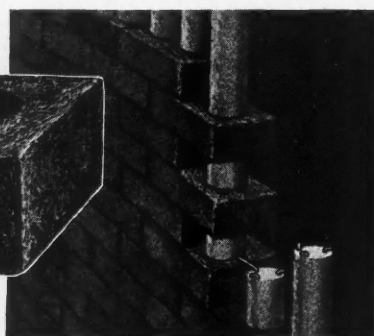
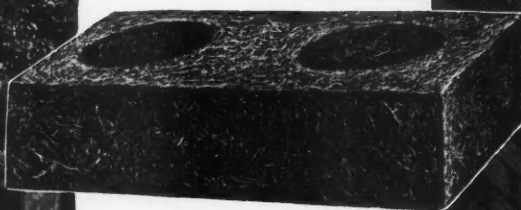
WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

- 1✓ Strength and permanence of re-inforced concrete made practical for even modest homes
- 2✓ *At no extra cost* — three to five times the insulation provided in most types of construction
- 3✓ Any exterior or interior finish without furring strips, lath, or extra operations
- 4✓ Richest architecture — utmost individuality — deep reveals — elegance — *without extra cost*



A Stockade Home
at Toledo, Ohio

Cut-away Section
of Stockade Wall



5✓ *Greater All-Around Economy* *than any other substantial construction*

That must be true, for nothing else fully combines all the functions of the remarkable building material called Stockade. Eight times brick size, light as one brick, laid up brick-like—but without mortar—self-bonding Stockade saves time and labor in erection.

The Stockade units form the mold for re-inforced concrete columns, poured as the wall goes up. This structural wall assures the enormous strength of 34 tons resistance per lineal foot on an 8-foot

wall—a wall that strengthens with time—never needs upkeep.

Serving as integral, continuous, unbroken insulation, Stockade provides from three to five times the insulation value of most types of construction.

With their 8-inch depth, Stockade walls permit of widely varied architectural expression—deep reveals and substantial appearance. The adaptable, ready surface of Stockade bonds directly with stucco and plaster—ends cracking risk—saves material—lends itself to any design.

Stucco, brick, clapboard—any preferred exterior finish—is easy with Stockade.

Homes everywhere of every type have proved Stockade economy, permanence, insulation value, and possibilities for greater beauty. You must know Stockade to know the greatest betterments and savings now possible in home construction. Write for full information. Ask for book AB-11.

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

Don't Think of CLARKE

Only as a Money Making Sander

Consider this—The Clarke builds your reputation by turning out perfect floors on your jobs.

The Clarke saves you grief because it does your work when you must have it done.

Many is the building that could have been sold or rented if it was completed on time.

Those are hidden profits—that benefit you immeasurably.

Now Consider—That the Clarke is guaranteed to do 800 to 2,000 square feet of new floor in eight hours, or your money back. Only the Clarke gives you such a guarantee.

Consider, too—That the Clarke is far in advance of all sanding methods because its patented construction is different than all others—**AND it does the work** with a quantity and quality that makes your heart glad.

Anyone can run the Clarke—carry it with one hand—no taking off motors and trucking heavy weight around. The Clarke weighs 31 pounds for floor work and **SANDS MORE SURFACE.**

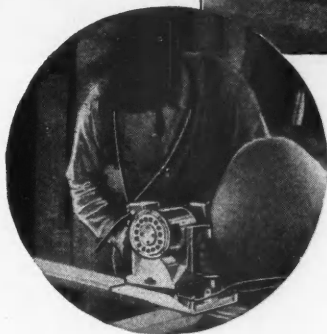
Don't think of this sander just because it "Makes More Profit". Think of it as a help in building and maintaining at least a part of your good reputation.

Send in your request right now for all information.

USE THIS COUPON

Clarke Sanding Machine Co.
 Dept. A-211 3815 Cortland St., Chicago, Ill.
Originators, and for over 11 years, Manufacturers of Portable Sanding Machines

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



MORE

than a Floor Sander

The floor handle is removed for shop or bench work, so that the machine weighs only 22 pounds.

If you have a shop or you finish trim, etc., on the job—then you need the Clarke for this work alone.

It does the work of 8 to 12 men. It does the work of the Big stationary 3 drum sanders, belt and arm sanders, and work they cannot do, such as big doors, assembled pieces, etc.

NOTHING ELSE CAN COMPARE

GET YOUR INFORMATION NOW!



CLARKE SANDING MACHINE CO.
 Dept. A-211, 3815 Cortland Street, Chicago, Ill.
 Without obligation, give me all the guaranteed facts about the Clarke for Floor and Bench work.

For Floors For Shop

Name

Address

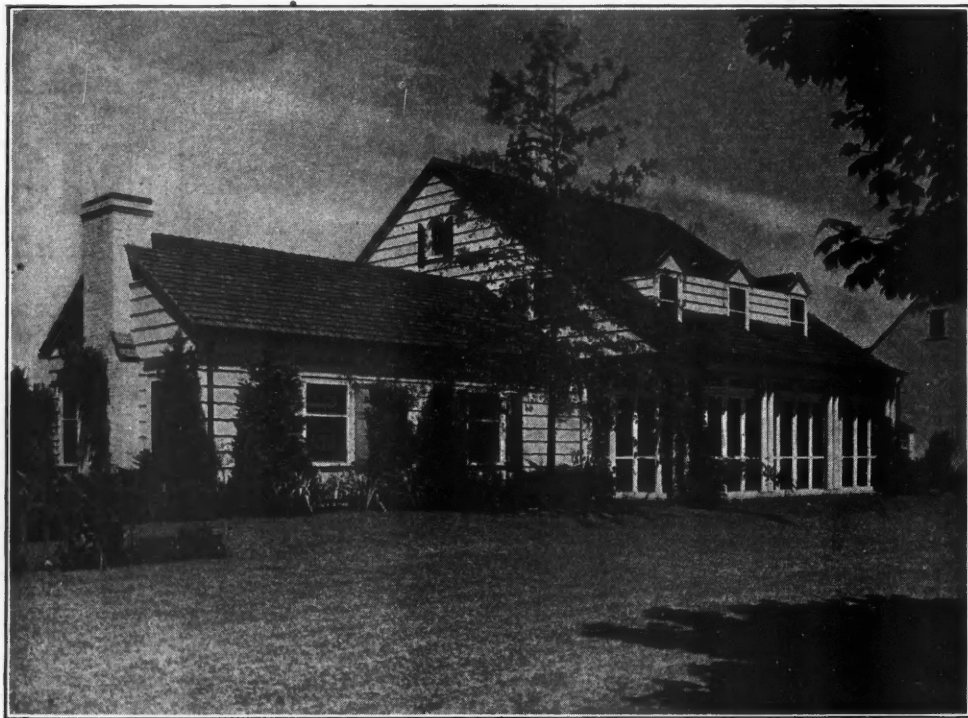
City State

NOTE

"We have used the Clarke on all sorts of sanding jobs, both floor work and bench work, and have found it to be all that you claim for it."
 John Geisheimer Mill & Lumber Co., Pomeroy, O.

“and the exterior is of Tidewater Red Cypress”

—a statement that sells houses



“YOU should never have to spend a nickel for repairs on the lumber in this house.”

That's what you can truthfully tell a prospect if you build with heart grade Tidewater Red Cypress.

Home-buyers are learning that this Wood Eternal is the most durable and most economical wood for their houses.

More and more each year, they are demanding it for siding, shingles, cornices, porches, doors, steps, screens, and all other exposed points where rain and rot might do their damage.

Cash in on this growing demand for durable materials, by using Tidewater Red Cypress in the houses you build on contract or for resale.

“Money Saved for Builders”—sent FREE

Drop a note in today's mail, asking for this booklet which tells how Tidewater Red Cypress is grown and milled . . . how it has endured for centuries in thousands of cases . . . how it makes a house more salable and boosts its resale value . . . and many other facts which you can use profitably. The booklet is yours for a postcard. Southern Cypress Manufacturers Association, Dept. AB11, Jacksonville, Florida.

Specify

TIDEWATER RED CYPRESS



THE WOOD ETERNAL

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE



"Outside Icing"

Helps to sell houses and apartments quickly,
yet adds little to the cost

Include it in your blue prints

NOWADAYS, when the architect or builder fails to incorporate "Outside Icing" facilities in plans for houses and apartment buildings, the neglect is inexcusable.

The widespread demand of housewives for this great convenience has made "Outside Icing" a standard requirement. The construction cost is low, yet it is a great help in selling the completed building. "Outside Icing" permits the iceman to service the ice box without entering the kitchen. Most ice box manufacturers build special "Outside Icer" models. These cost very little more than the regular models and are becoming increasingly

popular. The era of "Outside Icing" is here.

Remember that 95 per cent of all household refrigeration is done with ice. Ice refrigeration is so economical and satisfactory that the vast majority of people will always continue to use it. It safeguards the purity of food because it provides constant circulation of air, which carries the impurities and odors to the melting ice and thence down the drain.

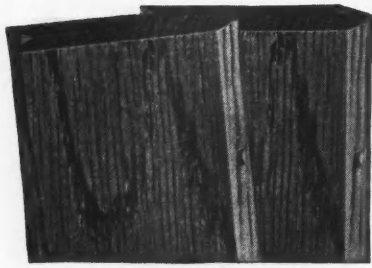
Some of the leading ice box manufacturers furnish blue prints which insure correct construction and placement of wall opening and door for servicing "Outside Icers."



NATIONAL ASSOCIATION OF ICE INDUSTRIES

163 WEST WASHINGTON STREET, CHICAGO

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



CROMAR lets you do a faster nailing job without fear of damaging the varnished finish

On new-building or relaying jobs for homes, apartments, churches, bedrooms of hotels, and the like, there isn't a more satisfactory flooring than CROMAR.

The CROMAR method of driving the filler deep into all pores of the wood, with patented machines, results in a finish that has no equal for beauty and long wear. Except under extreme conditions, warping and drying-out is eliminated with CROMAR because of the moisture-resisting treatment it receives.

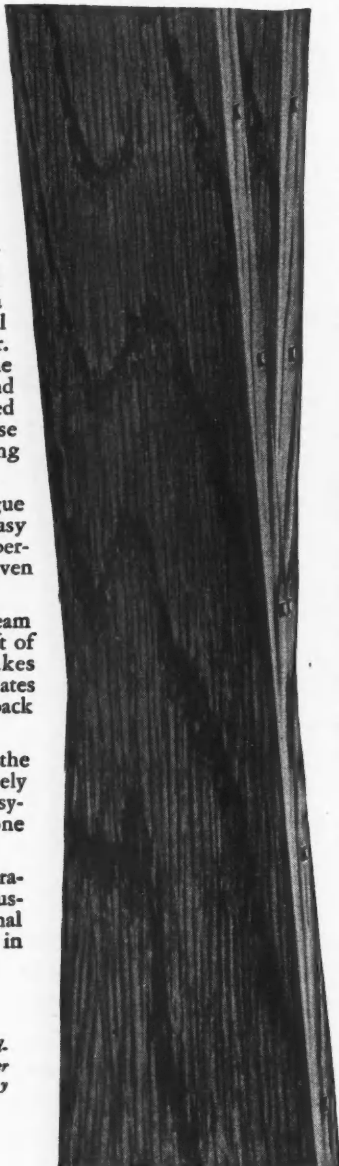
A flexible V-type tongue and groove makes for easy and speedy laying, and permits laying over uneven sub-floors.

A tiny rounded surface seam—smaller than the shaft of an ordinary pin—makes cleaning easy and eliminates square cracks which pack with dirt.

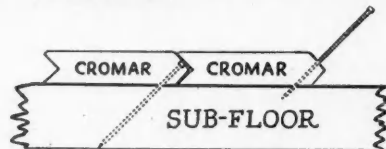
CROMAR arrives on the job CRATED—not merely bundled—in compact, easy-to-handle packages—one length to a package.

Send for complete literature which tells and illustrates these and additional CROMAR advantages in detail.

See the CROMAR Full Page Advertisement in the November 10th issue of The Saturday Evening Post.



—one of the reasons for this is the Beveled CROMAR Tongue



WITH CROMAR Factory Finished Oak Flooring you don't need to sub-let your hardwood flooring contracts. Why should you when it is *all* finished—like furniture—at the factory? CROMAR's improved and simplified tongue and groove—see diagram above—permits *you* to lay it with your own men. *You* do all the installing work; *you* take all the profit. And remember, when CROMAR is nailed down the job is completed. Because the scraping, sanding, filling and varnishing are all done for you at the CROMAR factory.

What's more, you don't gamble with CROMAR. You take no chance of getting an inferior finishing job. No risk to your own reputation. CROMAR's finish is *uniform* in quality. It never "goes bad," but you have the satisfaction of knowing that if it should you have a big national advertiser behind you.

THE CROMAR COMPANY, WILLIAMSPORT, PA.

Pacific Greater West Distributors:

THE C. L. THOMPSON CO., 539 Market St., San Francisco, California

CROMAR

FACTORY FINISHED

Oak FLOORING

THE CROMAR WAY



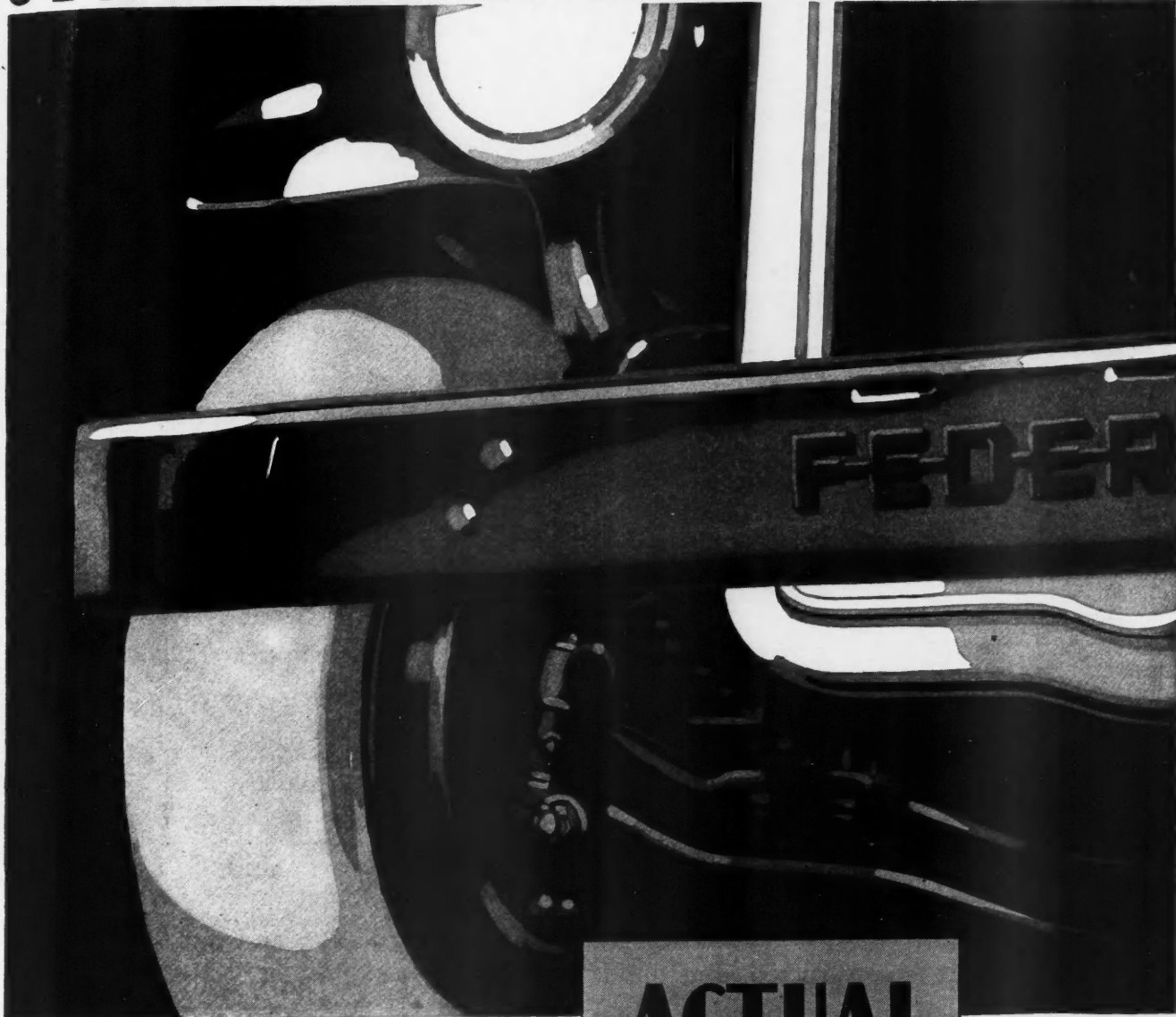
Nailing—only

THE OLD WAY



FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

CERTIFIED EARNING ABILITY



THE economy of Federal transportation is an actual demonstrated fact. Of all the Federals built, 72% are taken by men and firms who know Federals through the ownership of Federals. These successful fleet operators keep accurate records of their transportation costs. That they continue to standardize on Federals is a recognition of Federal's Certified Earning Ability as one of the biggest factors in profitable commercial haulage.

THE FEDERAL MOTOR TRUCK CO.
5842 Federal Ave. Detroit, Mich., U. S. A.

"Leading Specialists in Commercial Transportation"

**ACTUAL
MEASURED
HAULAGE
SAVINGS**

ASK for the "Federal System of Truck Expense Control" that is doing so much to lower haulage costs in every line of industry. No obligation whatever.

FEDERAL TRUCKS

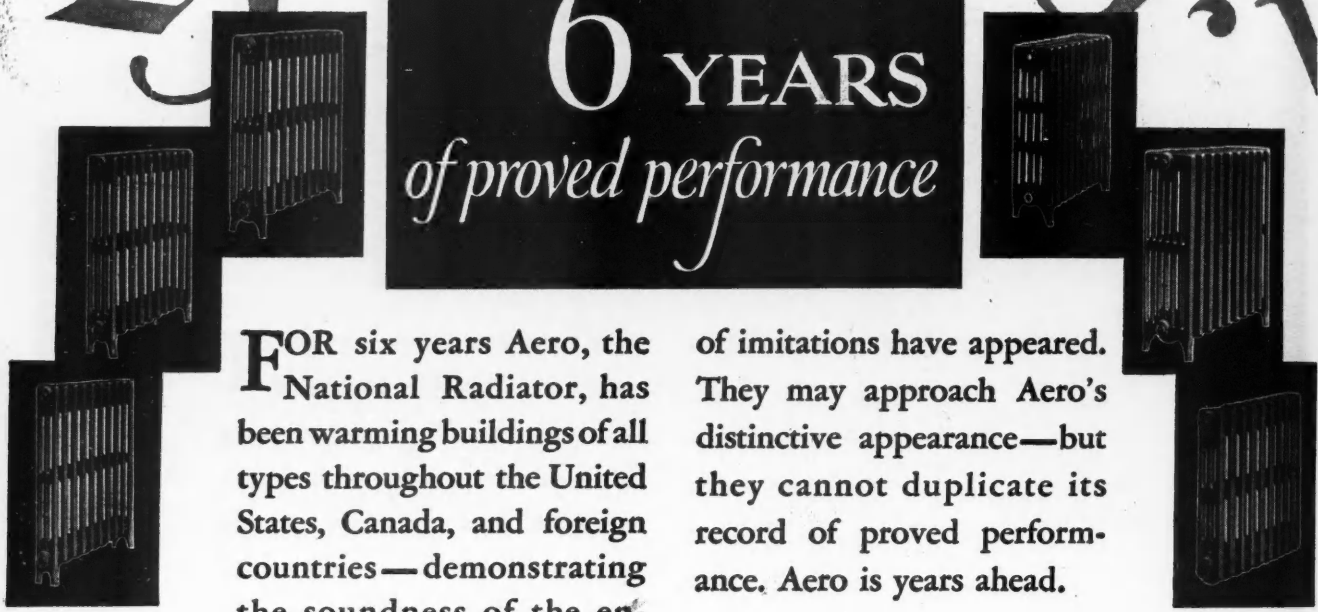
ALL SIZES—FOURS & SIXES

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

(201)



6 YEARS
of proved performance



FOR six years Aero, the National Radiator, has been warming buildings of all types throughout the United States, Canada, and foreign countries — demonstrating the soundness of the engineering principles on which it is constructed, and building an ever increasing group of satisfied customers.

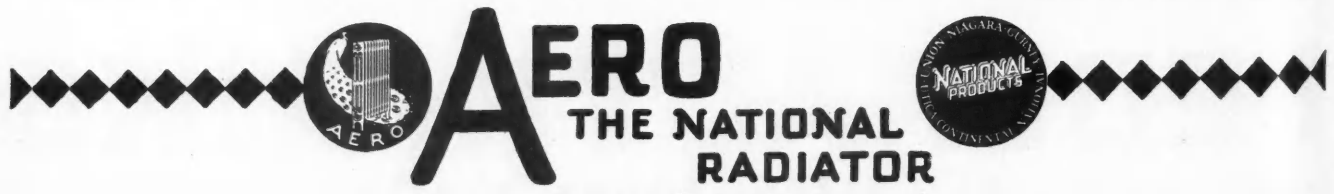
Today Aero is truly "the National Radiator." A host

of imitations have appeared. They may approach Aero's distinctive appearance—but they cannot duplicate its record of proved performance. Aero is years ahead.

Sell Aero Radiation, and you sell beauty, warmth, and efficiency. Aero, the National Radiator, retains its place as leader in attractiveness and health-giving comfort.

NATIONAL RADIATOR CORPORATION
MANUFACTURER OF RADIATORS AND BOILERS

- ¶ Nine Plants devoted to National Service through these Branch Offices and Warehouses:**
- | | | | |
|---------------------------------------|---|---|--|
| Baltimore, Md.—2600-2622 Matthews St. | Boston, Mass.—93-97 Oliver St. | Milwaukee, Wis.—124-130 Jefferson St. | New York, N. Y.—55 W. 42d St. |
| Buffalo, N. Y.—259-265 Delaware Ave. | Cleveland, Ohio—935 E. 63rd St. | Omaha, Neb.—108-112 S. Tenth St. | Philadelphia, Pa.—121 N. Broad St. |
| Chicago, Ill.—2445 N. Keeler Ave. | Cincinnati, Ohio—Spring Grove & Elmira Ave. | Pittsburgh, Pa.—1509 Arrott Bldg. | Richmond, Va.—3032 Norfolk St. |
| Indianapolis, Ind.—431 W. Georgia St. | Johnstown, Pa.—221 Central Ave. | St. Louis, Mo.—1042 Central Industrial Ave. | Washington, D. C.—2205 Fifth St., N.E. |



"We're thanking our lucky stars that he passed along the good word!"



PINELLAS to Thompson to Pinellas. There's a double play for you! When an Eternit man gets the opportunity to pass the good news, he certainly does it in fine style. Let Mr. Gregory, of the Pinellas Lumber Company in St. Petersburg, Florida, tell this story:

"It is rather interesting," writes Mr. Gregory, "how Eternits first came to our notice. Mr. J. H. Loughridge, the president of our company, was at the office of James Thompson &

Sons, Stapleton, New York. Thompson called his attention to Eternit Asbestos Shingles, telling of the wonderful success he had had marketing them.

"Mr. Loughridge, knowing James Thompson & Sons to be a live concern, was very much interested. On his return he decided to see if we could get the exclusive Eternit franchise. Well, we have it.

We're going to keep it, too!
"Mr. Thompson really didn't say enough, for our sales have been remarkable. We have a wonderful selling point with the new colorfast shingle. Durability, economy and proof against fire—all these things are going over mighty big.

"Now, the Pinellas Lumber Company is on the trail of every architect, builder, roofer and home owner we can reach, boosting Eternits all the time and thanking our lucky stars that Mr. Thompson passed along the good word."

Write now for information

Let us tell you about Eternits. We'll explain their special fire-proof construction of asbestos fiber and Portland cement—colors that will not fade—the durability, resistance to time and weather. Mail the coupon now.

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

Eternit
Reg. U. S. Pat. Off.

**ASBESTOS
SHINGLES**
ABSOLUTELY COLORFAST

ETERNIT, INC., Dept. A, Riverview Drive, St. Louis, Mo.
Please send me full details about roofing directions and samples.
Name _____ Street _____
City _____ State _____
Dealer's Name _____

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

"Standard"

PLUMBING FIXTURES



THE "TEMPLETON"

—a lavatory design in Genuine
Vitreous China by "Standard"

The Magnet In Homes That Sell

"Standard" has been the first to sense and the first to satisfy the universal desire for *individualized* plumbing fixtures.

The TEMPLETON Lavatory, for instance. What wealth of character, yes, of *nobility*, even, is evidenced in its graceful flowing lines, its tall stately fittings, its shapely tapered legs. It has its counterpart in the PEMBERTON, and other distinguished "Standard" lavatories.

And its quality merits your confidence as its beauty excites admiration. Fired in one piece, there are no joints or seams to open up and become unsanitary.

Entirely of Genuine Vitreous China, extreme wear-ability is assured; fittings and legs of Chromard Finish are in perfect accord with this in-built quality of permanence.

"Standard" has brought all its resources to bear in creating designs that make possible bathrooms as distinctive as living rooms.

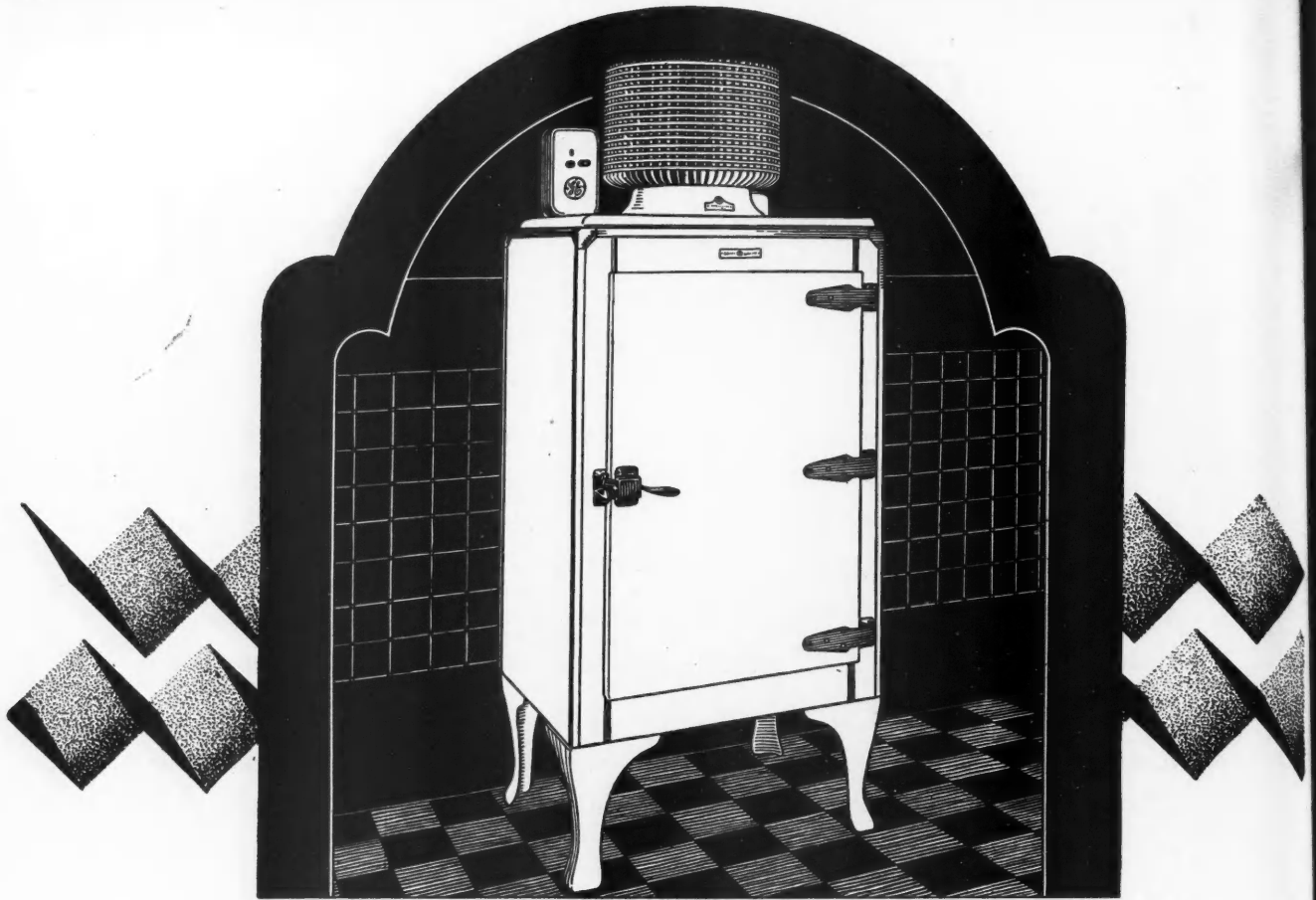
And no one feature of the new home or apartment exerts a greater selling influence on the prospective owner or tenant of today than the bathroom—with the kitchen a close second.

The development of *color* in the bathroom, which "Standard" has so aggressively yet sensibly promoted, is reflected in the ensembles of rare beauty and charm which invite your interest and approval at any "Standard" Showroom.

And it will instantly be apparent to you that the prevailing interest in better bathrooms can readily be capitalized to your ultimate profit by using these new "Standard" designs to *individualize* the bathroom of each house you build.

Standard Sanitary Mfg. Co.
P I T T S B U R G H

"Standard"
PLUMBING FIXTURES



A Necessary Convenience

Plumbing was once a luxury; so were electric refrigerators a few years ago—but not now!

Today the buyer or renter of a house or an apartment wants to know if it has an electric refrigerator and, if so, *what kind*.

Architects and builders are now including General Electric Refrigerators in their planning—they add a value much greater than their cost.

The choice is General Electric Refrigerators because they are "years ahead in design" and backed by the General Elec-

tric guarantee; because their quality is known to the public; because their mechanism is sealed in and requires no oiling; because they are up on legs and easy to keep clean; because they are so quiet.

There's a type and size adapted to every need—models for the large family—models for the family of only two—models to fit cramped floor space.

Send for Catalog AB-11

It illustrates all models and gives complete specifications and dimensions. Similar information in brief appears on pages C 3056-9 of "Sweets' Architectural Catalog."

GENERAL ELECTRIC Refrigerator

"Makes it Safe to be Hungry"



\$6

YOU CAN SAVE A HOUSE BY USING THIS NEW SIMPLE METHOD OF HANGING DOORS

The Builder's Heaven will have been reached when the *first* estimates on an operation come within the costs he has allowed himself per house. It does not matter whether the plans are for a one house or thousand house operation, the modern builder has to ferret out five and ten dollar savings with the speed of a bloodhound and the skill of a Sherlock Holmes.

This advertisement shows how to make a six dollar saving without taking anything away from the salability of the house.

You buy McKinney Non-Mortis Hinges instead of ordinary hinges. These hinges eliminate mortising of the doors and the jambs. You can leave the chisel in the tool chest. The hinges are applied in the same position as ordinary hinges but there is no mortising. You will find a time saving that will probably far exceed \$6 per house. In appearance, the result is perfect. Only the barrels of the hinges show when the door is closed and their fine finish matches

the best quality hardware. In addition to the sizes needed for doors several sizes are made for cabinets.

The first move toward this saving is to send for the complete Data Sheet on the Non-Mortis Hinge. It shows application photographs, gives a number of uses and carries an affidavit setting forth the time required to hang a door this new way.

Get this special contractor's and carpenter's Data Sheet. You will find this new hinge the easiest bit of saving you ever made. Use the coupon for convenience.

McKINNEY

"NON-MORTIS"



HINGE

Another Winner!

Have you seen the McKinney Quicklock? A most convenient latching bolt for garage doors. Turn a key and drive in. \$5 retail east of the Rockies. Check the coupon for the story.

McKINNEY MFG. CO., Pittsburgh, Pa.

Gentlemen: —

Send me a copy of the Data Sheet on the "Non-Mortis" butt-hinge prepared especially for contractors and carpenters.

Also information on Quicklock.

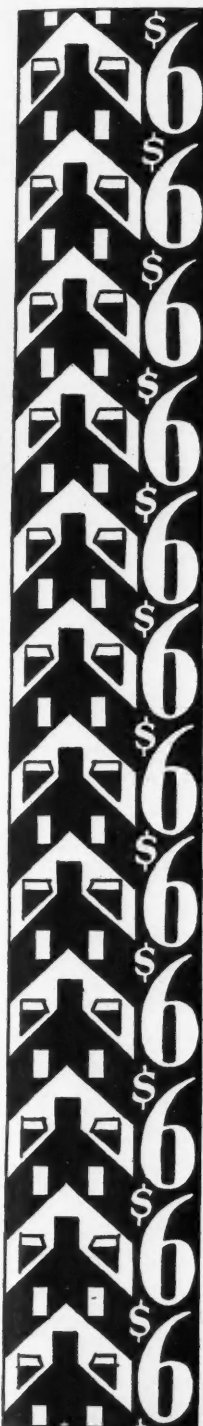
Name.....

Street.....

City.....

State.....

AS 11-28

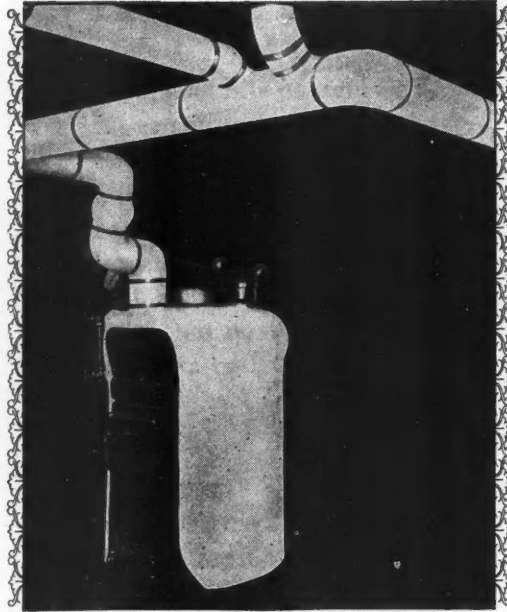


Write your own total

HIO

ASBESTOCEL

A NATIONALLY STANDARDIZED
INSULATION FOR HEATER PIPES



The choice of insulation for heater pipes is exceedingly important, yet the decision is easily made. Improved Asbestocel is the low-pressure pipe insulation which is nationally sold and which is standard in quality and performance everywhere. When you select 3-ply Asbestocel you know that the performance and the appearance of the insulation will be the same wherever the building is located, whatever its size is, and whoever makes the application. There is no other heater pipe insulation which offers you such standardization.

National advertising in general magazines, building papers and other trade papers, keeps Asbestocel before the public. Individual house owners know the name and will have confidence in your homes when they see Asbestocel.

Asbestocel is a product of Johns-Manville, pioneer workers in Asbestos. It is guaranteed by Johns-Manville to be stronger and more efficient than any of the ordinary air cell insulations.

Another Asbestos product of especial interest to builders and operators is the Johns-Manville Asbestos Shingle. By using these Shingles you can obtain any textures and colors you want, besides which the roof will be fireproof and literally permanent.

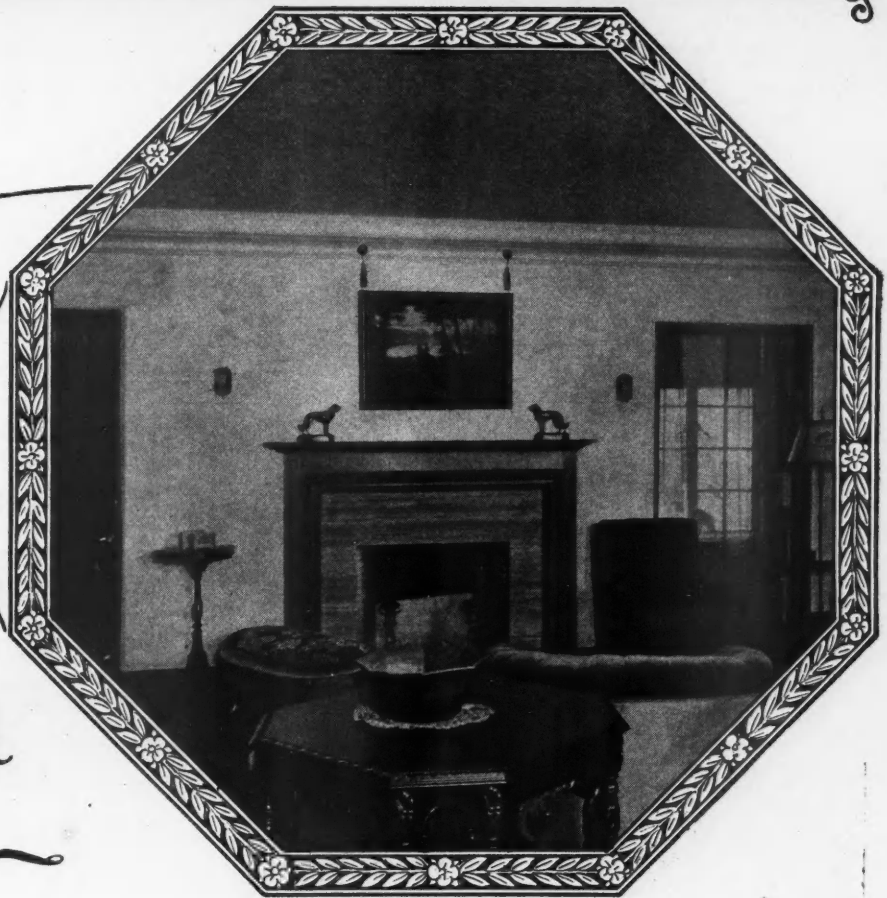
Johns-Manville maintains a large department for the purpose of cooperating with builders on many problems connected with designing buildings of all types. We invite your inquiries, which entail no obligation. Address: Johns-Manville Corporation, Building Department, 292 Madison Avenue, New York City.



MASTER of ASBESTOS
Johns-Manville
IMPROVED ASBESTOCEL

ZED
PES

Like the
Diamond's
Setting ~



Tiger provides the background that creates desire to buy

THE remarkably artistic effects of Tiger Finished walls increase home value just as surely as a beautiful mounting raises a precious stone from a standard carat rating to the premium price of a rare gem.

Tiger adds the intrinsic worth that justifies larger profits and results in a quicker sale. To the buyer, it means a home in a Tiffany setting—a dwelling of permanent beauty.

Like the Portland, Oregon, Master Model Home, the living room of which is pictured above, all of the three hundred and sixty Master Model Homes being built by the Home Owners Institute this year will be plastered with Tiger exclusively.

Builders may enjoy the super sales advantage of a Tiger Finished home, without extra cost, by simply specifying and insisting upon the use of this famous finishing lime.

THE KELLEY ISLAND LIME & TRANSPORT CO.

"World's Largest Producer of Lime"

LEADER BUILDING ∴ ∴ CLEVELAND, OHIO

The Famous

TIGER

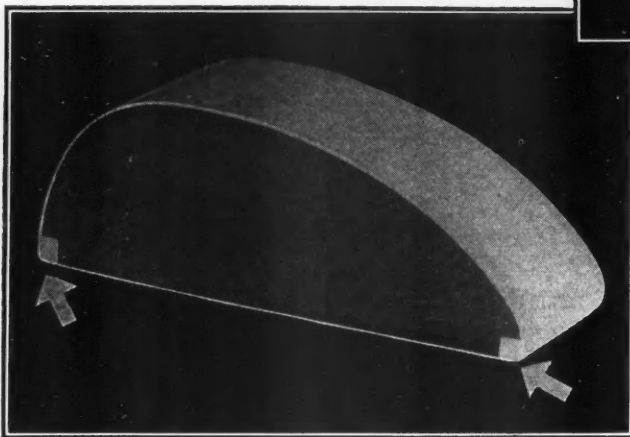
And—Tiger Mason's, Tiger Agricultural, Tiger Chemical, Tiger All-Purpose Hydrate in 10-pound Packages, and High Calcium and Magnesium Lump Limes. Also Quickslake (ground Quicklime) in paper-lined jute sacks.

FINISH

A Brunswick Triumph In Seat Manufacture!

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

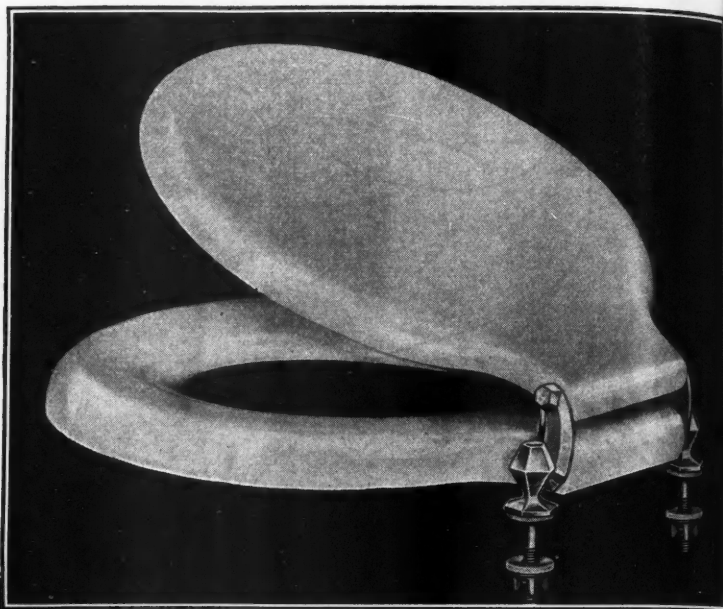
As shown below, Brunswick's new White Seat has a heavy reinforced cushion of tough, resilient pyralin right on the outer edges where blows and rough usage are liable to cause white seats to split open. The sheet pyralin on the new Brunswick Seat is welded to this heavy cushion edge of pyralin. The seat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



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!



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

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 313, 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.....

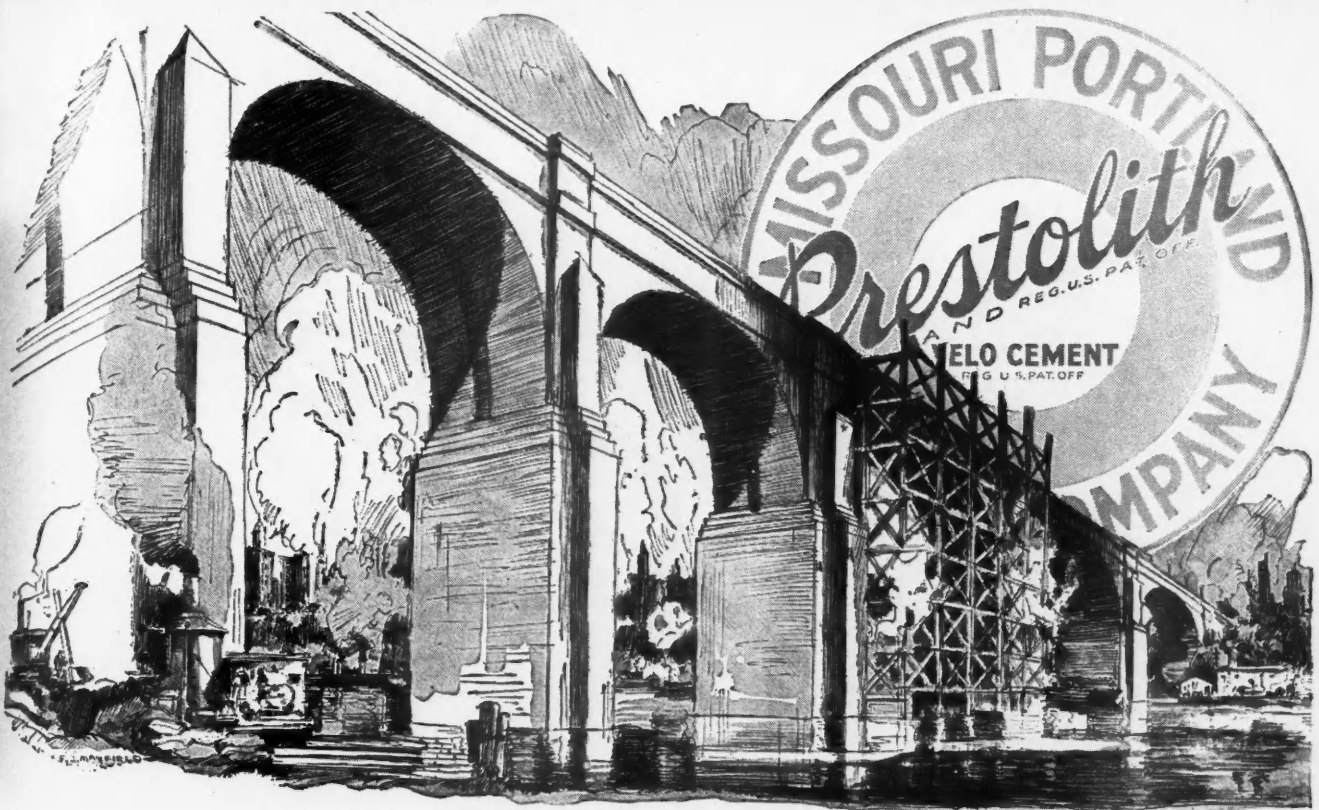
Address.....

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

BRUNSWICK WHITE SEATS

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

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



Concrete adds speed to permanence

CONCRETE, the most versatile building material the world has ever known, has scored again:

With the development of Prestolith Velo Cement, concrete now adds speed to permanence.

In Prestolith Velo the Missouri Portland Cement Company offers the builders of America a new magic in speeding construction—a cement which at a negligible differential in price makes concrete you can use in 24 hours.

And with this extraordinary speed in developing great strength, Prestolith Velo has the advantage of the characteristic elements of portland cement. It is used just as portland cement is used. It has the same setting time. It costs only

slightly more—a negligible difference when compared with the value of time saved.

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 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."

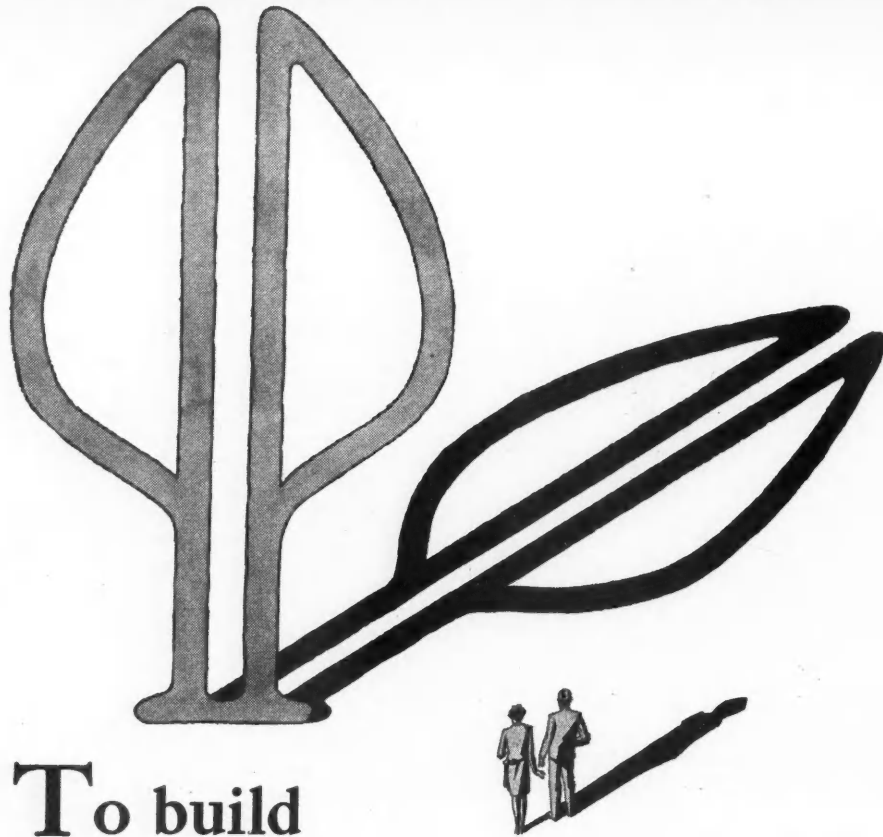
Name.....

Firm.....

Street and No.....

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

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



To build
with *this pine tree* is to build with assurance



Pondosa Pine comes to the building ready for the saw and hammer. No rough and slivery edges to cause trouble. Easy to work, there is little waste or time out for remakes.

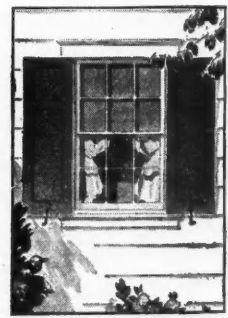
For years the Inland Empire of the great Northwest has been sending light, strong, even-grained pine to market.

Three years ago, the Western Pine Manufacturers Association gave this good wood the name of Pondosa Pine and spread its fame throughout the country. But always there has been a drawback. There was no easy way to identify the lumber and be positive one got the extra goodness this name promised.

Now a method has been found by which Pondosa Pine is marked in the end grain with the famous Pondosa pine tree trade-mark.

With this invention Pondosa emerges from the background of indefinite things to take its place in the world of identifiable products—products whose names alone stand for assured quality and perfect confidence in buying. The builder need no longer trust his eye or judgment.

The pine tree trade-mark means this—for every soft wood job, sheathing, siding, paneling, built-in features, sash and doors, and all other woodwork items that go into a house, Pondosa is the wood dependable. Western Pine Manufacturers Association of Portland, Oregon.



Inside or outside—any place that requires a light, durable wood, Pondosa Pine is ideal. A perfect foundation for oils, paints and enamels, it retains its charm for years.

Pondosa Pine 
The Pick o' the Pines

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

KITCHEN MAID

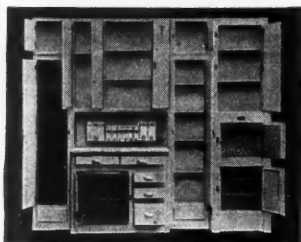


Right: the Dinofold ready to serve four people. Sturdy, rigid, charming in appearance.

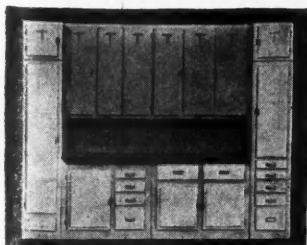
Below: the Dinofold—folded up and out of the way in an instant.



FAMOUS DINFOLD now a Kitchen Maid Product



Above: 740X Combination—consisting of seven distinct units.



Above: The Buttery, for serving halls and large kitchens.

Worthy, indeed, of bearing the Kitchen Maid trade-mark—the famous Dinofold becomes, today, a Kitchen Maid product, manufactured and sold by America's largest exclusive makers of built-in equipment for the kitchen.

Dinofold is a charming folding "breakfast nook" consisting of table and seats for four. It folds up as a unit, on a wall, on a door, or in a wall recess—by a single, simple operation! Leaves floor space completely free when not in use.

Dinofold is smoothly lacquered in Olive Green or Mandarin Red with gold striping and antique shading or in Early American Maple, antique shading with green trimming (also available unfinished). A color

combination to harmonize with every color scheme!

Let us send you complete information about the Dinofold, as well as the Kitchen Maid catalogue. The latter describes Kitchen Maid Units covering every need of every type and size of kitchen. It tells of the exclusive Kitchen Maid finishes, which include Cactus Green, Dove Grey, Lama Tan, Travertine Ivory and Shasta White. It explains the many unusual Kitchen Maid features—such as sanitary rounded inside corners, smooth doors and concealed hinges. It is a valuable book for the man who builds to sell or rent. Write us.

WASMUTH-ENDICOTT COMPANY
1311 Snowden St., Andrews, Indiana

"Let the Kitchen Maid

Be Your Kitchen Aid"

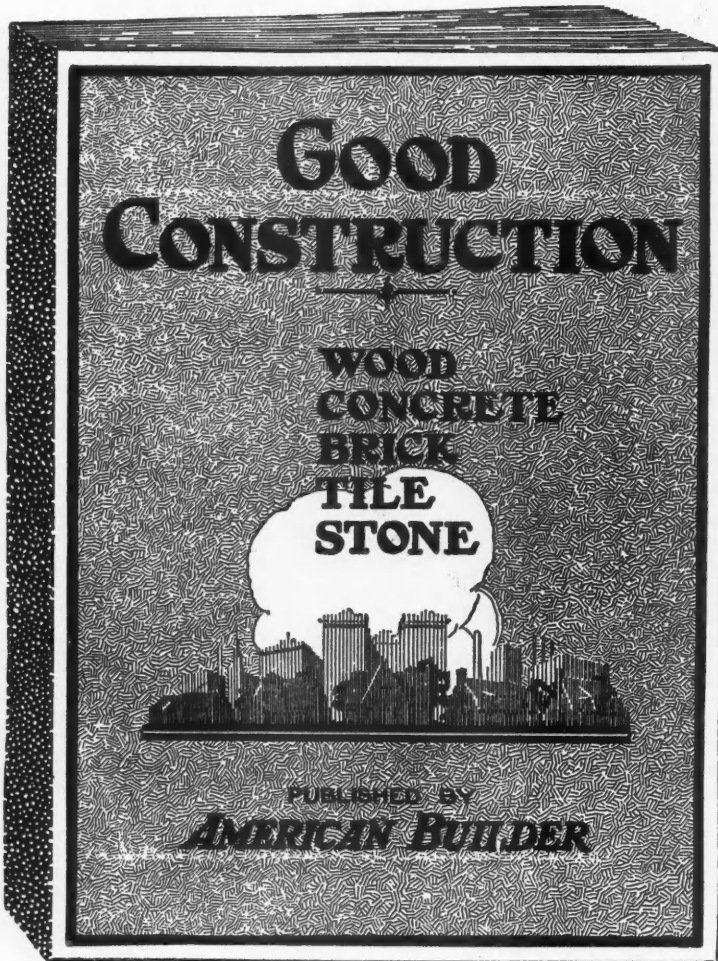
Representatives
in
Principal Cities



If in Canada, address
Branch office
Waterloo, Ontario

Another Useful Book GIVEN WITH **American Builder**

Send Your New or Renewal Subscription Now!



160 pages—size 8 $\frac{3}{8}$ x11 $\frac{3}{8}$ inches

Send This Coupon for Your Copy—Now!

THE AMERICAN BUILDER

1827 Prairie Ave., Chicago, Ill. _____ 1928

Enclosed find \$2.00 for which **Enter** my subscription to
Renew The American Builder for one year and send me free and
postpaid, a copy of your book "Good Construction."

AB-11-28

NAME _____

STREET OR
BOX No. _____

P. O. _____

STATE _____

My occupation is (Check only one)

Dealer Builder Architect Real Estate Miscellaneous

GOOD CONSTRUCTION

One of our latest books of clearly drawn plates and descriptive text—covering recommended construction in Wood, Concrete, Brick, Tile and Stone for residential and other construction.

This book will be of great help to every practical builder. Limited space prevents a complete summary of the contents, but some of the more important subjects covered are:

Details of Home Building—Basement windows; The outer doorway; Window treatment; Roof lines; The living porch; The fireplace; The house stairs; The kitchen; The Gambrel and other roofs; Below the floors.

Elements of Structure—Concrete, masonry and stucco; Values in siding; Stuccoed walls; Brick veneer; Hollow tile; The brick house; The stone house; Thatched roofs; Slate and stone roofs.

There are **SIX FULL PAGE PLATES** detailing the recommendations of The National Lumber Manufacturers Association for standard mill construction.

Other chapters deal with Floors of various kinds; Wallboard; Hardware; Electrical and gas equipment; House insulation and its relation to the heating problem; Fire-safe chimneys; The cause and cure for efflorescence; Quick hardening concrete; Plastering, including lime plastering, gypsum plasters and their application on various types; Framing for Stucco construction; recommendations for proper stucco application and Correct heating principles.

How to Get Your Copy

You may have a copy of this big useful book—"GOOD CONSTRUCTION"—Absolutely Without Cost, with a subscription to American Builder at the regular price of \$2.00 a year.

The subscription may be your own or for a friend—It can be new, renewal or an extension of a subscription already on your list. (We will add the new subscription to the old one.)

In all cases, the subscription must be sent direct to American Builder by mail and accompanied by check, money order or currency for \$2.00. If sent in any other manner—the subscription will not entitle sender to the free book.

*Offer good in U. S. and Canada.
Add \$2.00 to Foreign Countries.*

SANITAS

MODERN
WALL COVERING



Sanitas covered walls make quicker sales

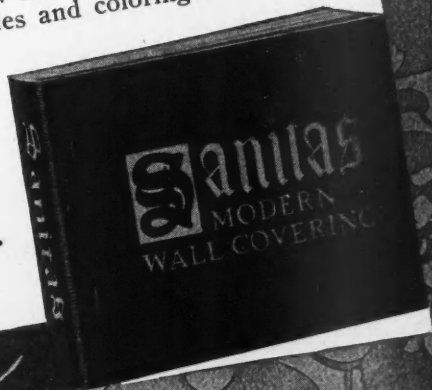
It is that something extra—that something different that brings many a sale to a close.

Builders and developers have learned that women particularly respond to the appeal of Sanitas from both the beauty and utility viewpoints. Instead of showing homes with plain walls, show them decorated with Sanitas, the nationally known fabric wall covering, available in styles for every room in the house.

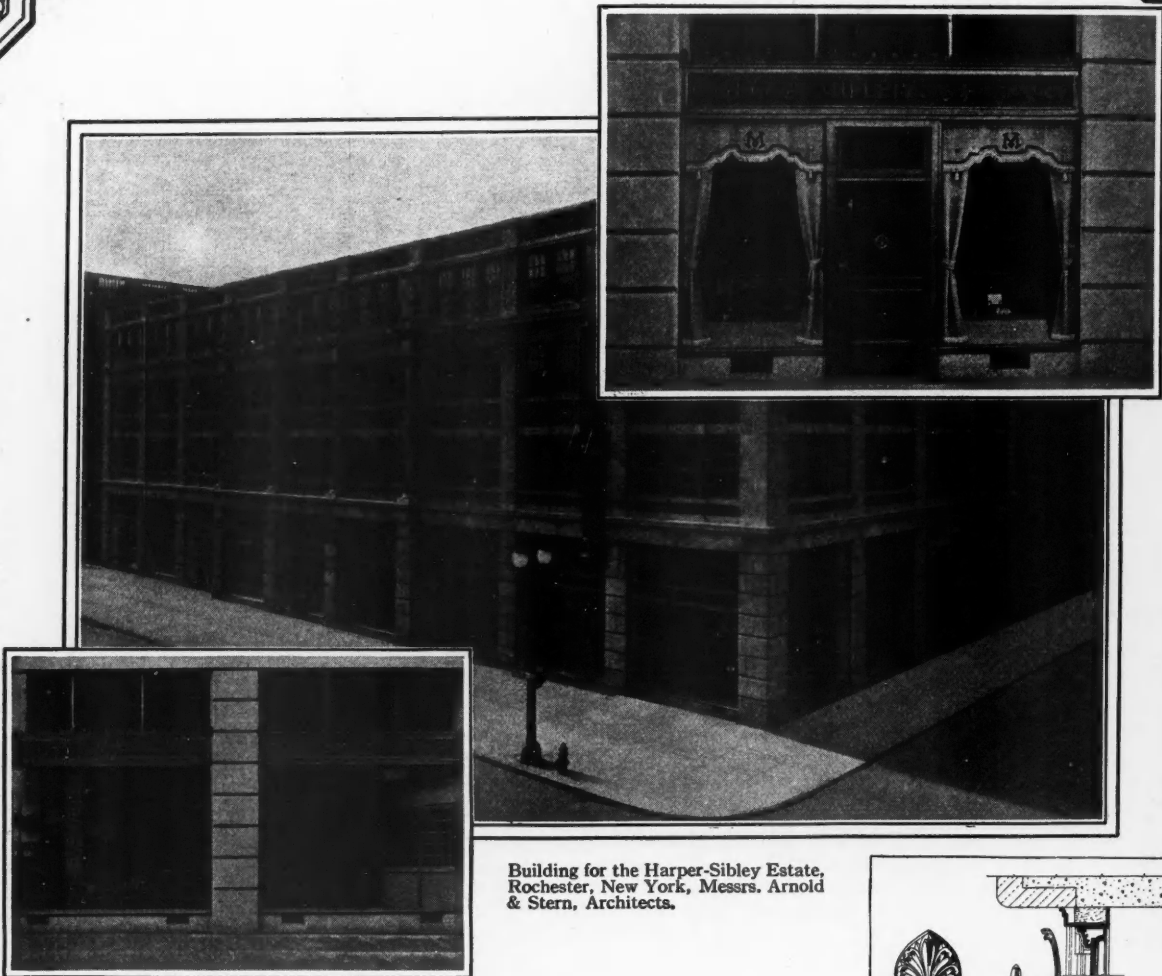
You can hang Sanitas as soon as the plaster is dry—don't worry about cracks developing—they will not break through the surface of Sanitas. If you prefer to decorate to suit the buyer, show the Sanitas sample book, and let the purchaser have his choice of styles and colorings.

Free Sample Book sent to any builder or developer. Write on your letterhead—the book is not intended for general distribution. Mention your wholesaler's name, please.

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



Send for this Sample Book



Building for the Harper-Sibley Estate, Rochester, New York, Messrs. Arnold & Stern, Architects.

Store Front Bronze

These pictures tell the story of what can be readily accomplished with our standard sections of Extruded and cast bronze, ready for immediate delivery. The glazing section is constructed so that no screws are visible in face moulding.

Optional treatments are offered at the horizontal and vertical corners — forged profile caps — Extruded plinth blocks or hair line miters.

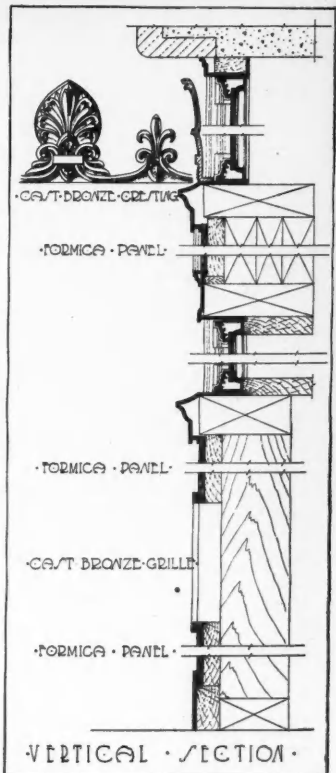
Make certain you have our detail sheets of Extruded and cast bronze sections.

Modern Bronze Store Front Co.

ASSOCIATED COMPANIES:

INTERNATIONAL	ZOURI DRAWN METALS COMPANY INTERNATIONAL STORE FRONT COMPANY STANDARD STORE FRONT CONSTRUCTION CO. MODERN BRONZE STORE FRONT CO. ZOURI COMPANY OF CALIFORNIA ZOURI DRAWN METALS CO., OF NEW YORK, INC.	DISTRIBUTION
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Factory and General Offices: Chicago Heights, Illinois



BLACK & DECKER

ELECTRIC TOOL CHESTS



ELECTRICIANS, Plumbers, Carpenters;—Contractors in any branch of industry where holes must be drilled have found it necessary to supplant their old style hand tools with modern electric tools.

Heretofore the famous *Black & Decker* Portable Electric Drills, "With the Pistol Grip and Trigger Switch", have been sold individually. For your

We will be glad to send you literature describing these Electric Tool Chests in detail if you will merely drop us a line.

convenience we now offer several complete outfits, packed in handy Tool Chests. These Electric Tool Chests contain a *Black & Decker* Portable Electric Drill and an assortment of drill bits, auger bits and hole saws, which enable you to drill holes from 1/4" to 3 1/2" in diameter. These Electric Tool Chests are reasonably priced and no mechanic who has to "go out on jobs" can afford to be without one.

BLACK & DECKER

Toronto, Ontario, Canada

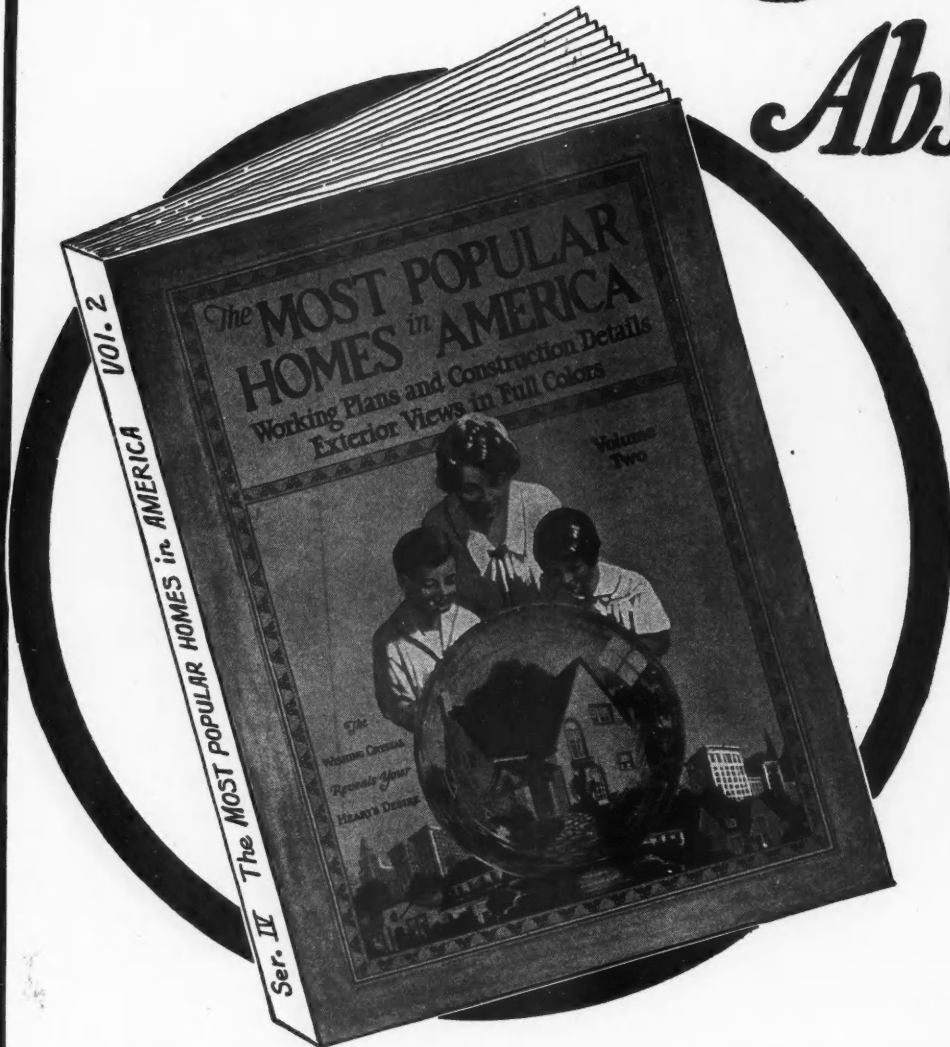
TOWSON, MD., U. S. A.

Slough, Bucks, England

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

You Get This Big New Book

Absolutely Free!



“Most Popular Homes In America —VOLUME TWO”

is a companion book to *Volume One*, which has had a phenomenal sale in the past year. *Volume One* has been repeatedly called the most beautiful and useful home design book ever printed.

The new book, “*Volume Two*”, is even more beautiful in appearance and contains 20 more full color plates than *Volume One*. If you already have *Volume One*, you will certainly be delighted with *Volume Two*.

We have on hand only a limited number of this new book—they are going rapidly. If you want yours, send for it now, *today*, before the supply is exhausted.

15 Sets of Complete Building Plans

FIFTEEN of the home designs in this wonderful book have complete working drawings, scale one-eighth inch and larger. You can build direct from these drawings, thus giving you an architectural service worth a neat sum of money, yet we include them in this wonderful book and send it to you absolutely free of cost.

These working drawings are only one of the many valuable features of this remarkable book. In addition, there are *Twenty Pages* of designs printed in four colors. Many pages of high-class half-tones reproduce actual photographs of beautiful interiors, furnishings, modern home conveniences, etc., etc.

Clip and Mail This Coupon—NOW!

THE AMERICAN BUILDER
1827 Prairie Avenue, Chicago, Ill.,.....1928

A.B.-11-28

Enclosed find \$2.00 for which ENTER RENEW my subscription to The American Builder for one year and send me free and postpaid a copy of your book “MOST POPULAR HOMES IN AMERICA”—Vol. 2.

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My occupation is (Check Only One)
 Dealer Builder Architect Real Estate Miscellaneous

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This useful and handsome book will be sent you Free and Postpaid with a new or renewal subscription to “*American Builder*” at the regular subscription rate, \$2.00 for one year. \$2.00 pays for the subscription—the book is a gift.

The subscription may be new or renewal, or it can be an extension of present subscription, but in all cases must be sent direct to “*American Builder*” and be accompanied by check, money order or currency for \$2.00. Subscriptions sent in any other way will not entitle sender to free book.

OFFER GOOD IN U. S. AND CANADA
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The occupants of the house insulated with
INSULITE *dread no sort of weather*

MORE and more home builders are realizing that the house insulated with INSULITE dares all kinds of weather.

Less fuel consumed—much less heating expense—yet the occupants are cozy when it's coldest outdoors.

And cooler on the hottest days.

Such invaluable results—besides helping to deaden sound, minimize dampness, etc.—INSULITE brings without fail.

These are wonderful points to stress in making house sales.

As sheathing—plaster base—wall board—this double-purpose material (structural and insulation in one) is an investment that no builder can afford to overlook.

Write for samples and descriptive booklets. Let our engineering department help you on any insulating problem you may have.

THE INSULITE COMPANY
 1202 Builders Exchange Minneapolis, Minn.

Spring



Fall



INSULITE
the Wood-Fiber Insulating Board

THE INSULITE CO., 1202 Builders Exchange
 Dept. No. 3, Minneapolis, Minn.

Please send INSULITE samples and descriptive booklets.

Name.....

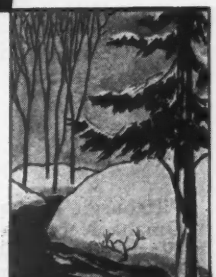
Address.....

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

Summer



Winter



“As Good As Good Looking”



The Realization of Anticipation



Ambler Asbestos Shingles

Made by the **AMBLER ASBESTOS COMPANY**, at Asbestos, Penna., and sold by the

**ASBESTOS
SHINGLE, SLATE & SHEATHING CO.**
FACTORIES—AMBLER, PA., ST. LOUIS, MO.

Pittsburgh, Penna.
Omaha, Nebraska
Washington, D. C.
Wilkes-Barre, Penna.

Boston, Mass.
Buffalo, N. Y.
Chicago, Ill.

New York, N. Y.
Philadelphia, Penna.
St. Louis, Mo.

Cleveland, Ohio
Milwaukee, Wis.
Detroit, Mich.
Minneapolis, Minn.

The above photograph of a suburban home shows the definite charm and distinctive effect produced by this sturdy asbestos fire-proof shingle, known as—

English Thatch

The shingles come in random widths and when applied in irregular courses the heavy ragged butts and rough surface produce a texture roof that cannot be duplicated with any other material, they completely fulfill the owners' and architects' desire for a *serviceable, fireproof and artistic* roof.

They are made in a variety of non-fading colors: Green, Red, Brown, Gray, etc.

First of all, Tapered Amber Asbestos Shingles have the taper of the old wooden shingles. They are $\frac{1}{8}$ in. thick at the upper end, $\frac{1}{2}$ in. at butt and 20 in. long. They are strong, rigid shingles, not paper or rag felt, never curl or warp, not affected by zero blasts of winter, the heavy rains of spring and the blazing heat of summer year in and year out, for they are made of Asbestos and Hydraulic Cement—Nature's imperishable materials.

FIRE-PROOF

Tapered Ambler Asbestos Shingles are fireproof, not merely "fire resistant." Ask your fire insurance agent what the difference is, he will tell you and show you the saving in rates—a matter of serious consideration over a term of years and years. It will pay you to write us now for complete information covering these superior shingles.

THIS KIND OF ADVERTISING HELPS YOU SELL HOUSES

This is an inviting room. The wide-open fireplace seems built for use on winter nights. And the warmly glowing floor of oak provides a rich foreground.



TO THE WOMAN WITH DREAMS OF A NEW HOME IN HER HEAD

Whether you buy . . . build . . . or rent . . . insist on OAK FLOORS

They are a true index of all-round value

OAK FLOORS in a house mean that the builder wanted to put in the best floors possible—and it is reasonable to assume that the entire house was built just as conscientiously. Such a house is not only more livable, but it is apt to be a better investment—if you are buying or building. Should you ever decide to sell, oak floors will add hundreds of extra dollars to the price. Houses with oak floors bring better rents too.

And any woman knows that oak floors make all the difference in the comfort and livability of a home. Easy to keep clean and gleaming. Smooth, dust-proof and quiet. Floors you'll always be proud of. For floors of oak, like

fine old furniture, only grow more beautiful with age.

Higher-priced houses invariably have oak floors, yet oak floors are so inexpensive that every well-built house, regardless of price, can have them. They add value and beauty out of all proportion to their moderate cost. You can lay them for less than lots of perishable floor coverings, even—and they cost little more than softer woods.

Perhaps you own a home that doesn't have oak floors. Why not put them in this season? Ask your architect, contractor or retail lumber dealer to give you an estimate. You'll be surprised how low it is. Much less, for

example, than average grade carpets cost. And the oak floors can be put down over your present floors, room by room, in just a few days.

Oak floors lend themselves to any type of floor covering. They are always correct, whatever the decorative style. And never do you grow tired of friendly, polished oak beneath your feet.

Let us send you literature and special advice on any flooring problem. This advertisement is published by the OAK FLOORING BUREAU, 1232 Builders' Building, Chicago. A non-profit bureau maintained by the oak flooring industry for the benefit of home owners and builders.



This advertisement appears in full color in "Good Housekeeping," and in black and white in "The Literary Digest" and other publications.

— Choose a house with OAK FLOORS . . . upstairs and down —

TIE in to this advertising. It is reaching your own customers month after month, increasing the selling value of OAK FLOORING.

"Oak floors upstairs and down" are a recognized aid to quicker sales—to greater profits. And lumber dealers are glad to co-operate with builders in selecting the proper oak floor for any construction job, to show the *greatest* profit.

You will find, also, the technical staff of the OAK FLOORING BUREAU always at your service in helping you with any flooring problems.

OAK FLOORING BUREAU
1238 BUILDERS' BUILDING
CHICAGO, ILL.



Rooms
like these

bring higher prices

for houses . . .

HOME buyers of today want color, beauty, distinctiveness in their interiors. In the interiors pictured



here note what Ceramic Tiles—real tiles—have done.

An ordinary bathroom achieves cheerful distinctiveness with the beautiful coloring of daintily checked Ceramic Tiles.

A kitchen with white Ceramic Tile floor and walls is as attractively clean as the most spick-and-span hospital.

And in the living room, a soft warm colored floor laid with Ceramic Tiles melts into the other colors of the room to complete a perfect and distinctive decorative scheme.

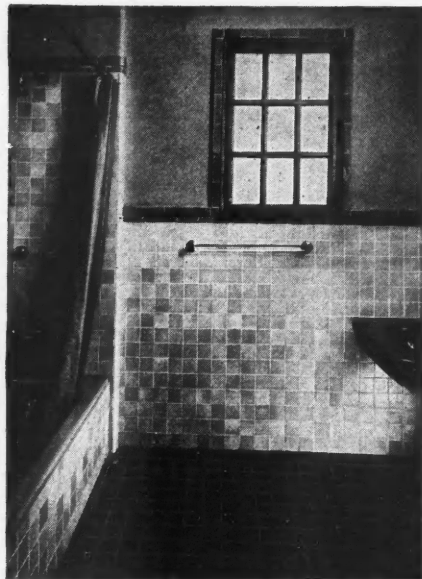
Houses so planned sell quickly. They bring higher prices, too. For Ceramic Tiles—real tiles—spell out class and quality in big capital letters to the buyer. They know that you are offering a house which is built to last for years. A distinctive home which everyone could not own



and of which they can be lastingly proud.

Use colorful Ceramic Tiles more in the homes you build and increase the sales value of your offerings. The added expense of using Ceramic Tiles is very little. And you get back the slight difference in cost between Ceramic Tiles and other materials by the quicker sale and higher sales price they secure for you.

Consult your local contractor for patterns, colors and finishes.



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.

ASSOCIATED TILE MANUFACTURERS, INC. 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

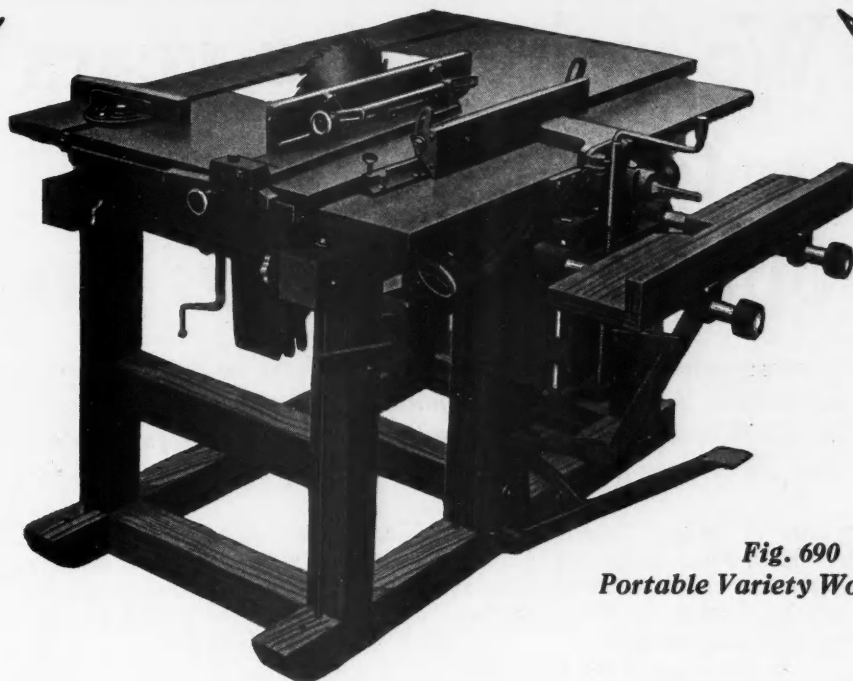


Fig. 690
Portable Variety Woodworker

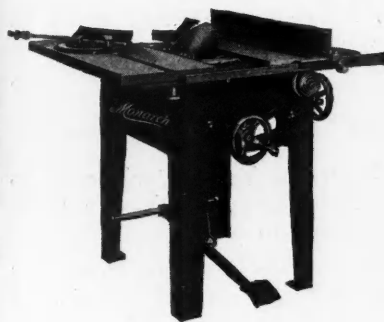
You Can Do 4 Jobs AT ONCE On this Compact, Labor-saving Machine!

HERE'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.*

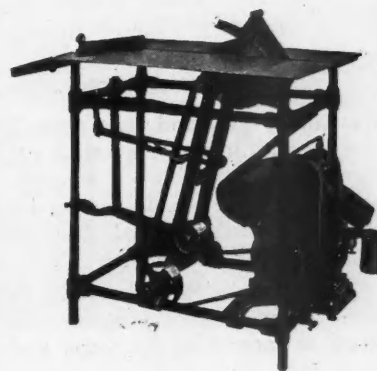
A Rip Saw, a Cut-off Saw, a Mitre Saw, a Dado Machine, a Gaining Machine, a Grooving Machine, a Rabbetting Machine, a Tenoning Machine, a Jointer or Planer, a Boring Machine, a Matcher, a Molder, a Sander, a Hollow Chisel Mortiser.

—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.



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.



AMERICAN SAW MILL MACHINERY CO.

60 Main St., Hackettstown, N. J.

Manufacturers of a complete line of Woodworking and Saw Mill Machinery

We waited two years to tell America about this grainless wood!

Possesses remarkable workability and uniform strength. Very dense and tough. Highly resistive to moisture. Has a very smooth, attractive surface on the face side, and requires no paint for protection. Also takes any finish beautifully. Send for large, free sample.



FOR PANELING

One of the most fascinating chapters in recent industrial history is the story of Masonite Presdwood, the grainless wood board from Laurel, Mississippi.

We have waited two whole years to tell this story; waited until our product had conclusively proved in actual use that it was as good as we knew it to be.

This it has done, and today Masonite Presdwood is efficiently serving mankind in scores of ways.

As a lining for safety-deposit vaults, Presdwood plays a vital part in the automatic alarm system of the modern bank.

The builder of a soaring terminal tower, desiring an exceptionally fine, smooth surface, uses Presdwood—for concrete forms.

A Kansas City baker, wanting to keep his bread and rolls perfectly fresh, packs them in Presdwood boxes.

A Nebraska farmer sits down in the evening to enjoy his new radio, and the tension board in back of the loud speaker is Presdwood.

Down on the lower Mississippi, a steamboat paneled inside and outside with more Presdwood.

Out in Hollywood, Masonite Presdwood again—thousands of feet of it used in making movies.

New uses discovered almost every day

Masonite Presdwood uses range from doll houses to bridges and flumes. Advertising signs along the highways, campers' tables, a safety wheel for swimming pools, barbecue stands, theater props, starch trays for candy manufacturers—all these, and many other things of Masonite Presdwood.

In planing mills and woodworking plants, as in so many other lines of industry, the demand for Presdwood is increasing by leaps and bounds. Breakfast

hooks are made of it; so are kitchen cabinets, china closets and shelving. Not forgetting counters, show cases, display booths, work-bench tops!

Masonite Presdwood is actually a better product than Nature's own material; better in four ways. It is grainless, has greater moisture resistance, is much denser, and is far tougher! Yet it contains no foreign substance, not even a chemical binder. It is genuine wood—and nothing else—wood torn apart and put together again.

Fresh, clean chips are shot from guns at a velocity of about 4,000 feet per second. The long fibres thus produced are packed into hydraulic flat bed presses, and subjected to hundreds of tons of pressure. This super-tough and sturdy material, entirely free from knots and other defects, is then cut by automatic machines into boards four feet wide and twelve feet long.

Advantages of Masonite Presdwood

Masonite Presdwood won't crack, check, split or splinter. It is highly resistive to wear and moisture, and shows minimum contraction and expansion.

It can be used on any woodworking machinery: planer, sander, shaper; and because it contains no grit or foreign substance it does not damage tools.

Comes in convenient size—four feet wide by twelve feet long. Requires no paint for protection. Yet takes any finish: lacquer, paint, stain or varnish.

Why not experiment with Masonite Presdwood yourself? Large free sample will be forwarded promptly on request. Send for it today.

MASONITE CORPORATION

Sales Offices: Dept. 111, 111 W. Washington Street
Chicago, Illinois



TILE FOR BATHROOMS

FOR RADIO CABINETS



© 1928, M. F. Co.

Mills: Laurel, Mississippi

Masonite PRESDWOOD

Made by the makers of
MASONITE STRUCTURAL INSULATION

FOR BUILDING BOATS





YOURS for the ASKING

EMiller

IT is not within our province to plan a home. But we have studied kitchens and kitchen procedure for many years. We've developed workable and advanced ideas on kitchen design which greatly increase sales and rental value of homes and apartments. Feel free to ask for them. There's no obligation. Coupon brings facts on our architectural service.

COPPEBROS. & ZOOK, Nappanee, 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, Nappanee, Ind.
 Gentlemen: Please send me full details on your free architectural service.
 I am, [] Architect, [] Contractor, [] Owner.
 [Please check square]. AB-11

Name _____
 Address _____
 City _____
 State _____

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

ADD security with these locks that enhance *Beauty and Convenience*—

SCHLAGE

B-100 Cylinder SPRING LATCH

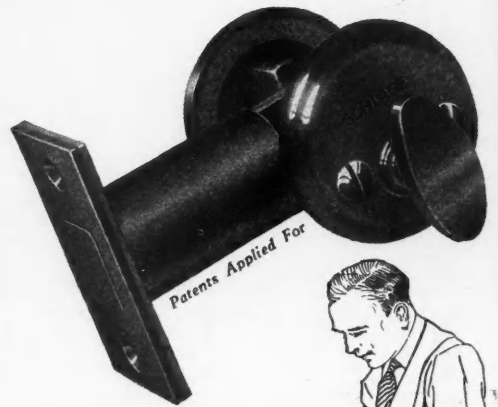
A new type SPRING LATCH affording added security, attractive appearance, and unsurpassed convenience. Because of its simplicity and compactness it will be welcomed where a bulky rim latch will not do. So moderate in price that it will be preferred to a rim latch and purchased where the cost of higher priced mortise latches would be objectionable. Working parts concealed. Key changes practically unlimited. Master keyed and grand master keyed if desired. Compression coil springs throughout. Handy slide catch for holding back latch. Self-adjusting to all doors 1 1/2 to 2 1/2 inches thick. Reversible for right or left hand doors. Solid brass trim. Standard finishes. Interchangeable with B-300 at any time without altering door.

Concealed



B-300 Cylinder DEAD BOLT

This SCHLAGE auxiliary lock is recommended either for interior or exterior doors where good appearance and greater safety are required. No other lock on the market can compare with B-300 in giving so much protection in such convenient and attractive form at so moderate a cost. Working parts concealed. The bolt deadlocks itself when extended by turning the key outside or the small metal thumb piece inside. Key changes practically unlimited. Master keyed and grand master keyed to meet any requirements. Self-adjusting to all doors 1 1/2 to 2 1/2 inches thick. Fits either right or left hand doors. Solid brass trim. Standard finishes. Can be interchanged with B-100 at any time without altering door.



SCHLAGE LOCK CO., Mfrs.
Executive Offices and Factory
SAN FRANCISCO, CALIF.

Branches in
NEW YORK CITY—71 Murray St.
CHICAGO—549 W. Randolph St.
PHILADELPHIA—2401 Chestnut St.
DETROIT—439 Penobscot Building
BOSTON—11 Beacon Street
WASHINGTON—410 Bond Building

Mail this Coupon for Bulletin

SCHLAGE LOCK CO., SAN FRANCISCO, CALIF.

Gentlemen:—Please send us prices and complete information on the AB-11 types of SCHLAGE Locks we have checked below:

Spring Latch..... Dead Bolt..... Button Locks.....

Name

Address

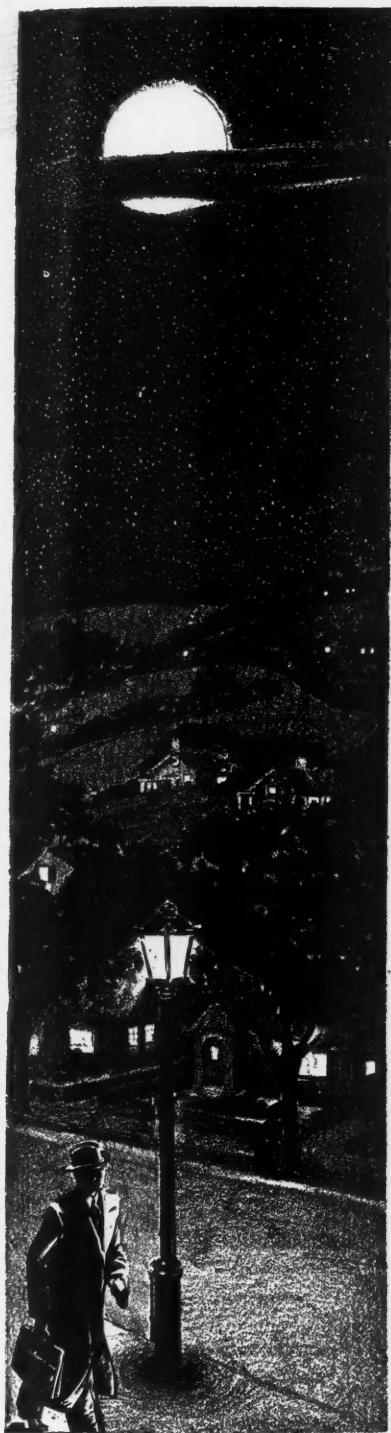
City

State..... Business.....



Any one can install a SCHLAGE SPRING LATCH or SCHLAGE DEAD BOLT in a few minutes. Simply drill 2 holes, slip in latch or bolt, draw up on 2 machine screws, and fit plate for strike. That's all. No complicated mortising. No laborious assembling. No delicate adjusting.

Manufacturers of **SCHLAGE** Button Locks



~ ~ ~

TONIGHT

~ ~ 2,000 men are working

§

IN MORE than 500 cities from coast to coast factory trained engineers are working far into the night preparing plans for Holland Vaporaire Heating installations. This modern circulating, moist, warm-air system is taking the nation by storm—smashing all existing sales records—exceeding every expectation. People everywhere want summertime in their homes the year round—want the healthful comfort, cleanliness, convenience and economy that Holland Vaporaire Heating alone guarantees them by iron-clad written bond. And tonight more than 2,000 Holland experts are busy—hurrying along silent streets from one job to another—to meet this avalanche of demand. Holland Vaporaire Heating is the strongest salepoint you can put in the basements of the homes you build. Buyers know that heating service means more than just buying furnace castings—that only Holland is equipped to give complete heating engineering service and actually plan and supervise every installation to meet the individual needs of the home to be served. In more ways than one, Holland helps hundreds of successful builders sell their homes and increase their profits. We can do the same for you—now. Get the facts. Have a Holland man call. Let us explain how Holland actively cooperates with builders.

For address of nearest branch  look in your telephone book

HOLLAND Vaporaire HEATING

HOLLAND FURNACES MAKE WARM FRIENDS

Manufactured, installed, serviced and guaranteed by the Holland Furnace Company, Holland, Michigan—operating three large factories at Holland, Michigan; Bethlehem, Pennsylvania; and Cedar Rapids, Iowa.

World's largest installers of home-heating systems

HOLLAND FURNACE COMPANY, HOLLAND, MICHIGAN	
<small>Without obligation on my part, please</small>	
<input type="checkbox"/> Have a Holland man call	<input type="checkbox"/> Send me literature
Name _____	Address _____
City _____	State _____ AB-1

525 direct factory branches and service stations

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



HOW EASY NOW TO IDENTIFY CHASE BUILDING PRODUCTS

This new, distinctive mark of the Chase Brass and Copper Co., is the new mark of an old firm that you know well.

Easily and instantly this new Chase-mark identifies Chase Copper Gutters and Downspouts, Chase Bronze and Copper Screen Cloth, and the Chase line of plumbing supplies.

You've known all along that Chase Brass and Copper Products are good products. You've liked to work with them because the finished job always added to your prestige.

You've learned, too, that when it's a matter of quick delivery, you can depend on Chase service. Thirteen Chase warehouses throughout the country mean that there's a Chase warehouse near you. Order from any one of them or through them from the factories and mills of the Chase Companies, Inc., Waterbury, Connecticut.

Look for the new Chase-mark—the sign of a *dependable* product.

CHASE BRASS AND COPPER CO.
INCORPORATED

WATERBURY,  CONNECTICUT

New York • Boston • Newark • Philadelphia • Baltimore • Cincinnati • Cleveland
Detroit • Chicago • St. Louis • New Orleans • Los Angeles • San Francisco

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE



The True BUY-WORD in Wallboard

TO the wise judgment of the builder, we submit these plain facts—facts which have made Sheetrock the Buy-Word in Wallboard.

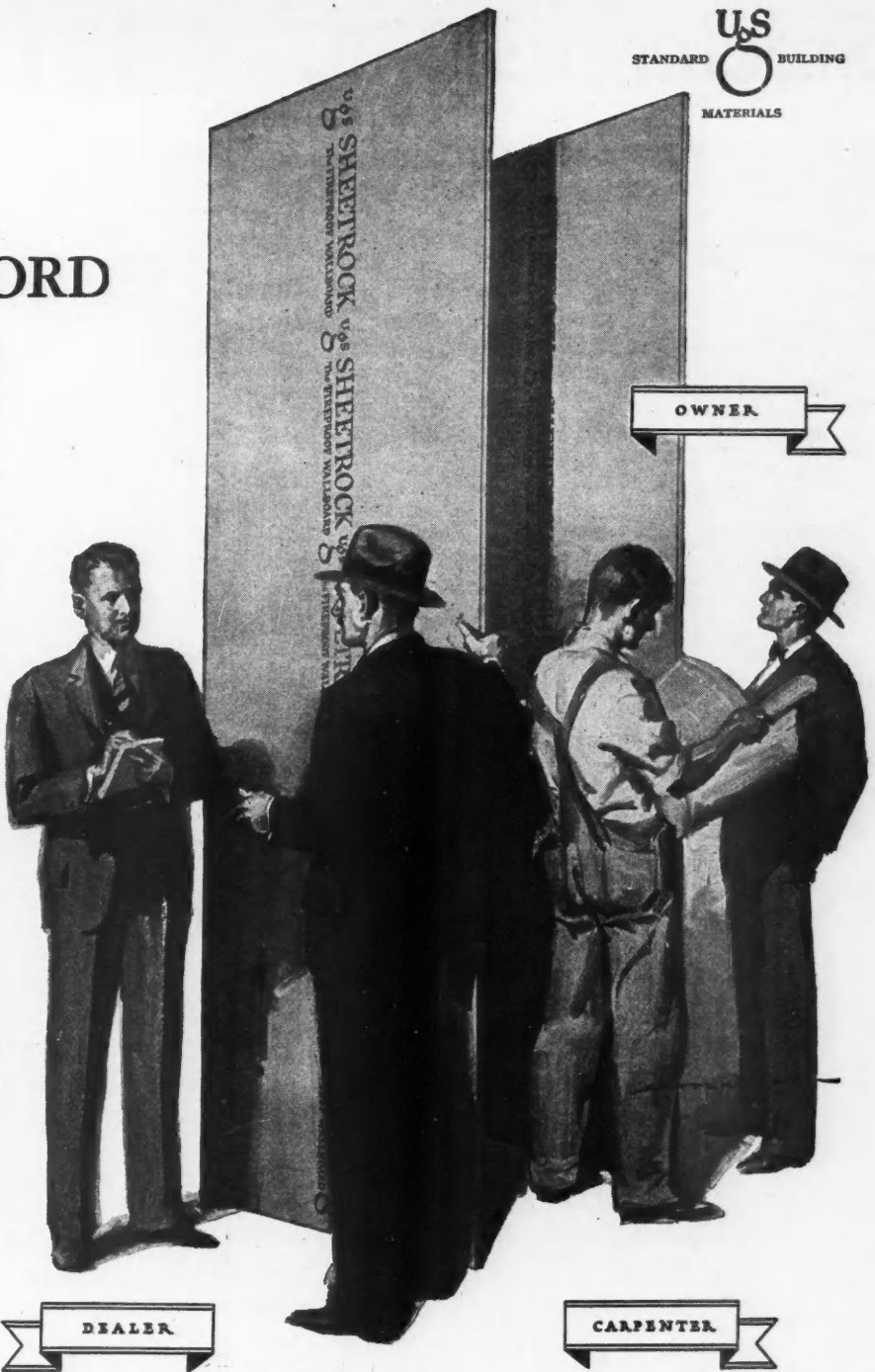
Sheetrock is a strong and rigid structural material which does not warp. It provides a smooth, durable surface. Its core of processed gypsum is fireproof and vermin-proof. It resists heat and cold.

It comes to you all ready for use, with the USG patented folded edge for extra nailing strength. It has the exclusive joint reinforcement which seals and conceals all joints. It provides a smooth, even surface for any decoration such as wallpaper or Textone, the plastic paint.

It is easily and quickly obtainable, sold by nearly every dealer in building supplies or lumber. In buying Sheetrock you have the satisfaction of using a standard material recognized as such by dealer, contractor, carpenter and property owner.

Remember the name Sheetrock as the buy-word in wallboard. Send for the facts, use the coupon.

Sheetrock comes in standard sizes 3/8 in. thick, 32 or 48 inches wide, 6 to 10 feet long



DEALER

CARPENTER

CONTRACTOR

OWNER

UNITED STATES GYPSUM COMPANY

General Offices: Dept. 1, 300 West Adams Street, Chicago, Ill.

SHEETROCK

FIREPROOF . . . INSULATING

Reg. U. S. Pat. Off.

Made only by the United States Gypsum Company

..... **CLIP AND MAIL THIS COUPON TODAY!**

UNITED STATES GYPSUM COMPANY, General Offices: Dept. 1, 300 W. Adams St., Chicago, Ill.

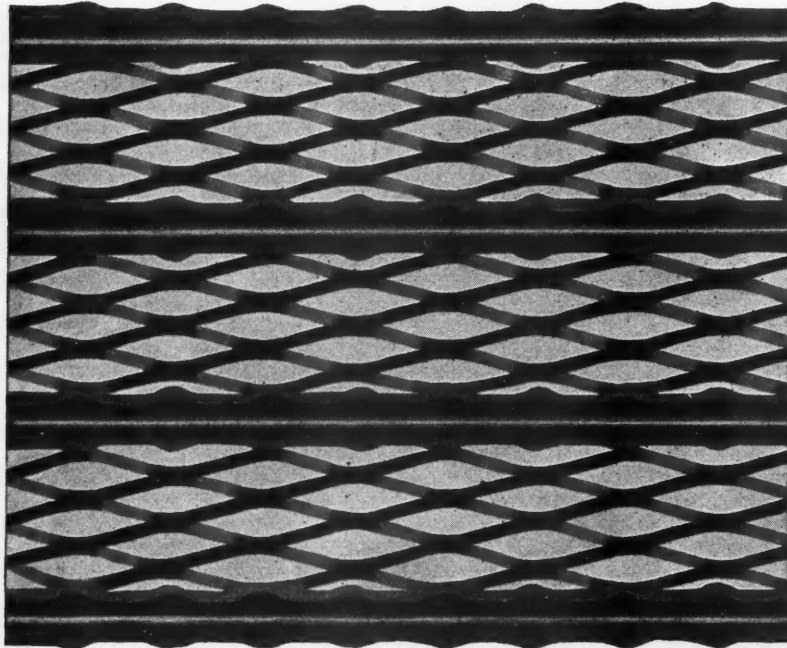
Please send me your data on the Sheetrock Reinforced Joint System and other special information on Sheetrock.

Name.....

Address.....

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Steelcrete Diamond Flat Rib Lath



*The ribs
make it rigid*



The Diamonds Make it a Positive Mechanical Bond!

STEELCRETE Diamond Flat Rib Lath cuts plaster costs, reduces application costs—all because it is a combination of two distinct laths, each recognized for special merit.

The Diamonds insure a positive mechanical bond. The Ribs provide additional strength, acting as a guide for the plasterer and assisting rapid, efficient plastering. Also as stops to

prevent plaster squeezing through in wasteful quantities.

You will find it profitable to use Steelcrete Diamond Flat Rib Lath, easy to erect, costs less per square yard to plaster. Sheets are fully expanded from corner to corner. Size 24" x 96". Packed 9 sheets to the bundle, 16 square yards. Weight painted 3.4 lbs. per square yard.

Let us send you samples, prices and complete information. Write us today.

The Consolidated Expanded Metal Companies

Steelcrete Building, Wheeling, West Va.

Atlanta Boston Cleveland Philadelphia Pittsburgh
Chicago New York Buffalo



Steelcrete Lathers Tie Wire

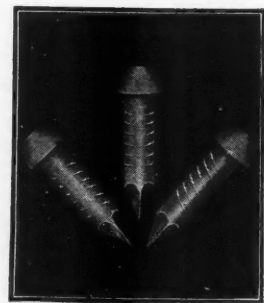
Here is a Tie Wire designed for the Lather. A product of unusual strength, yet soft and pliable for quick and efficient workmanship. Wrapped in sanitary packages, a safeguard to the Lather like sterilized nails. Supplied in hanks 25 lbs. each.



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

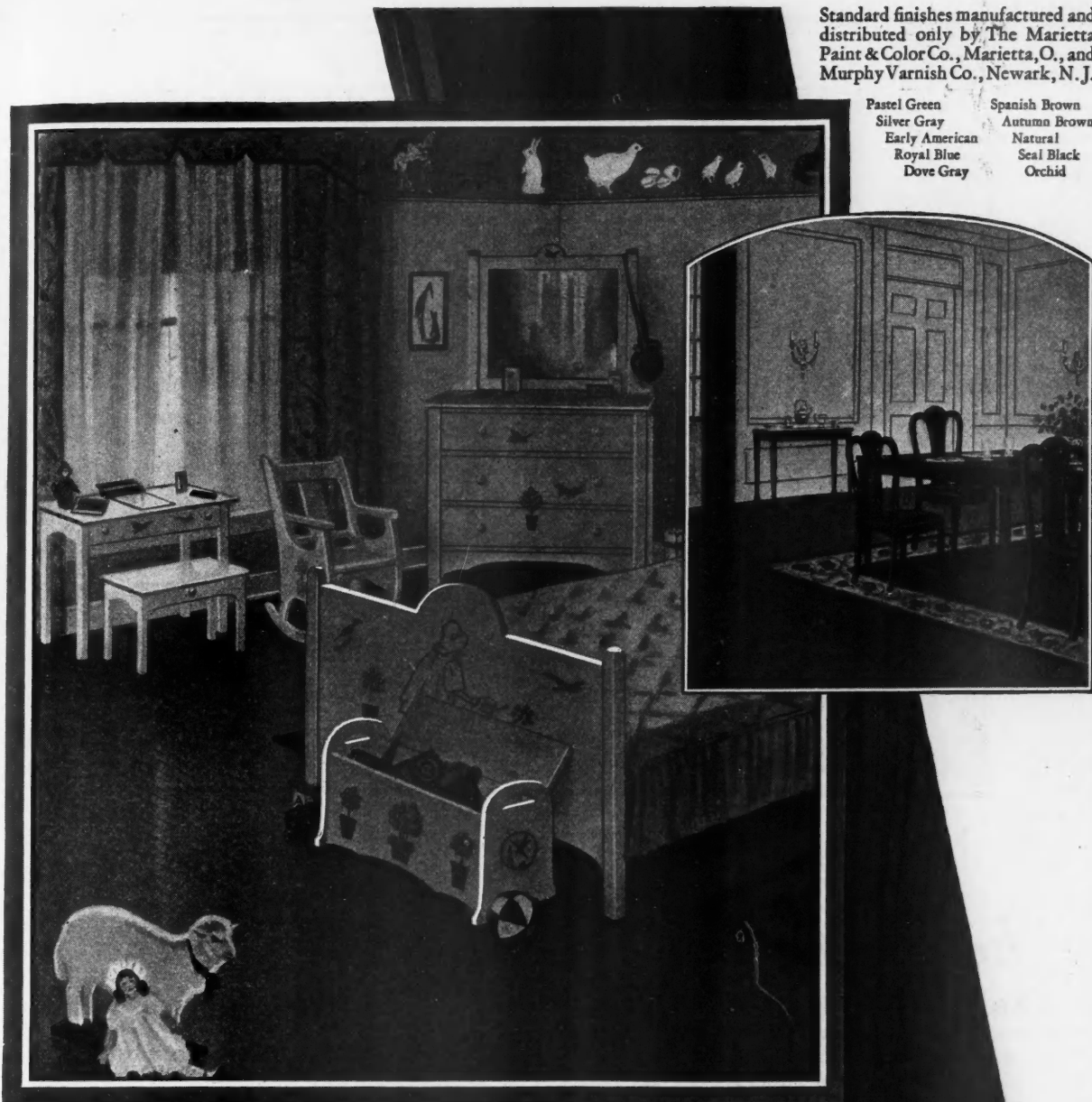


Steelcrete Stub Nails

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.

Standard finishes manufactured and distributed only by The Marietta Paint & Color Co., Marietta, O., and Murphy Varnish Co., Newark, N. J.

- | | |
|----------------|---------------|
| Pastel Green | Spanish Brown |
| Silver Gray | Autumn Brown |
| Early American | Natural |
| Royal Blue | Seal Black |
| Dove Gray | Orchid |



Color now added

to the many advantages that floors of Maple bring

The rooms of a home . . . picture them floored in restful blue—soft gray—lovely green—rich, rare ebony! What could be more fitting as the motif for an interior scheme than—a hardwood floor in enduring color?

This is the marvelous new opportunity provided by Northern Hard Maple. With special, fadeless, penetrating stains, which may be applied right in the home, it is now possible to produce permanent colors of one's

choice in this smooth, resilient, durable hardwood flooring.

Supply this element of beautiful color in your floors—and secure, in addition, the many other unique advantages which Northern Hard Maple offers. Our book, "The New Color Enchantment in Hard Maple Floors," shows page after page of the newest colorful interiors.

Let us send you a complimentary copy of this beautiful book.

MAPLE FLOORING MANUFACTURERS ASS'N, 1777 McCormick Bldg., Chicago

Guaranteed Floorings

The letters **MFMA** on Maple, Beech or Birch flooring signify that the flooring is standardized and guaranteed by the Maple Flooring Manufacturers Association, whose members must attain and maintain the highest standards of manufacture and adhere to manufacturing and grading rules which economically conserve these remarkable woods. This trade-mark is **MFMA** for your protection. Look for it on the flooring you use.

Floor with Maple

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Side and end matched to perfection—Maple makes a one-piece floor of lasting beauty.



A Roof of Winthrops helps make this duplex different

Mr. Thomas S. Dennis builds many duplexes of distinction and individuality in Kansas City. The blend of Winthrop Tapered Asphalt Shingles selected for this duplex at 5704 Paseo gives it a roof which is *not* just like any other in the world.

Sixty percent of the Winthrops used here are blue-black, thirty percent are Slatefield Blend—a blend of heather blue, heather green and purple—and ten percent are slate red. This blend of blends makes a pleasing combination with the red brick and tan stucco of the side walls.

Whether you seek harmony or contrast, you can get it pleasingly in any color in Winthrop Tapered Asphalt Shingles. There are twenty colors—solid and blended—all natural, all non-fading, all crushed slate deeply embedded



in the everlasting asphalt that covers the heavy felt core.

Winthrops are the only tapered asphalt shingles with the thick butts to lie close, to double the

wearing thickness where exposure comes and to cast attractive shadow lines.

The house roofed with Winthrops is weather-sealed. It is protected, too, against fire. Winthrops bear the Class C Label of Underwriters' Laboratories.

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.

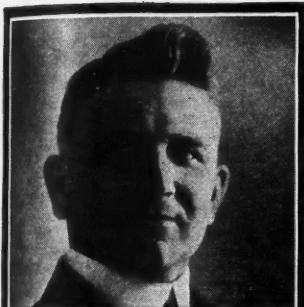
-the Big Butt Shingle
Winthrop
Tapered Asphalt Shingles

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You too can smash

COMPETITION

and win Big Profits
manufacturing DUNTILE



Wm. B. Hillebrand, of Toledo, whose letter tells how he has built a successful manufacturing business without price cutting by showing builders how Duntile cuts labor costs in half.

Competitive price cutting is ruinous to profits and progress. Eliminate competition and success becomes practically assured.

As a contractor, Wm. B. Hillebrand, of Toledo, suffered severely from competition. "I used to wish," he says, "that I could find a material which would go into construction easier and quicker so that by saving on labor costs I could underbid without cutting my profits. As everybody knows, the cost of labor is beyond control. But if you can save labor, you are entirely above competition."

Learned About Duntile

Reading a Duntile advertisement one day, he sent a coupon for the Duntile book, "Basic Facts." Duntile seemed to be just what he was looking for. A building unit which actually showed records of saving as much as 40 to 50% of labor costs in building.

Hillebrand showed his idea to an associate. They came to Holland to investigate Duntile thoroughly at its source. They arranged for their equipment. From the very start, their manufacturing business showed remarkable progress, Hillebrand using as his keynote the ability of Duntile to cut labor costs in building.

Buys Out Partner

Progress was so satisfactory that in eighteen months Hillebrand owned the entire business himself. Today hundreds of Duntile structures in Toledo testify to his success and give an index to his prosperity.

Get the Facts

If you, too, are ambitious to get into manufacturing, if you long to get out of the rut of competitive limitations, learn the complete facts about this manufacturing opportunity which started Hillebrand on the road to success. Send for the book which showed him how to realize on his big idea. Use coupon below. Clip it now.

Duntile working specifications in "Sweet's"

W. E. DUNN MANUFACTURING CO.
415 W. 23rd Street HOLLAND, MICHIGAN

W. E. Dunn Mfg. Co.,
415 W. 23rd St., Holland, Mich.

11-28

- Show me how Duntile makes possible savings as high as 50% in masonry construction labor costs.
- Show me through your book, "Basic Facts" how average ability and limited capital can win manufacturing independence beyond reach of competition in a business showing profits of 30 to 60%.

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

Wm. B. Hillebrand Duntile Co.
MANUFACTURERS OF DUNTILE
TOLEDO, OHIO
PHONE ADAMS 8486

Sept. 25th, 1928.

W. E. Dunn Mfg. Co.,
Holland, Michigan.

Dear Mr. Dunn:

I want to call your attention to the enclosed figures on a job handled here recently. Note the saving in labor and mortar of \$8,000 by using Duntile on this average job. If new Duntile manufacturers would explain this saving in labor costs the way I do, their success would be as rapid as mine.

As everybody knows, the cost of labor is beyond control, nobody can cut that. But if you can save labor, then you are entirely above competition.

When I was a contractor I used to wish I could find a material that would go into construction easier and faster with a saving in labor costs so I could underbid without cutting my usual profit margin, and still give a good job at less cost.

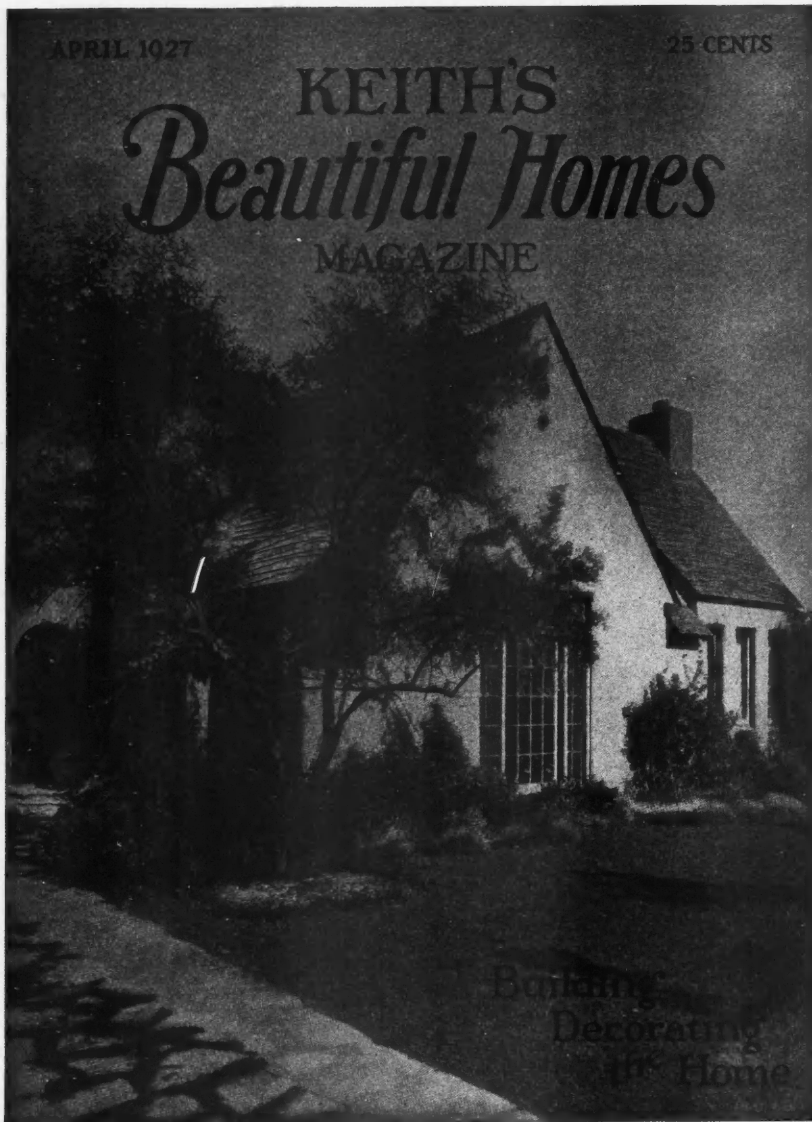
Duntile proved to be the product I was looking for. You know the progress I have made. I firmly believe any Duntile manufacturer can do the same, perhaps, even better, if he features the labor saving which gives those who build with Duntile a whip hand over competition without sacrificing a single penny of profit.

I am going to make a trip to the factory soon to see you about that new Duntex proposition.

Very truly yours,
Wm. B. HILLEBRAND DUNTILE CO.
By *W. B. Hillebrand*

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

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Take advantage of this offer today

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

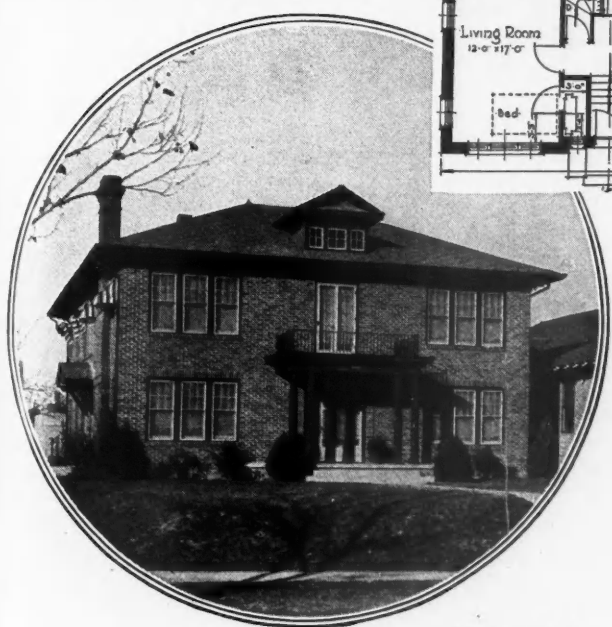
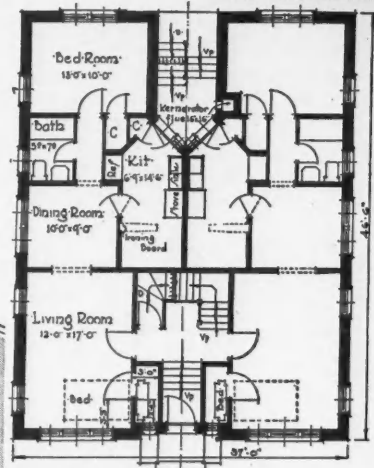
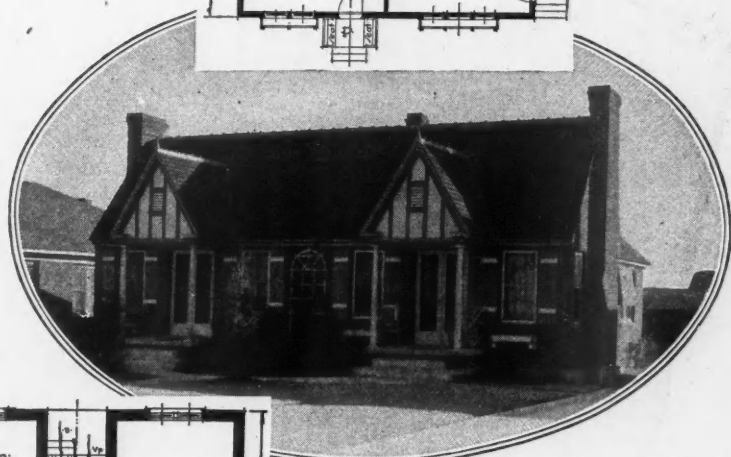
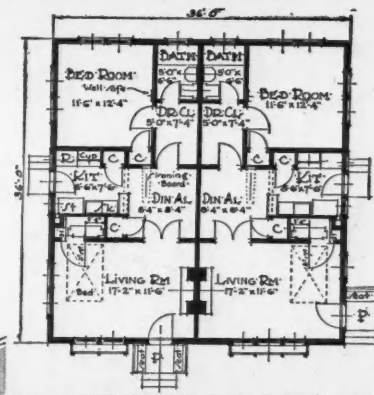
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These buildings are examples of the modern trend in homes, apartments, hotels and



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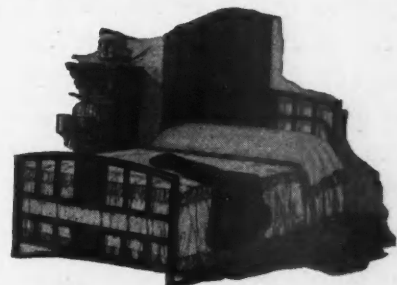
Only the Murphy In-a-Dor Bed will swing, in full size, through the standard three-foot door of its concealing closet—a closet accessible at all times as wardrobe or dressing room.

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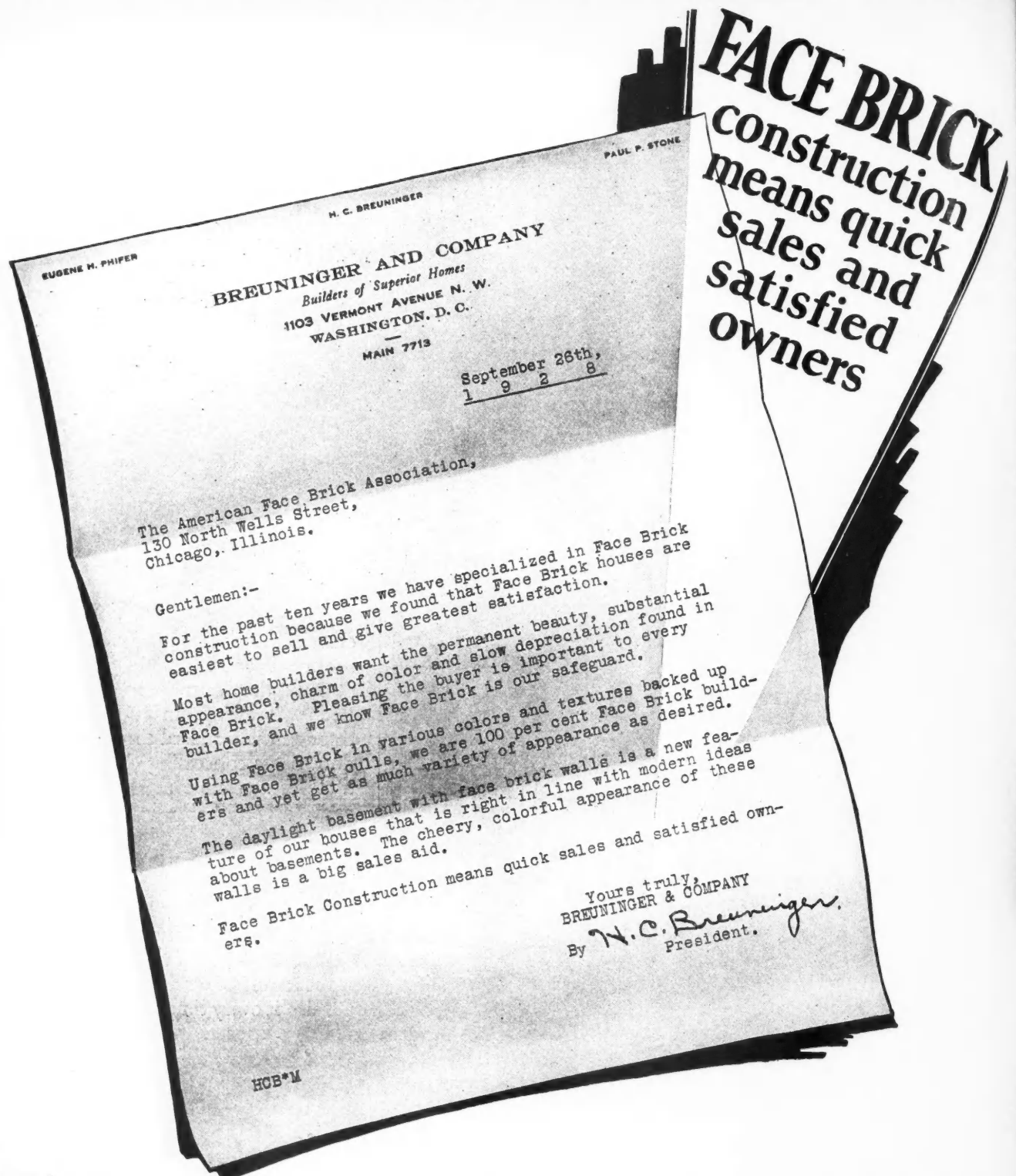
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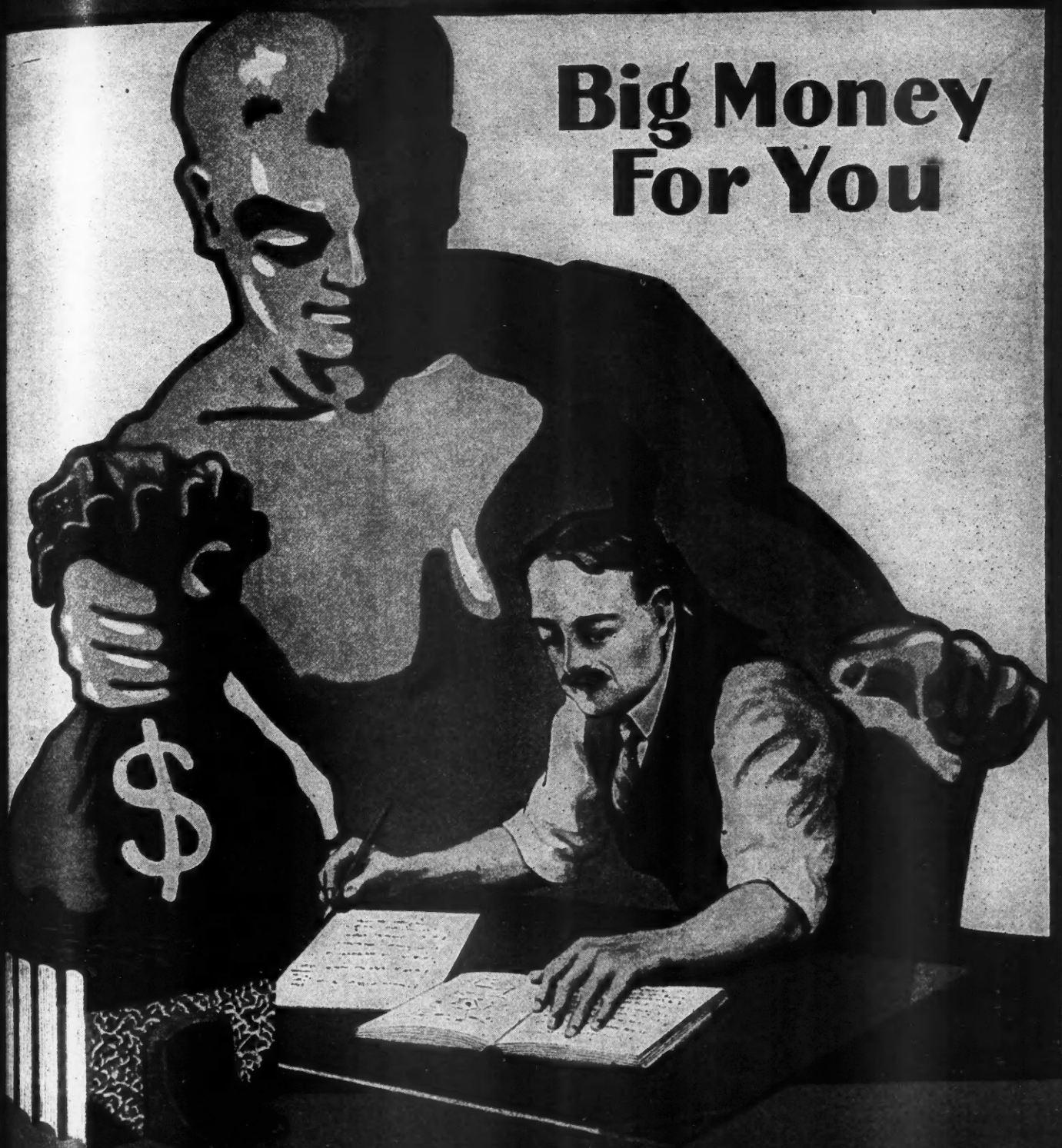
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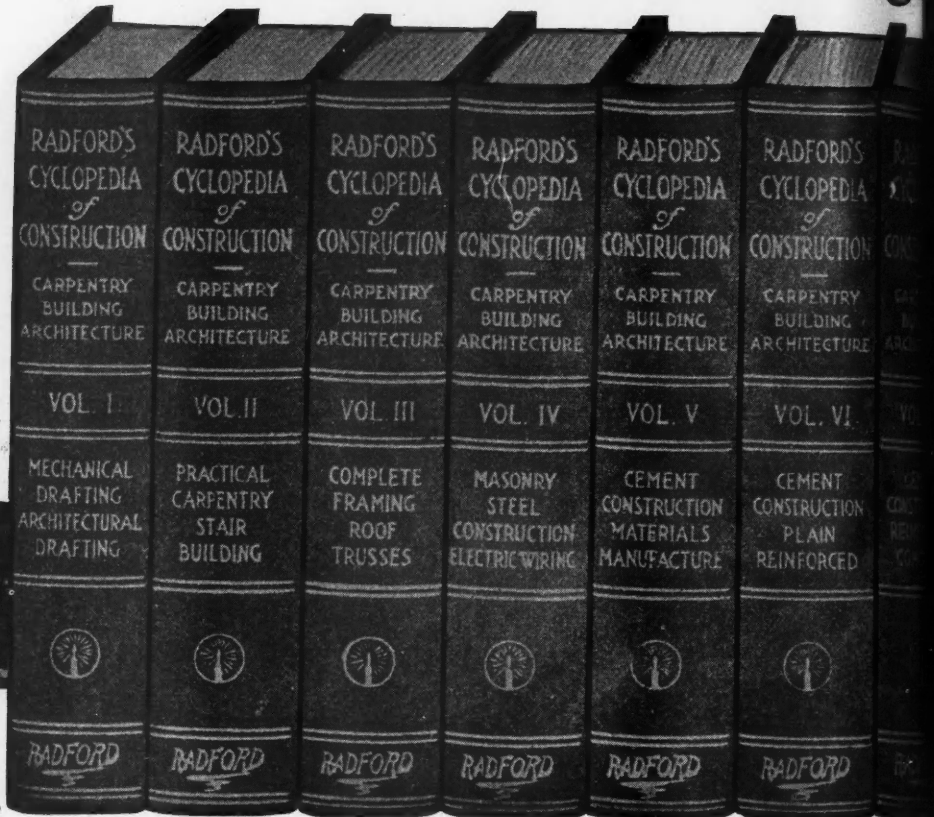
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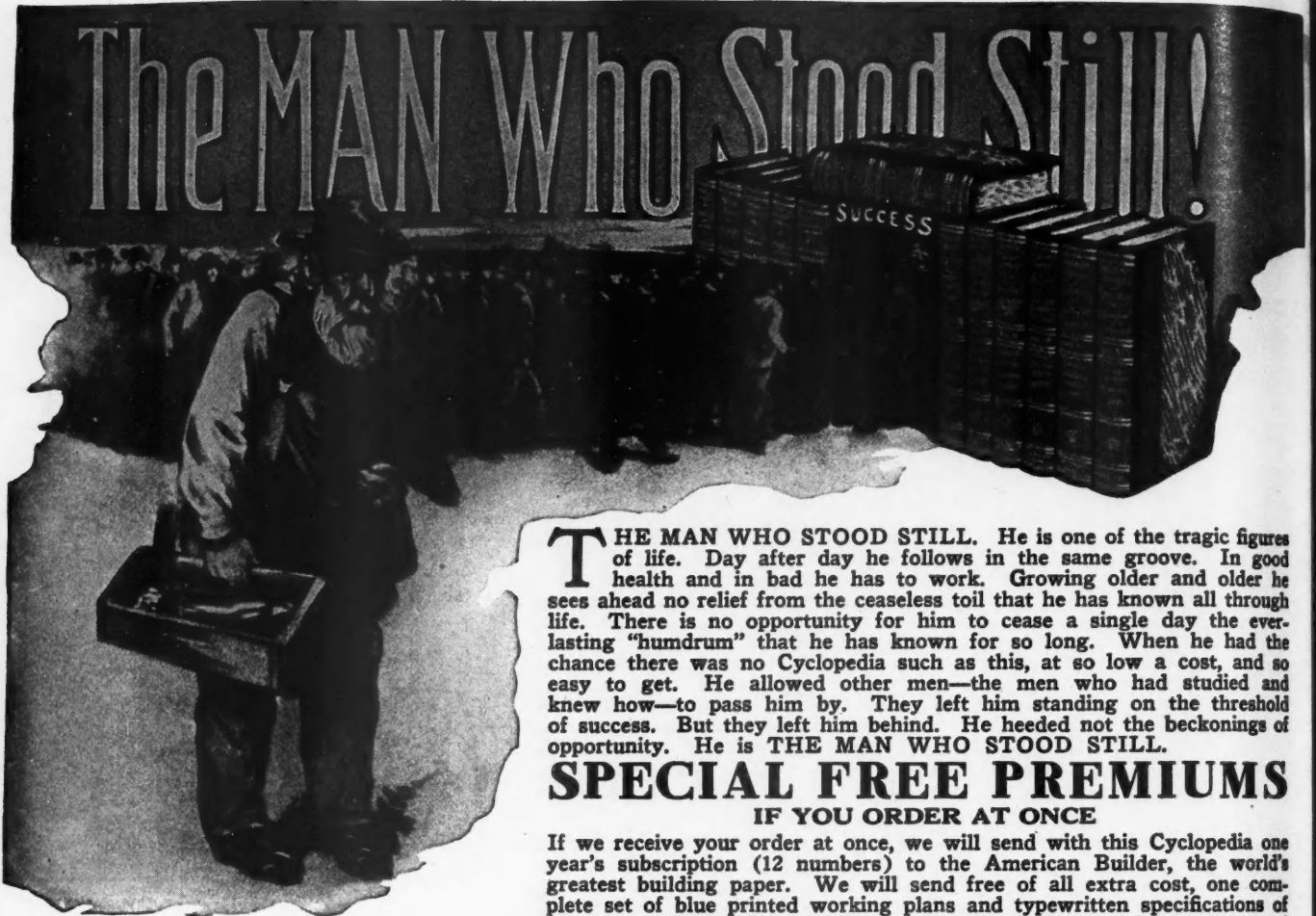
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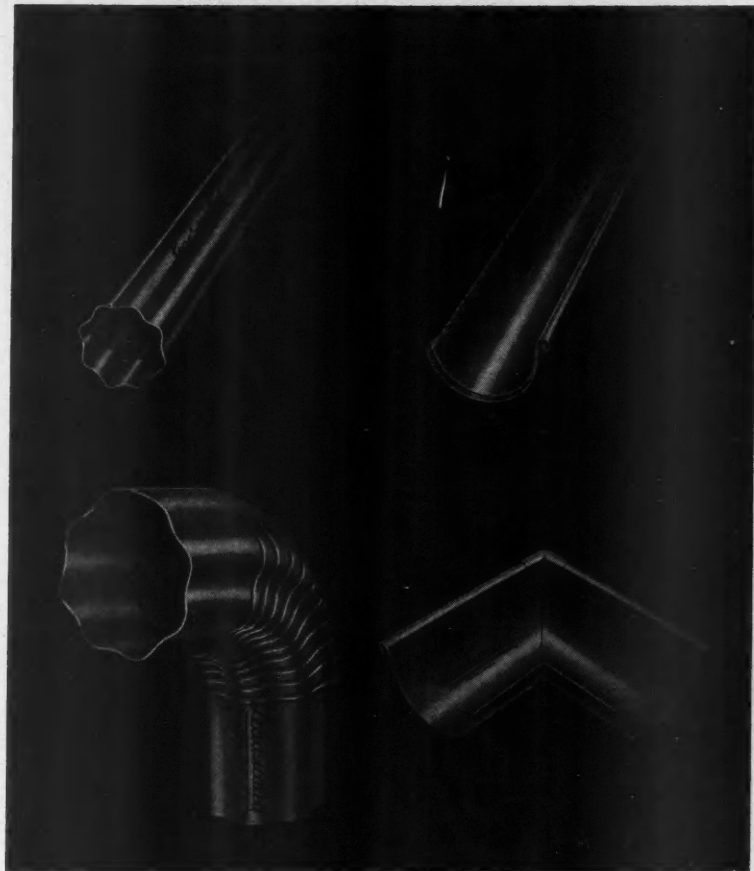
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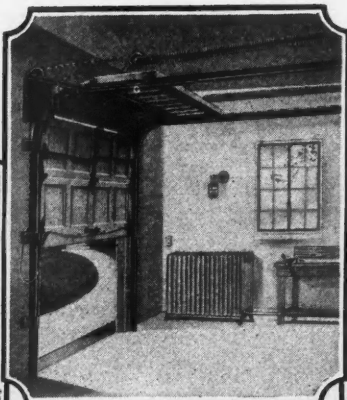
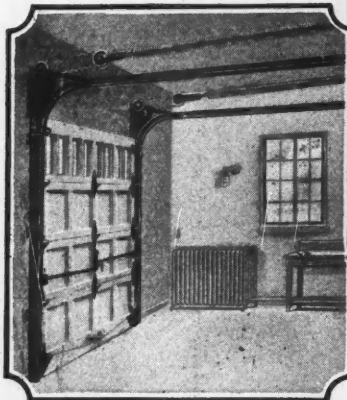
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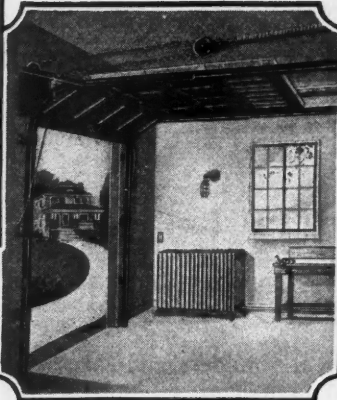
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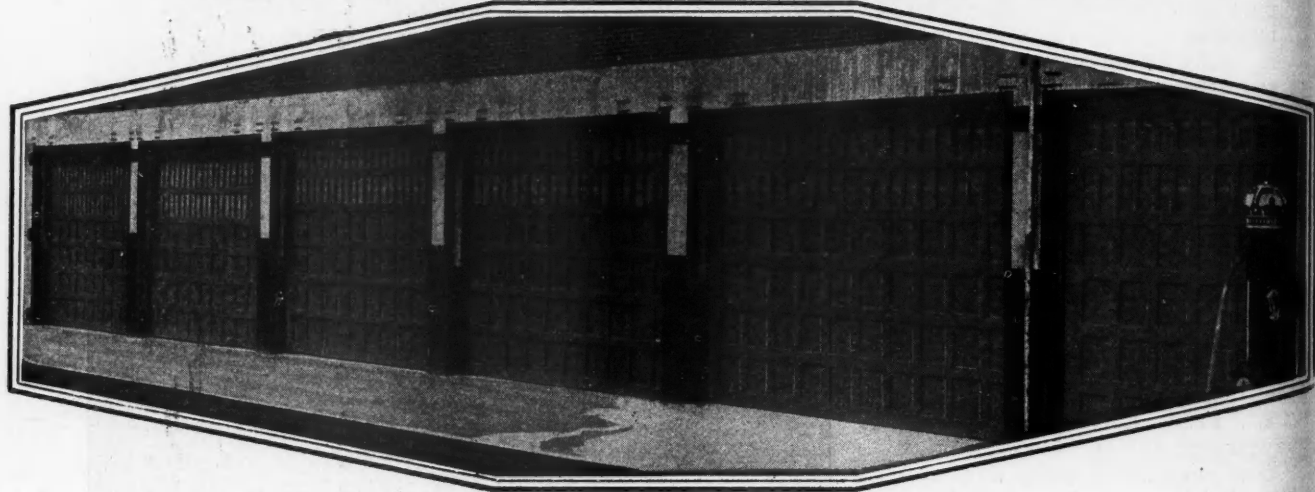
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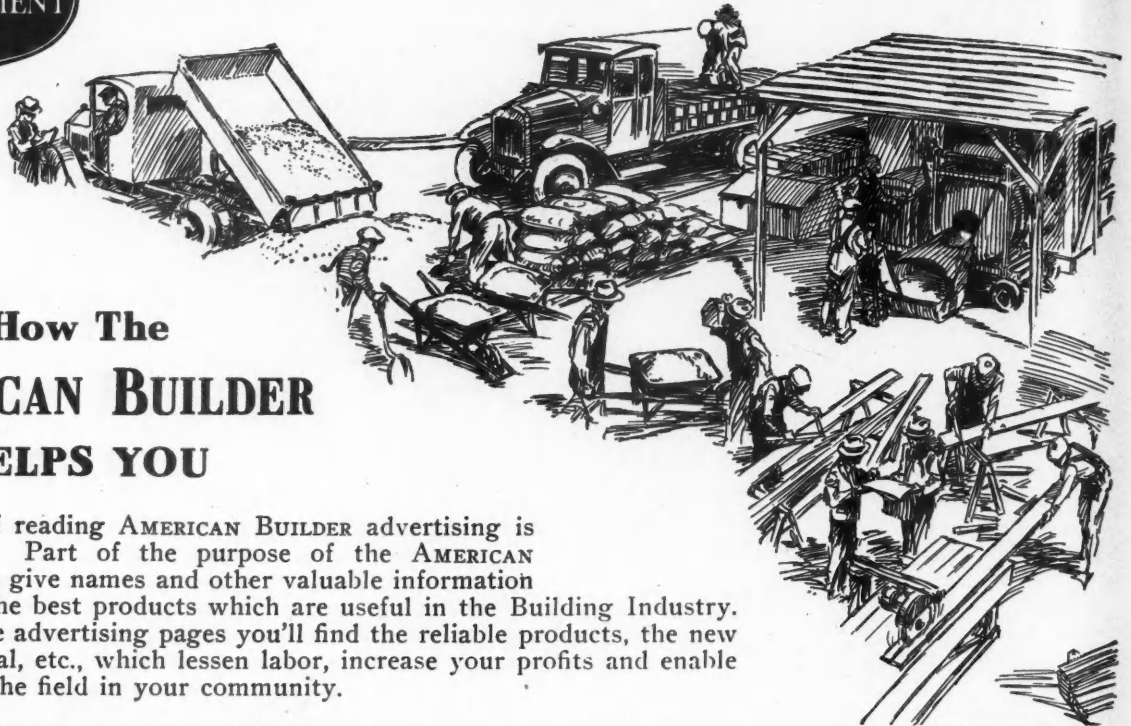


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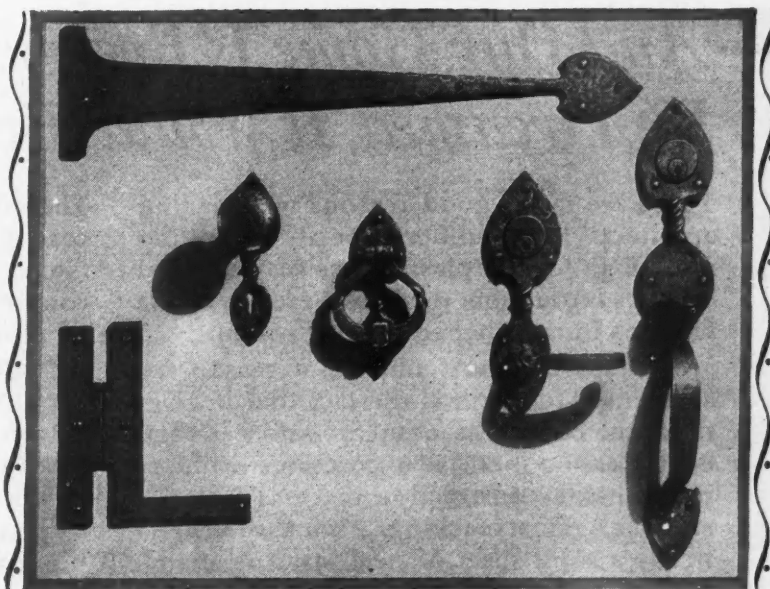
First, because it helps make sales. Sargent consumer advertising in national magazines is driving home to your potential customers the excellence of this hardware. More and more house buyers are "hardware conscious." It is the first thing they touch as they enter the house. They see it, handle it, and use it on every door they go through. From it they can judge how hidden details have been treated—if the hardware is cheap and shabby they take it for granted that the important, invisible parts are of cheap materials, carelessly put together. If the hardware is good—it helps sell them the entire house.

Secondly, you do not have the cost of repair or replacement that results from using second-rate hardware. No plated surface to wear off even before the house is sold. No hardware adjustments to be made before the buyer will make settlement. Sargent Hardware returns money to the builder in the form of substantial savings.

Thirdly, there is the actual asset of a reputation. By always giving satisfactory service, by always operating certainly and quietly, Sargent Hardware helps the builder establish a reputation for putting the best of materials into his houses.

Write for our book of designs, "Hardware for Utility

and Ornamentation," free upon request. Let the Sargent representative in your locality furnish you with estimates and help you make selections. He will be glad to give you any assistance you might require. Sargent & Company, Hardware Manufacturers, 51 Water Street, New Haven, Connecticut.



These new Sargent "Catalonia" pieces are of solid white bronze, shaped and finished in resemblance of hand-forged wrought iron. "Catalonia" is a new Sargent design for homes in the Spanish or Mediterranean style, and for English and American cottage style. The entrance handle (ask for No. 2661CK) has a thumb-latch, and connects directly with the Sargent cylinder lock. The doorknob (No. 1621CK) has an ap-

propriate escutcheon and keyplate. (There is another doorknob, No. 1620CK, for interior use.) The popular lever handle with cylinder lock and the H and L hinge plates excel for homes built in the Early American manner. The strap hinge plate and the knocker are a delightful finishing touch to entrance doorways; ask for Sargent door knocker No. 5CK, strap hinge plate No. 3CK. The Sargent booklet lists other designs.

SARGENT

LOCKS AND HARDWARE

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

"We Used ARCH LATH as the Plaster Base for Walls and Ceilings



—And Our Home Is Everything We Dreamed It Would Be"

There are many good reasons why leading architects and builders specify Wheeling Arch Lath for the plaster base of walls and ceilings throughout the home, even as a base for tiles in the kitchen and bathroom.

Perhaps the most important reason for selecting Arch Lath is the fact that it gives the home builder beautiful fire-safe walls and ceilings at no increase in cost over ordinary inflammable construction that has little resistance against cracking. Arch Lath is practically a solid sheet of steel insuring sound, substantial walls and ceilings and maximum protection against fire.

The very favorable cost of Arch Lath is due to its plaster saving, time and labor conserving features. Only the correct amount of plaster to effect perfect anchorage is permitted to squeeze through the openings in Arch Lath. There is no piling up of plaster between walls—the hidden waste that runs up the plastering bill.

We will gladly supply architects, contractors and dealers with more detailed information and explain why Arch Lath insures finer, safer and more comfortable homes. Prices and samples will also be furnished on request.

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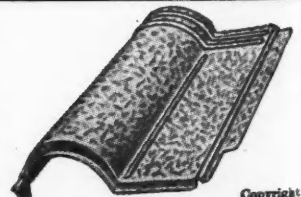


For Weather-proof Roofs of Distinction— Wheeling Spanish Tile

Wheeling Spanish Tile Roofs have all the character and charm of old Spain. The most artistic roof covering manufactured.

Wheeling Spanish Tile is low in cost, durable, leak-proof and lightning-proof.

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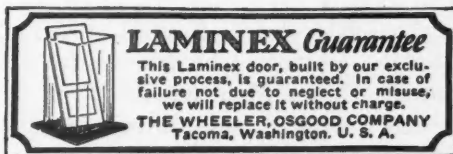


Laminex doors are now being manufactured of Philippine Hardwood as well as of Douglas Fir

Laminex doors make good

THERE'S a yellow replacement guarantee label on the bottom of every genuine Laminex door. The Laminex guarantee is backed by the largest door manufacturer in the world—the originator of the guaranteed door. The success of Laminex doors, (millions in satisfactory service today), has tempted other manufacturers to offer veneered doors, outwardly resembling Laminex doors. These doors, however, will not stand the famous Laminex soaking test because they lack the moisture-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".



This is the yellow replacement guarantee label that you will find on every genuine Laminex door.

Your dealer can supply you with genuine Laminex doors

Progressive lumber and millwork dealers can supply you promptly with popular designs of Laminex doors at reasonable prices. They will tell you that Laminex doors are all that we claim for them. Many of these dealers have actually soaked a Laminex door in water for days at a time to prove how Laminex scientific construction and Laminex waterproof cement are immune to dampness.

Mail this coupon today

Fill in and mail this coupon today for our new book that explains the construction of Laminex doors.

Learn how the principle of stress neutralization is used in Laminex construction.

LAMINEX DOORS

Will not shrink, swell or warp

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 Gentlemen: Please send me your new Laminex book. L1218

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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Every Builder

will PROFIT

by reading this new book
on heating costs

THIS newest book from the Lumber Library is full of information that will show you how to build to reduce heating costs. Lower heating costs are a big factor in getting contracts or making sales.

A Money Saving Handbook for Builders

"The Cost of Comfort" is a handbook on the economics of dwelling insulation. The factual data it contains will be of definite help in solving your problem of construction, insulation and heating costs.

Facts You Will Want To Know

"The Cost of Comfort" contains 34 different wall-type drawings, illustrating lumber, stucco, brick and hollow tile construction and insulation practices.

Tables on construction and heating costs for walls, floors and roofs accompany each illustration and make it easy for you to determine the type of construction that will show you the greatest profit. All data are in such a form that you can quickly apply local labor and material costs to the houses you plan to erect, and figure for yourself the cost of dwelling insulation.

In fact, you will find all the information you have needed to give home owners the maximum heating

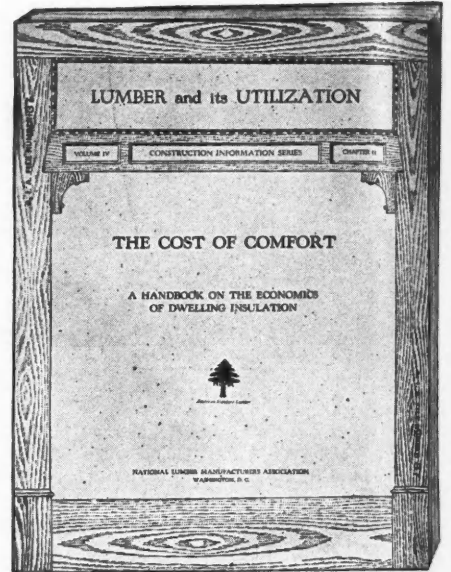
comfort at minimum cost. This bulletin gives you facts that will help you sell houses.

Lumber Consultants at Your Service

One hundred Consultants, strategically located throughout the country, in the employ of the National Lumber Manufacturers Association and of its 17 Affiliated Associations are available to help builders in solving any of their problems. These experts bring to your problem the collective experience gained by helping architects, engineers, builders and wood users. Their services cost you nothing . . . use them to the fullest extent.

Use the Coupon Now—Book is Free

The coupon is attached for your convenience. Just fill out and *mail it today*. Or copies of "The Cost of Comfort" may be had by communicating with the nearest field office—New York, Atlanta, Pittsburgh, Boston, Chicago, Indianapolis, Dallas, Memphis, San Francisco, Portland, Ore., Kansas City, Minneapolis.



Use "American Standard LUMBER"

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

from America's BEST MILLS



National Lumber Manufacturers Association,
Transportation Building,
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Washington, D. C.
Gentlemen: Kindly send me a FREE copy of "The Cost of Comfort."

Name
Company
Street Address
City State

NATIONAL LUMBER MANUFACTURERS ASSOCIATION
WASHINGTON, D.C.

AROUND *the* FAMILY TABLE



Instructions

A commercial traveler held up in Orkney by a storm telegraphed to his firm in Aberdeen (Scotland)—“Marooned here by storm, wire instructions.”

The reply came: “Start summer vacation as of yesterday.”—*The California Lumber Merchant.*



Petrified

Horace—“What did your wife have to say when you came in at four this morning?”

Maurice—“Didn’t have a word to say.”

Horace—“’Smatter, tongue-tied?”

Maurice—“No, I put cement in her beauty clay.”—*Gage Readings.*



An Eye for Business

A West Virginia darky, a blacksmith, recently announced a change in his business as follows:

“Notice: De copardnership heretofore resisting between me and Mose Skinner is hereby resolved. Dem what owed de firm will settle with me, and dem what de firm owed will settle with Mose.”

—*Barron’s.*



Admiring the View

Country Cousin (after prolonged inspection of building operations)—“I don’t see the sense of putting statues on the top of your buildings.”

City Cousin—“Statues? Those aren’t statues. They’re bricklayers.”—*Hardware Age.*



Tactful

Customer—“I’m sorry, but I have no money to pay my check.”

Manager—“That’s all right. We’ll write your name on the wall and you can pay it the next time you come in.”

Customer—“Oh, don’t do that. Everybody will see it.”

Manager—“No, they won’t. We’ll hang your overcoat over it.”

A Good Business Venture

Her Father: “Do you think you can support my daughter in the style to which she has been accustomed?”

Her Boy: “I don’t know, sir, but I can certainly save fifty per cent of her present cost to you.”—*Ex.*



Demonstration Needed

Rastus—“How done yo’ah ole lady like de new washin’ machine you done buy foah her.”

Sam—“She jes can’t get used to it foah some reason. Why ebbry time she done get in it de paddles knock her down.”



Thorough Job

Retired painter and decorator (to artist, whom he had commissioned to paint his daughter’s portrait): And none of your slap-dash painin’ for me; three good coats, understand.—*Progressive Grocer.*



A Fair Question

“Are paint brushes made from pig’s bristles, father?”

“I believe so, my son.”

“Well, what part of a pig do the pigments come from?”



Tried it on the Boss

A well known official of the telephone company was rudely aroused from slumber by the ringing of the telephone. After falling over a chair or two he reached the phone.

“Hello,” growled he.

“Are you an official of the telephone company?” asked a friendly voice.

“I am,” said he, grouchily, “what can I do for you?”

“Tell me,” said the voice at the far end, “how does it feel to get out of bed at two o’clock in the morning to answer a wrong number?”



[Reprinted by permission of the Chicago Tribune.]



THE LOVELIEST OF ALL BATHROOMS

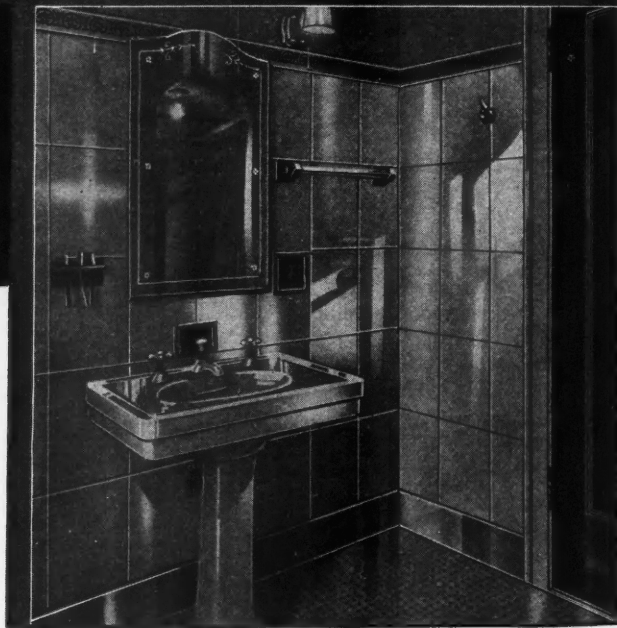
The bathroom will be the home owner's most cherished possession if the walls are of Vitrolite—the vitreous slab material.

For Vitrolite offers endless variations in color, decoration and texture. The most beautiful and distinctive effects may be obtained whether it be in the ultra-modern or the earlier period treatments.

Vitrolite is easily within the reach of the modest home-building budget. Even in the simplest treatments its beauty adds distinction.

Vitrolite is adaptable to any plan from the simplest to the most elaborate. The mansion, too, will be enhanced by the beauty and distinction that Vitrolite affords and by its unlimited possibilities for special color and decorative effects. There is nothing that so befits every type of bathroom and every type of home—nothing so charming, permanent and sanitary.

Our Art and Service Departments are at your disposal for the preparation of color sketches and technical details of Vitrolite installations. Write for information.



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AMERICAN BUILDER



Formerly AMERICAN CARPENTER AND BUILDER
1827 Prairie Ave., Chicago—120 West 42nd St., New York City

September Is a Record Month

SEPTEMBER construction contracts, in the territory east of the Rocky Mountains, reached a total of \$587,674,000, according to the F. W. Dodge Corporation. The area covered in this record consists of 37 states and includes approximately 91 per cent of the total construction in the United States. The total of contracts awarded was the highest September contract total on record. It was 13 per cent ahead of the total for the same month of last year and 14 per cent ahead of August, 1928.

The September record brought the total amount of new building and engineering work started since the first of this year up to \$5,132,944,100, representing an increase of seven per cent over the corresponding period for 1927.

An analysis of the September building record showed the following outstanding items: \$202,806,900, or 35 per cent of the total, for residential construction; \$119,013,600, or 20 per cent, for public works and public utilities; \$114,780,300, or 19 per cent, for industrial buildings; \$60,068,000, or 10 per cent, for commercial buildings; \$38,800,500, or seven per cent, for educational buildings; and \$23,845,700, or four per cent, for hospitals and institutions.

Insulating the Windows

NUMEROUS experiments have proven beyond question the value of insulation in home building and many kinds of insulating material have been developed for this purpose. Yet no home is completely insulated which leaves unprotected the windows, an area of 100 square feet or more in a small home. Heat escapes through glass just as surely as through the side walls and roof, even though the edges of the windows are tightly sealed with weather strips.

This is easily demonstrated by filling a jar with hot water and sealing it. Though air tight, the contents will cool in a few hours as the heat passes through the glass. Many people mistake heat loss for air leakage and think that the use of weather stripping is all that is necessary. Heat can only be saved by insulation and the way to insulate windows is to cover them with storm sash. The dead air space thus formed retards the flow of heat in much the same way that heat is conserved in a modern vacuum bottle.

Not only do storm sash save heat and conserve fuel, but they aid in maintaining the proper humidity within the home, so necessary for good health. This all important matter is often entirely disregarded, resulting in colds and sickness, due to extreme dry heat. Experiments recently conducted by the Engineering Department of the University of Iowa showed that it was necessary that an average of one pint of water per hour for every room heated in the home should be evaporated to maintain healthful humidity. Most homes scarcely evaporate a pint of water per room per day.

The experiments further developed that the proper humidity is evidenced during freezing weather by a heavy coating of frost on the unprotected windows and this is the reason most people reduce the moisture content in their heat.

They do not want the windows frosted as this frost often melts on the glass, ruining costly draperies and drips on the sill, damaging the finish and streaking the walls below. It also rots the bottom rail of the windows and sill, making expensive repairs necessary in an unreasonably short time.

Storm sash practically eliminate these difficulties as the dead air space prevents formation of frost except in the most extreme cold weather and during these short periods the moisture in the air can be slightly reduced if desired.

The beauty of it all is that this winter comfort can be purchased for the average home at a very low cost. In fact, the savings effected in fuel and doctor bills alone will, in a year or two, more than pay the cost of the storm sash.

It is highly commendable to advocate roof and sidewall insulation but insulation of the windows—the most vulnerable part of the home—should be taken care of first. See that storm sash and doors, as well as screens, are included on every house job.

Water Systems for Fire Control

TODAY many farms and other residences beyond the city water supply lines are using private water supply systems, which give them all the convenience and comfort of city water service. There still remains a large proportion of farms, however, which are still dependent on the well and hand-pump of a bygone day.

One of the most important reasons why every farm should be equipped with a modern water supply system has been emphasized by the National Association of Farm Equipment Manufacturers in a recent bulletin.

"Every year fire takes its toll among farm buildings. There are innumerable ways by which fires on the farm can start, many of which can be prevented or put out before they have done any harm. Because of the difficulty of supporting fire trucks in the country and of mobilizing a fire-fighting force quickly enough to be effective, it is important to provide for some means of fire protection around farm buildings which can be called into use easily and quickly.

"Many times the smell of smoke serves as a warning of smouldering fire which has not yet been fanned into flame. Hydrants placed at strategic points around the farmstead provide a supply of water, ready for use in case of emergency. A garden hose attached to a hydrant fed by a farm water system makes fire control possible."

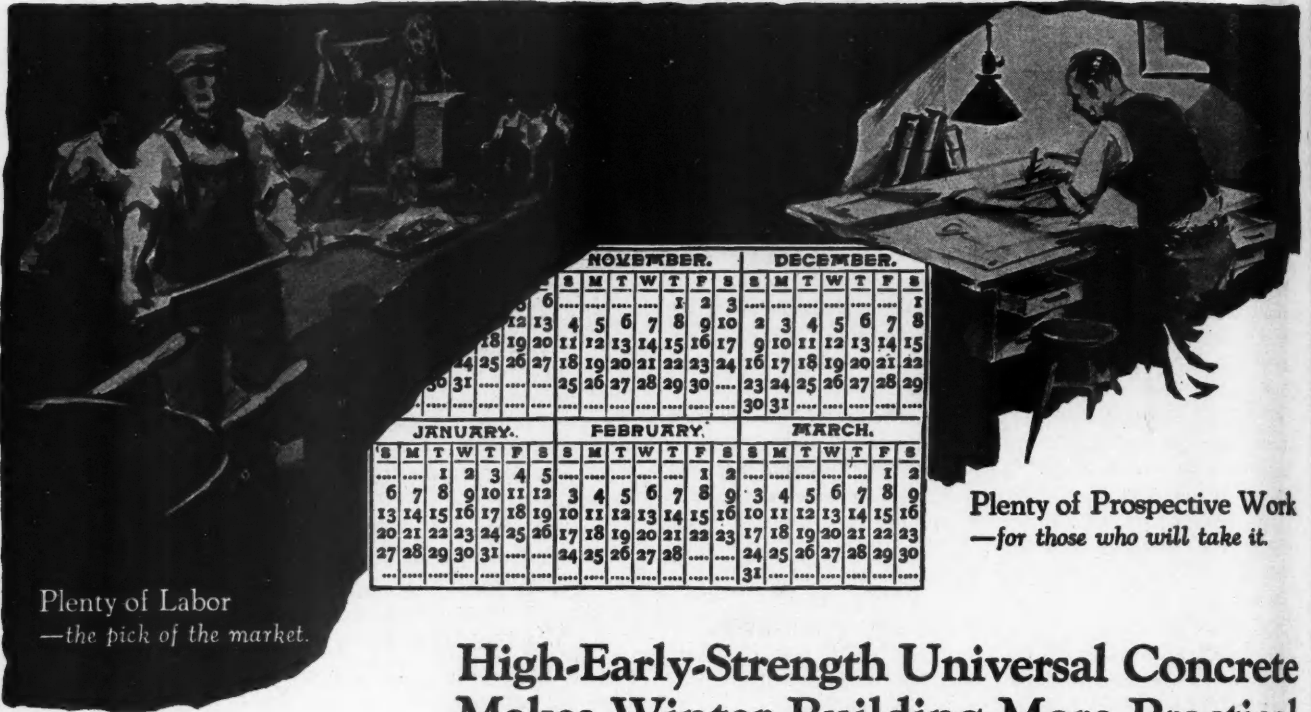
Welding Success in Construction

A TOTAL of 85 welded structures, including 43 welded buildings, is listed by Prof. Frank P. McKibben in the July issue of the General Electric Review. The list is made up of 8 bridges, 43 buildings, 3 cars, 2 cranes, 6 frames and towers, 12 ships and allied structures and 11 tanks.

Commenting on the list, Prof. McKibben says that it "shows that this process is no longer in the experimental stage, but is a means of fabrication so extensively used as to warrant the attention of all structural engineers and architects."

Months of Plenty

Opened to Users of Improved Cold Weather Building Methods



Plenty of Labor
—the pick of the market.

Plenty of Prospective Work
—for those who will take it.

NOVEMBER.							DECEMBER.						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13	14	8	9	10	11	12	13	14
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29	30	31					29	30	31				

JANUARY.							FEBRUARY.							MARCH.						
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29	30	31					29	30	31					29	30	31				

High-Early-Strength Universal Concrete Makes Winter Building More Practical

1. Shortens time of protection against freezing

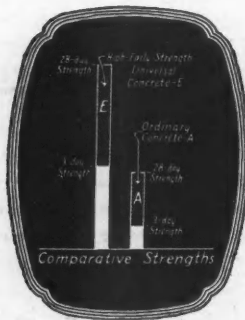
Because *High-Early-Strength Universal Concrete* is as strong in 3 days as ordinary concrete is in 28 days, the time during which it must be protected against freezing is shortened and the number of times a given set of forms may be used is correspondingly increased.

2. Makes permanently stronger cold-weather concrete

When placed and cured according to approved methods, *High-Early-Strength Universal Concrete* is permanently stronger than ordinary concrete. A booklet giving details on placing and curing concrete in cold weather will be sent on request.

3. Assures more durable concrete in winter as in summer

With the usual materials and usual Universal cement, mixed and placed according to approved methods, you can produce in cold weather a denser and more durable concrete than is obtained with ordinary methods in warm weather. Full description of methods for obtaining *High-Early-Strength Universal Concrete* will be sent upon request. Use the coupon at the left.



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Address _____

Universal Portland Cement Co.
208 So. La Salle Street, Chicago

Without obligation, please send me new booklet giving full details for securing strong concrete in 3 days with the usual materials.

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Universal Portland Cement Co.

Chicago Pittsburgh Minneapolis Duluth Cleveland Columbus New York

Concrete for Permanence

EVERYBODY'S BUSINESS



Playing the Market

By FLOYD W. PARSONS

JUST as I sat down to dictate a little story covering a number of interesting points in the field of business management, there came a call from the office of my broker. After cleaning up a personal matter, I asked concerning the action of the market and was switched immediately to the phone of a young man in the board-room where the quotations are posted. He said the market was booming and the rise had hardly more than commenced. Montgomery Ward had jumped 20 points at the opening and other star performers were following this sensational lead. It looked like a five million share day and right now was the time to get in.

I was surprised to get this line of talk from an old and highly respected brokerage concern with conservative leanings. I realized, of course, that I was not getting a reflection of the views of the heads of the house, but rather was talking to one of the so-called new generation who had so far seen only one side of the Wall Street picture. As he poured forth his enthusiasm, telling how Chrysler would double in price and Montgomery Ward go to probably six or eight hundred dollars a share, I decided to change the subject of my story and talk about a menace that is becoming more and more of a threat to the stability of business.

The stock market has not become a law unto itself notwithstanding its seeming success in ignoring proved fundamentals, and in making eminent economists appear foolish in their efforts to explain the meaning of important developments and the significance of current trends. There is hardly a prophet left who would bet ten cents on the correctness of his beliefs. Great leaders in the financial and business world are now doing as much guessing as the ordinary layman. Most of our new initiates in the field of speculation, however, expect to call the turn, and are quite sure that they will not be among those left to hold the bag when the lights go out and

the play ends, when the banks are balanced and closed.

Old-timers have not shared largely in the profits resulting from the current rise in the prices of securities. The real winners have been those bold and innocent souls to whom precedent means nothing and yesterday's experiences are without value. In playing the stock market there is some of the same psychology that applies to golf. Every devotee of the old Scottish game knows that any exercise of fear is disastrous. Even a duffer will often make a great drive on a strange course merely because he knows nothing of the hazards that lie ahead. His is the courage born of ignorance.

In the stock market today the big gains have gone to the fellows who were willing to go in after the careful investors had sold out on the theory that the top had been reached. The officers of hundreds of corporations disposed of the securities of their own companies a long time ago and are now speculating in the stocks of other concerns. It is fatal at present to know too much about the earnings and prospects of any enterprise that you want to play for a rise.

Preaching is of no avail when human nature decides to show its independence of arbitrary rules and laws. In 1913

we took steps to protect our nation against the excesses of people cursed with the mania to get rich quick irrespective of all consequences. The Federal Reserve Board was created to prevent the use of money and credit in any way that might create inflation and bring about a business depression or a money panic. Now we discover that the traffic in money is about as hard to control as the traffic in liquor. A stiff money rate, while serious to the investor, means nothing to the gambler out for a quick killing.

Stories of tremendous fortunes built up almost overnight have fired the imaginations of millions of people. Big stock-market operators are taking care that the flames of speculation shall not be quenched.



"Making Money in Wall Street May Be Highly Dramatic, but the Profits Piled Up on Main Street Are Far More Tangible and Enduring."

Capital has poured into Wall Street from all over America and from abroad. The Federal Reserve Board has learned that although it can control the banks, it cannot prevent individuals and corporations from loaning their money to gamblers.

Our older and more conservative leaders are uneasy over the assertions of powerful newcomers that we must all adjust ourselves to an entirely new order of things. Time and again have valiant knights of finance ridden into Wall Street from out of the West only to go back home with their pockets empty. Maybe history will repeat. Probably many people are riding for a fall. The partial nullification of the powers of the Federal Reserve Board means that we will be compelled again to pass through the trials and worries of business upsets.

We pass out of the realm of safety when we commence to capitalize hopes instead of realities. Artificial stimulation can push prices to an unjustified level, but it takes actual earnings over a period of years to maintain a price structure.

So far as our country is concerned, I am an optimist of the first order. But there is nothing of which I am more fearful than the excesses of unbridled speculation, whether in Florida land or New York stocks. Science has done a mighty job in providing the individual with benefits and advantages never dreamed of in the past. But a way must be found to prevent the distress that follows an overflow of money from those who earn it to others who merely take it.

Our amazing increase in wealth and tools and new industries is causing many to overlook the simultaneous multiplication of new and complex problems. Mass methods have brought higher wages and more buying power, but millions of people have not profited by the new order. We boast of our progress in the face of reports which show widespread waste. For instance, in the field of retailing, the average price of commodities doubles between the producer and the ultimate consumer. Out of 80,000 retailers in 11 cities, 22,000 did a gross business of less than nine dollars a day last year. How can the proprietors of these stores hire help, pay rent and still make a living?

Efficiency in production has completely outstripped efficiency in distribution. Index fingers show clearly that there is rank incompetence throughout the field of retailing. The little store buying in small lots from the middleman hasn't a chance in competition with the chain system buying in huge quantities from the manufacturer. Sales of chain stores have doubled in eight years, while the sales of department stores have gained only 31 per cent. This explains in part why inefficiency in distribution now reduces the buying power of our people more than seven billion dollars a year.

In hundreds of lines big business is profiting at the expense of the little fellow. The powerful corporation backed by a large surplus can finance research and do things on a grand scale. Prosperity will be spotty and discontent prevalent until the small concerns find a way to pool their interests and realize on the benefits of co-operative effort.

Progress can only be purchased at a price. We can no more advance upward on a straight line than we can permanently suspend the law of gravity. Success is always accompanied by perils. The automobile is a boon to humanity, but the exhaust gases from millions of motor cars fill our narrow streets and are spread by stairways and elevator shafts to the remote corners of the rooms in which we live and work. In many cities the residents inhale a tablespoonful of soot and dirt every 24 hours. In New York City there are 11 rats for every person, and aside from other damage, these rodents consume \$55,000,000

worth of food a year. The toll of several serious diseases is higher than ever before, and we are shouldered with a hospital maintenance charge of \$3,000,000 a day.

It is nonsense to assume that we have emerged into a purely scientific age. The average American continues to think with his imagination rather than his mind, and to live under a conception of the universe that is symbolic and magical. That is why we fall so easily for bunk, patronize quacks, impugn motives rather than examine facts, and prefer school histories with exaggerated hero tales to those containing plain truth. In some places we even go so far in maudlin sentiment as to support the absurd idea that the physical examination of the throat of a child, during a diphtheria epidemic, unless by expressed consent of the parents, is assault and battery.

We have failed to gain even a partial conception of the requisites of the new life that science is forcing us to live. We insist on having the advantages of mass action and yet reject any restriction of the individual's personal liberty. In this ridiculous pursuit of what we call the democratic idea, we leave out of all consideration the unruly and reckless element of our population who leave death and misery in their wake. The driver of an automobile need present practically no qualifications other than his ability to possess a car. Out of our twenty million motor-car drivers, it is conservative to say we have a million who are inexcusably reckless, many of them deaf, half blind, immature or enfeebled, often intoxicated, and always ready for a race or an argument.

Almost as many wage-earners' children lost their lives last year as a result of automobile accidents, as from measles, scarlet fever and whooping cough combined. If present increases continue unabated we will have 40,000,000 automobiles running on our roads in 1936, and the loss to the country from motor-accidents will be approximately 65,000 men, women and children. Here in America we have 232,786 railroad crossings at grade. The cost of removing these crossings would be about \$20,000,000,000—slightly more than our public debt.

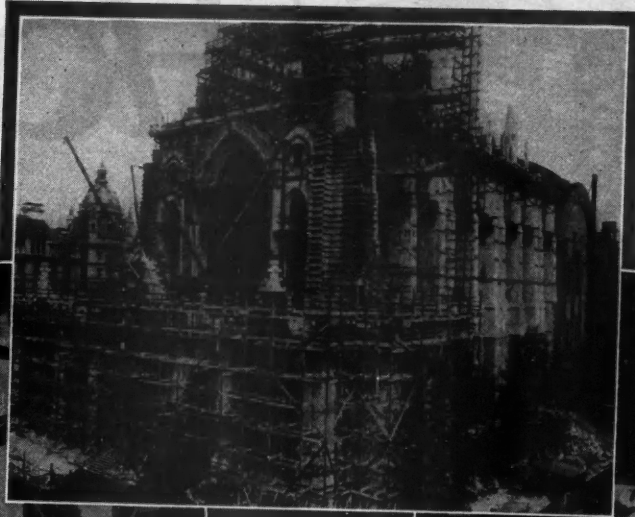
In this mechanical age what we call the rights of the private citizen are going to be more and more restricted each passing year. Our much-discussed Eighteenth Amendment is not aimed at the majority of drinkers who are temperate, but at a small minority, who, when drunk, become a menace to the life and liberty of others. One-way streets make me drive out of my way to get to my office, but I am coming to understand that I must make this and many other sacrifices in the public interest.

When we hear even a great economist express the belief that we have come to a time when facts and figures are worthwhile only in relation to the public state of mind, and that the "will to buy" is a far more important factor in any speculative movement than economic data, it surely is a moment for business men to watch their step. There is no law to prevent us from substituting psychological theories for analytical reasons, but it will take more than mere circumstance to laugh away the fact that the "boot-leg" lending of money for gambling has now reached a point where the sum involved is in excess of two billions of dollars.

In a time when all the old yardsticks have been cast aside and established trends change overnight, one must be forewarned and forearmed. Making money is not nearly as hard a job as keeping it. Not everyone is an idiot who adheres to the notion that there is still virtue in the practice of caution. Opportunities continue to be disclosed on every side. We have sold one automobile on an average to every American family, whereas we have sold only one toothbrush to every four people and a washing machine to but one family in eight. Making money in Wall Street may be highly dramatic, but the profits piled up on Main Street are far more tangible and enduring.

BUILDING FOR ETERNITY

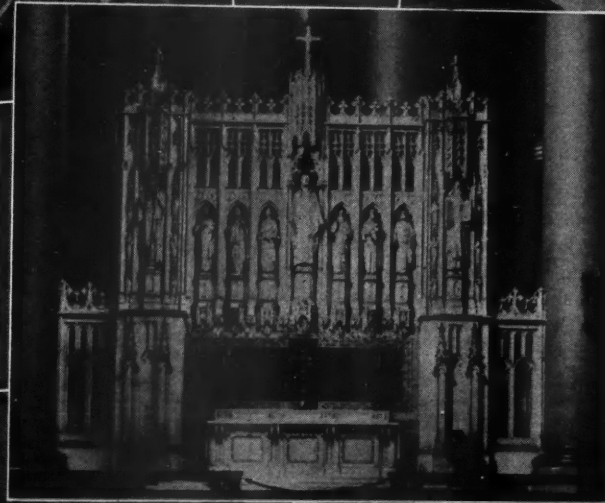
To Right—The Cathedral of St. John the Divine, New York, as It Looks Today, Under Its "Wraps" of Scaffolding, Which Supply the Working Floor for the Stone Setters Engaged on Its Construction.



Below—The Final Quarry Operation—Marking of the Stones Which Have Been Cut and Carved. The markings indicate the position of each stone will occupy.



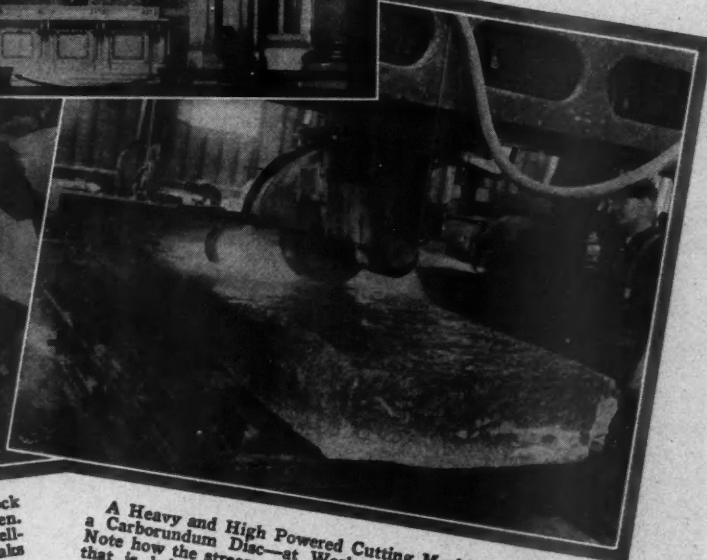
Above—Artisans at Work Fitting the Stones into the Cathedral. This view shows the huge ornamental stonework above one of the doorways.



To Left—The Beautiful Marble Altar of the Cathedral of St. John the Divine, New York, the Stone for Which Was Quarried in France.

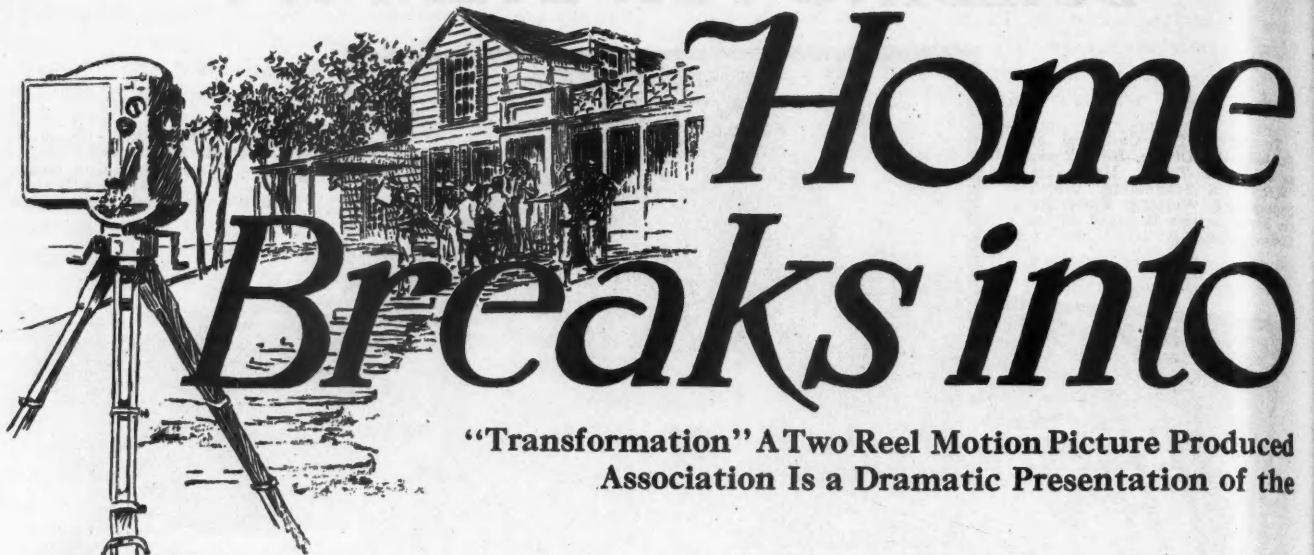


Here the Workman Is Shown Drilling Into the Hard Rock Preparing the Holes into Which Oak Pegs Are Driven. Water poured on the pegs causes them to swell, and the swelling of the wood forces the rock asunder, making clean breaks which require little dressing.



A Heavy and High Powered Cutting Machine—in This Case a Carborundum Disc—at Work on a Huge Slab of Granite. Note how the stream of water is kept flowing over the surface that is being cut.

THE lesson of the Cathedrals of the Old World, which, built of stone, have lasted through the centuries, virtually unimpaired, has been accepted by the builders of New York's Cathedral of St. John the Divine; and that structure will be unique among modern buildings, in that no steel nor wood will be used in its construction. Granite is the stone that is being used for the edifice, the famous light brown New York state granite. An old quarry, unworked for years, the Mohegan, at Peekskill, N. Y., was reopened to supply the stone for the cathedral. All stones are shipped from the quarry by auto truck to the cathedral site.



Home Breaks into

"Transformation" A Two Reel Motion Picture Produced Association Is a Dramatic Presentation of the

THE influence of an attractive, conveniently arranged, and artistic modern home on the lives of its occupants is dramatically contrasted with the down-pulling effects of a shabby, "run-down," and antiquated dwelling, in a new two-reel motion picture, "Transformation." This picture was produced by the American Farm Bureau Federation with the cooperation of the National Lumber Manufacturers' Association. It will be released shortly for presentation to farm audiences all over the United States as a means of fostering the modernization of rural homes.

"Transformation" is not a dull industrial picture, but the story of a typical American farm family and its home life into which has been woven an interesting thread of romance. The younger members of the family find no attraction in the old homestead which has been allowed to fall into a weatherbeaten state. Because of the press of daily farm routine, the heads of the family have been content with inconveniences associated with earlier times. Their attention is brought rather abruptly to the condition of the home by the decision of the son, who is his father's sole aid on the farm, to leave for the city and by the reluctance of the

daughter to entertain her friends at home.

Unable to work the farm without the help of his son, the father, after a rather stormy scene in which the defects of the old house are brought out, decides to sell the home stead.

Real estate men, attempting to find a buyer for the place, suggest that the house be modernized as a means of speeding the sale. The daughter, taking an active interest in this development, secures a design for the remodeling of the house through the aid of the American Farm Bureau Federation and the National Lumber Manufacturers' Association. The entire family interests itself in the work, and under the guidance of a resourceful builder, the new, modern home emerges.

So successful is the modernizing that the local county agent brings many farmers from surrounding territories to see the results. The farm family is so proud of their new home and so pleased with their achievement that, although offers of sale are now received, they decline and elect to enjoy the advantages of the improved home themselves. The son decides that he will not move to the city and the daughter is glad to entertain her acquaintances at home.

Throughout the story runs a love vein involving the daughter, a sweetheart of the night club type, and the county agent.

American standard lumber, the function of the retail lumber dealer and of the builder, the work of county agents, the services of the American Farm Bureau Federation and the National Lumber Manufacturers' Association are points emphasized in the film in addition to the general theme of remodeling advantages.

The film exchange service of the American Farm Bureau Federation will have charge of all bookings for "Transformation," which will be handled through county agents. The production is supplied rent free and it is estimated that it will be shown in at least 5,000 farm communities and that it will be seen by audiences numbering 1,500,000



"A Strain on the Family Tie" Occurs in the Motion Picture "Transformation" When the Son of the Family Decides to Desert the Farm for the City and the Daughter Refuses to Entertain Her Friends at Home. It is all because the old home is in need of the magic touch of modernization.

Modernizing the Movies

by the American Farm Bureau Federation and the National Lumber Manufacturers Advantages of Modernization as applied to the American Farm Home

in all. Twenty-five prints will be kept in constant circulation by the Federation. Six copies have been retained by the National Lumber Manufacturers' Association for distribution to and showing by retail lumbermen and through the district offices of the Association.

As an added stimulation to the message of the picture, the American Farm Bureau Federation, with the co-operation of the Lumber Association, will conduct a contest among farm families for the best ideas as to what an ideal farm home should be and will offer \$2,500 worth of lumber for prize-winning suggestions.

Announcements of the contest, rules, etc., will be distributed to audiences seeing the picture. There will

also be a screen announcement of the contest.

All of the prizes, a first of \$300, a second of \$200, and 100 of \$20 each, will be in the form of orders directed to local dealers to deliver the amount of lumber equivalent to the award of the prize winner. Suggestions as to the ideal farm home must be in the form of a sketch of the floor plan with an accompanying letter describing the details of the house.

The house which was the modernization subject of the film is located on a farm about four miles from Elgin, Ill. This farm was purchased recently by C. A. Rehm, secretary of the Atlas Educational Film Co., which produced the picture. The materials for the house



There is No Denying That the Old Farm House Was No Longer a Place to Hold the Interest of the Younger Generation.



After a Thorough Dose of Modernization, with the Capable Aid of the American Farm Bureau Federation and the National Lumber Manufacturers Association, the Run-Down Farm House Was Truly Transformed Into a Thing of Modern Beauty and Comfort Which Every Member of the Family Was Proud to Call Home.



With the Work of Modernization Once Well Under Way, the Entire Family Watched the Job and Gradually a New Interest in the Home Developed.

were purchased from the Elgin lumber dealers as a group, each individual yard having a part in supplying the materials which went into the job.

M. R. Elliott, of the contracting firm of Elliott & Teschke, of Elgin, Ill., acted as job foreman. M. Berthelet was the director of the production for the film company and R. G. Kimbell, of the National Lumber Manufacturers' Association, acted as architectural adviser for the production as well as in the designing of the modernized house.

Mr. Rehm said the loan value of his property had been increased, as a result of the modernization, by considerably more than the cost of alterations. He is so enthusiastic about his modernized house that he plans to modernize all the buildings on the farm.

The architectural problems involved in the modernization of the Rehm farm house are very fully analyzed by R. G. Kimbell, the architect, as follows:

It is essential in any successful modernization operation that as much as possible of the existing structure be preserved and utilized. This frequently makes it extremely difficult to achieve a satisfactory architectural result because of the mass and shape of the existing building.

It was exactly this sort of problem that the Rehm farm house presented. The roof of the central portion of the building had a very flat slope, quite in contrast to the rather normal slope of the two wings which were attached. The upstairs rooms had rather low ceilings and each room was provided with only one window. In order to give more light and ventilation to those rooms, it was obvious that the only method of accomplishing it would be through the medium of dormers placed at the junction of the walls and eaves. To do this in an attractive manner was extremely difficult because of the relatively flat roof.

While the mere improvement of a build-

ing from an architectural standpoint is a desirable thing and would undoubtedly enhance its value, nevertheless it is not logical that in the average modernizing job the owner could be persuaded to go to the expense of raising a roof or changing its pitch if there were any possible way by which it could be avoided. It was necessary, therefore, to treat the building as it stood. Probably 10 or 15 preliminary sketches of possible schemes of modernizing this particular house were developed before a satisfactory one was decided upon. Very charming and attractive results were represented by some of those schemes but each had a flaw. Some part of it involved a structural change which should be avoided or necessitated the expenditure of money which would hardly be justified. The picture of the old house contrasted with the new illustrates how simple and natural a solution of the problem came from these studies. A small independent dormer without elaborate ornamentation, combined with the altered appearance given the mass of the building by cutting off the old eaves and changing them from mere carpentry to a true artistic relationship with the balance of the building, produced the pleasing appearance shown in the picture. By using a door instead of a window, not only additional light and ventilation were given to the upstairs bedroom, but access to the roof of the new portion was provided.

Mere changes in architectural effects are not enough to persuade the average householder to improve the appearance of his building unless those changes are co-incident with the expanding of the building for increased comfort and convenience. Certain portions of a building have been pre-empted for years for certain purposes. If rooms are to be added to the exterior they must have some relationship to the use to which the balance of the structure is put. In making those additions, however, the effect on the appearance of the exterior of the house is also a serious consideration. About the only type of building in which rooms can be attached here and there without much thought of what effect their location will have on the optic



Two Porches Were Added to the House, Giving the Owners the Full Advantage of a Commanding View of the Surrounding Country from the Hilltop Location.

nerve of the beholder is the rather meaningless cubistic system of architecture imported from Mediterranean shores of which one sees so much in some of the recent real estate developments in southern portions of our country.

The location of the Rehm farm house was an ideal spot so far as the outlook was concerned. On a rather high knoll set well back from the heavy traffic highway, miles of the surrounding country could be seen from almost any spot outside the building. The occupants of the house were unable to take advantage of this wonderful view until the open porch off the living room was provided and the dining porch with its broad expanse of window openings was placed in the southeast corner where it can be entered from both the entrance hall, the living room and the kitchen.

In building a porch it may be either a mere appendage to the building (very obviously tacked on to the outside of the existing structure characteristic of thousands of porches one sees throughout the country every day) or it may be so designed as to add to the mass of the building as a whole and be an integral part thereof. How well this can be accomplished is demonstrated in the manner in which the

open porch was added to the living room as shown in the pictures taken of the southwest corner of the house. The relatively low roof line made a long flowing sweep of the eaves desirable; but any appearance of weight or massiveness had to be avoided. The thin mould used at the extreme projection of the porch, coupled with the slender, carefully proportioned columns, offset it in a delightful manner with the scale of the balance of the building. One of the incidental features contributing to the attractive assembly was the manner in which the siding at the west end of the house was carried across the top of the west porch end. There are no heavy, cumbersome, disproportionate masses in the porch, particularly when it is contrasted with the balance of the building.

How often one encounters buildings in which the main entrance to the house is just a doorway. Sometimes it is even forbidding in the impression it gives. A little careful attention given to its design and the frame in which it is set can transform it into a thing of beauty. An entrance should reflect the spirit of the occupants of the house towards the visitors it welcomes. The simple yet undeniably entrance door surmounted at the top by the well balanced panel with the wide pilasters, finished off with two very attractive urns, demonstrates how easy it is to make something beautiful at no more cost and with no more materials.

The growth of the dining porch from the corner of the building is a logical extension and certainly does not give one the feeling that it was merely tacked on. The delightful balustrade continuing out from the panel surmounting the entrance tops off the porch and is the primary factor which changes this from just a porch to something that immediately gives those who see it a pleasurable reaction towards the house as a whole.

How many times one sees those awkward, shed roof and box-like extensions fastened on to the end or side of a building when a housewife has discovered the marked convenience that a little breakfast room offers. A breakfast room added to the Rehm farm house certainly gives no appearance of not being a part of the main building. The

main east corner of the kitchen was extended and, as the full width of the kitchen was unnecessary for breakfast room purposes, a porch was left open for use as a rear entry landing. The rather unusual vertical panels above the small mullioned windows at the kitchen end of the building is a treatment which gives relief from any possibility of monotony in exterior wall surfaces, but is still sufficiently reserved in character as not to detract from the beauty of the building as a whole. Instead of using a straight mullioned window or a window with a pronounced bay in the wall of the breakfast room there was used instead a frame which had a very slight projection. This changed what otherwise would have been a very ordinary wall into what is really an architectural gem.

Only those who saw the completed house just before the shutters were put in

place can appreciate the marked difference they made in its appearance. There are types of architecture to which blinds are as essential to complete their exterior appearance as are the ornaments and trimmings which make a woman's costume a gown instead of merely a dress.

The Rehm farm house was an extremely old building, structurally substantial, but for many years prior to its purchase by Mr. Rehm it had remained unpainted. It was obvious that for a building which should be suitable for use for many years to come that merely repainting of the outside would not be sufficient. Consequently it was decided to overcoat the house with new siding. The old siding was left in place as they did not wish to waste it. Vertical furring strips were placed over it and the new siding nailed to these strips. As a result the farm house has all of its old characteristics of warmth and comfort plus the added insulation benefits of the air spaces between the furring strips and the thickness of the new siding—an appreciable increase to the insulation value of the exterior walls of the house.



"A Handbook of Reinforced Concrete Building Design," by Arthur R. Lord, B.S., M.S., C.E., has been edited "in accordance with the 1928 Joint Standard Building Code," and is an authorized reprint from the proceedings, Volume 24, 1928, of the American Concrete Institute. It has been published by the Portland Cement Association, 33 W. Grand Ave., Chicago, in co-operation with the Concrete Reinforcing Steel Institute and The Rail Steel Bar Association. This exceedingly valuable handbook, by a recognized authority, has been made available at the nominal price of \$1.00 by these associations so that it might have the widest possible distribution and use in the building industry.



It Was the Daughter of the Family Who Enlisted the Aid of the American Farm Bureau Federation and the National Lumber Manufacturers' Association in the Home Modernization Pictured in the Motion Picture "Transformation."

Steel Frame Construction Perfected for Homes

Demonstration House at Pittsburgh Uses Steel Frame and Fireproof Construction Which Meets Practical Requirements of Architect, Builder and Owner

By TYLER S. ROGERS

THE idea of adapting the steel frame of skyscrapers to the construction of fireproof homes is not new, but its successful development has taxed the ingenuity of engineers and architects for many years. In the attractive Mission Hills section of Mount Lebanon, a suburb of Pittsburgh, a steel frame house is being erected for Mr. W. H. Shaffer, Jr., which represents an exceptionally important turning point in the development of the steel frame idea.

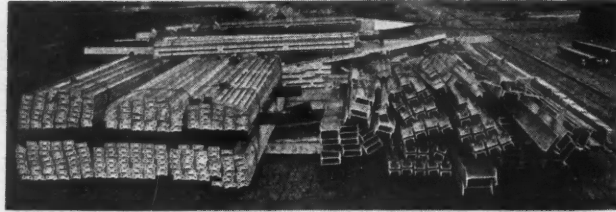
The steel frame employed is the first of its type that meets all of the practical requirements of the architect, builder and owner. Convinced that a practical point of development has been reached, a number of important manufacturers of building materials have joined in this enterprise to make it a real demonstration of modern fireproof construction.

The house was designed by Lyon & Taylor, architects, of New York, to meet the owner's particular requirements for

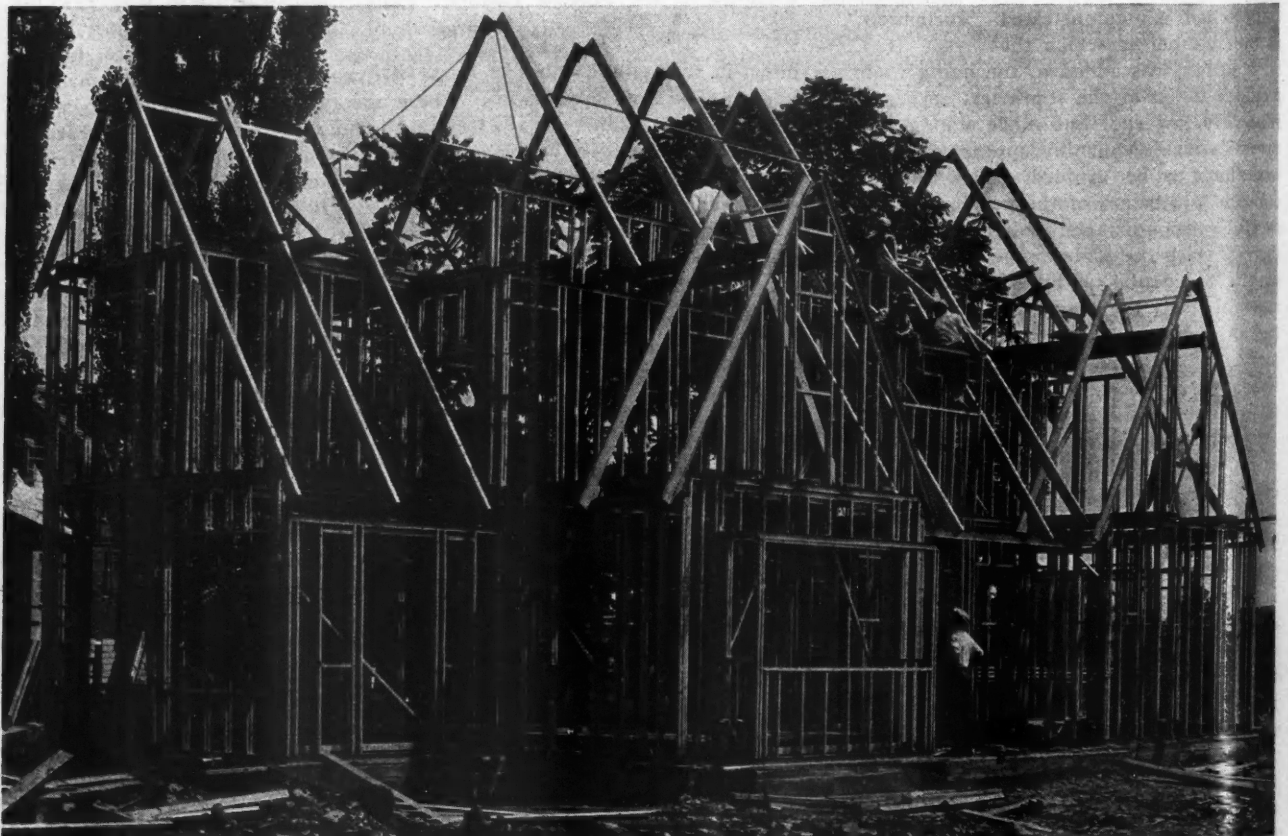
his future home. The supervision of construction as well as much of the development of the use of other building materials with this improved type of steel framing has been the work of Mr. L. Brandt, housing engineer of Pittsburgh. The frame was detailed, fabricated and erected by one of the most prominent of the great steel companies, and the house is being built by a Pittsburgh contractor—the L. O. Maines Construction Company.

The chief interest is the fact that the owner was able to plan his house without

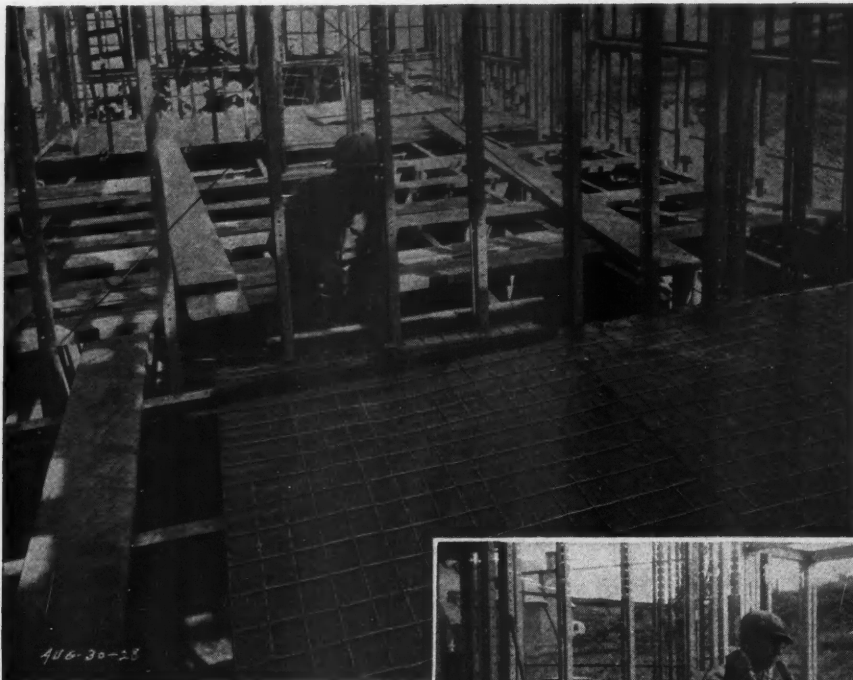
being restricted in its arrangement or style by limitations which heretofore have encumbered the economical use of steel as a framing and structural material. The architects were able to carry out the owner's plan and space requirements and to design the architectural features with the same freedom and facility to which they have been accustomed in designing masonry or wood frame houses. This feature alone represents a real advance; for heretofore all



Here Is the Steel Frame for the Pittsburgh Demonstration House at the Mill, Bundled Ready for Shipment. Everything is complete, ready to bolt together on the job.



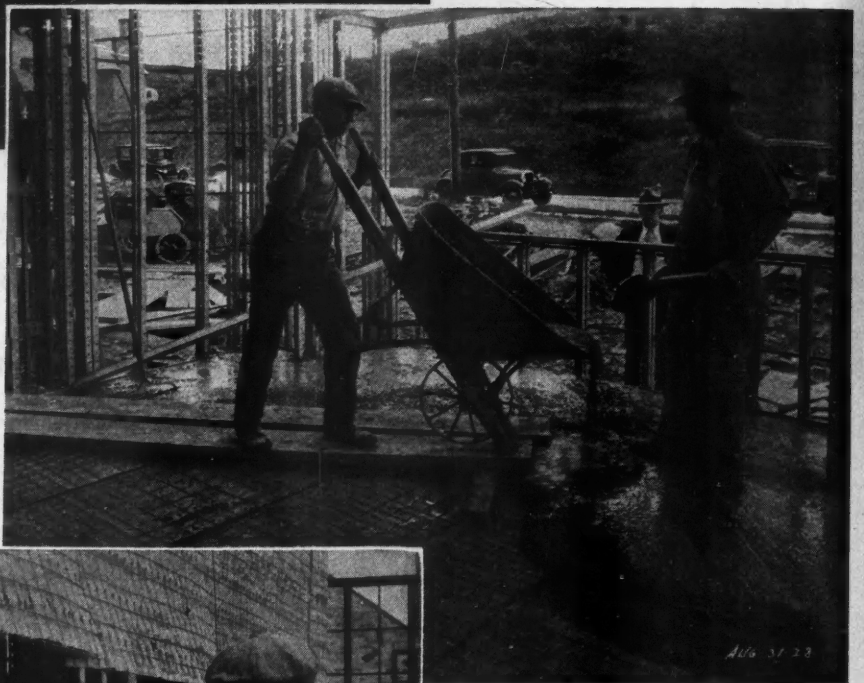
The Skeleton Erected for the Fireproof Steel Frame and Brick Faced Home Being Erected for Mr. W. H. Shaffer, Jr. at Mount Lebanon, Near Pittsburgh, Pa. Lyon & Taylor, architects, New York; L. Brandt, housing engineer, Pittsburgh; L. O. Maines Construction Company, contractors. This general view of the steel frame shows how the steel frame closely follows standard wood framing methods. The architectural design is not limited in any manner by the use of this type of steel frame.



This Floor Construction of Steel and Concrete Requires No Forms. The steel fabric is stretched and clipped in place and then the concrete is poured on as shown to right.

the heart of the system, for it permits assembly within a maximum dimensional limitation of 2 inches in any direction.

When the architect's plan is received at the mill, an engineer prepares a framing plan and bill of materials in the ordinary manner. All of the prin-



The Steel Mesh and Waterproof Paper Is Strong Enough to Walk on; but It Is Better to Lay Down Board Runways, as Here.

of labor required for fabrication by substituting machine methods; it permits carrying standard structural units in stock; it gives the architect full freedom in design; and it enables the builder to follow erection methods that have already become familiar to him through the use of wood framing.

Since the frame of a dwelling represents only from 10 to 20 per cent of the cost of the completed house, even greater importance is attached to the methods of employing other standard building materials in conjunction with the structural steel framework. In this house the exterior walls are reinforced brick faced, employing a new type of reinforced veneer construction. Over the exterior surface of the framing members a welded mesh reinforcing fabric that has a heavy waterproof backing is applied by means of ingeni-



A Corner Detail of the Pittsburgh Steel Frame House, Showing Many Features of Construction. Note the corner post and typical studs; the perforation of all steel members, including the sill formed of two channels; also note the wind bracing wires and turn buckles. Illustration shows how attachment clips for plaster base (welded mesh reinforcing fabric with waterproof backing) is fastened to the studs at regular intervals.

General Outdoor Adv Co

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40 EAST 49th ST.
NEW YORK, N.Y.

HOUSING ENGINEER - L. BRANDT
VANDERGRIFT BLDG.
PITTSBURGH, PA.

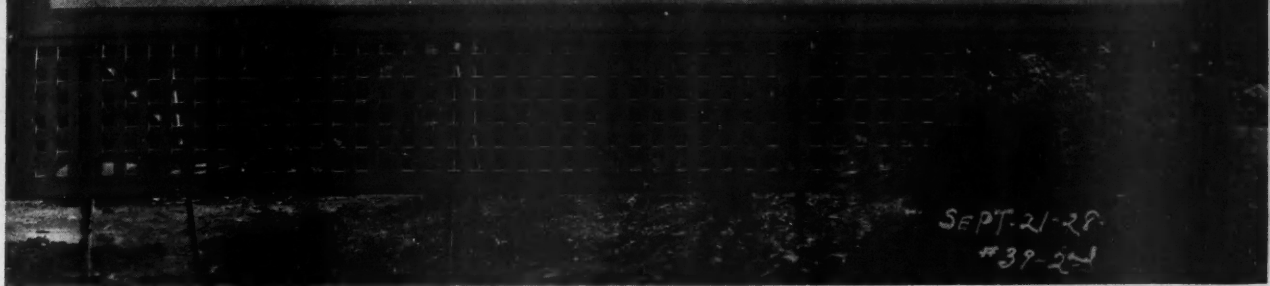
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This ALL STEEL SIGN Made of TIFFIN FACING, RITER CONLEY FRAMING and ONE TUBULAR ANGER ANCHORS



This Impressive Display Board Stands Outside the Shaffer Demonstration Home in Pittsburgh. Very appropriately this sign, including the lattice work below, is all steel.

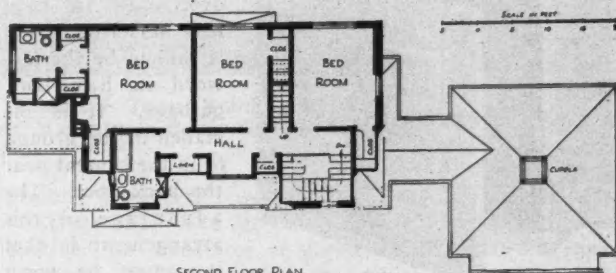
ious clips which are in turn attached to the studs and corner posts through the perforations which have already been referred to in these members. The galvanized steel fabric is of the type employed for stucco construction and is so arranged that when stucco is applied the waterproof backing is pressed away from the reinforcing wires, which become embedded in the stucco and function like the reinforcing steel used in concrete structures. Outside of this fabric a 4-inch brick facing is laid and the cement mortar is run down in back of the brick against the reinforcing fabric with which it forms a perfect bond. The waterproof backing damp-proofs the interior of the structure and adds an insulating membrane. For additional security, wire wall ties are embedded in the horizontal joints of the brickwork and clipped to the reinforcing wires of the fabric.

The roof deck in this house consists of wood purlins bolted to the rafters which in turn carry a 2-inch plank roof deck and a slate roof.

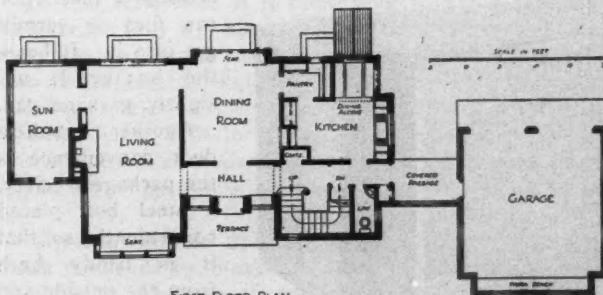
The floors in this fireproof home are of concrete, which is laid without the use of forms. For this purpose a wire fabric with waterproof backing similar to that used on the walls, but of heavier weight, is stretched across the steel floor joists and clipped thereto with special wire clips of simple design. A 2-inch concrete slab is poured directly on the fabric, the waterproof backing of which acts as a form. Here again the weight of the concrete presses the backing away from the reinforcing wires which thus become embedded in the slab in accordance with correct engineering practice. In the floor areas where wood top floor is used, while in some rooms the slab itself is finished to a level surface to receive tile or a resilient flooring material like linoleum, cork tile or rubber tile.

The interior walls and ceilings are plastered on a third

type of reinforcing fabric with waterproof backing which is slightly lighter in weight than that employed on the exterior walls. In this case the reinforcing wires are embedded in the plaster, forming a perfect mechanical reinforcement for the plaster, which assures the sturdiest type of wall.



SECOND FLOOR PLAN



FIRST FLOOR PLAN

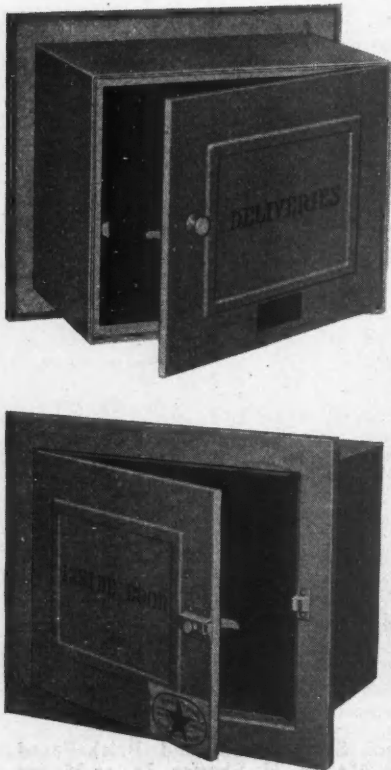
Plans of the Fireproof Steel Frame and Brick-Faced Home Being Erected for Mr. W. H. Shaffer, Jr., at Mount Lebanon, Near Pittsburgh, Pa. Lyon & Taylor, architects, New York; L. Brandt, housing engineer, Pittsburgh; L. O. Maines Construction Company, contractors.

Special provision is made in the steel frame for pipe chases, the smaller pipes being carried within the stud space and the larger soil pipes which will not go in normal 4-inch partitions being carried in special enclosures in the manner ordinarily employed in wood frame construction. Electric conduits, either of the pipe or flexible armor type, are readily carried through the walls in the normal manner and may be run between the floor slab and the ceiling beneath as required. Before plastering is started, ordinary wood grounds are attached to the steel frame to receive picture mouldings, baseboards, door and window trim and other finishing details in the usual manner.

The accompanying illustrations show the floor plans of this interesting home and the various stages in construction, indicating the manner in which the important elements are carried out as above described.

Several very interesting home conveniences or building specialties used to finish and complete the modern home have been selected by Mr. Shaffer. Some of these pertain to the fireplaces, one in the big living room and one just above in the master bed room. These fireplaces with their flues and ash vaults are laid up as one piece of masonry. There are ash dumps installed in the floor of the fireplace for convenient and quick disposal of ashes, which fall to the basement and are removed at long intervals through cast iron ash pit doors. The fireplace dampers selected are the poker control type. These dampers make for easy regulation of draft and when properly installed insure against down draft; which, if not properly taken care of causes smoke and soot to belch out into the room.

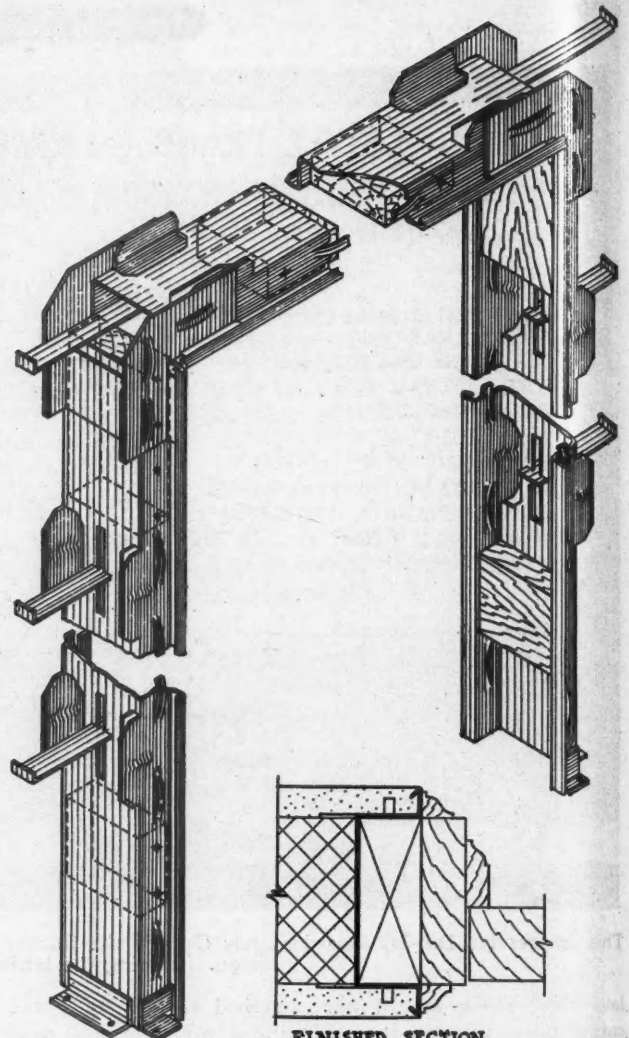
Besides the fireplace equipment, another important item is the mail box. This is installed in the wall alongside the front door, and is a convenience that every new home should have. The outside door of the mail box is made of cast bronze in an attractive dull finish. The inside door which permits the home owner to remove the mail is made of handsome brushed aluminum. There are no springs or parts to get out of order in this mail chute. It is weather-proof and attractive.



Inside and Outside Views of the Package Receiver Selected for the Shaffer Home.

The underground garbage receiver is another convenience that has not been overlooked in this new model home. It is said to be the last word in handling garbage. It is installed in the ground or in the cement near the back door. The advantage of this arrangement is that it cannot be upset by stray dogs or cats seeking a meal, nor can flies or vermin get into it. It beats the battered, unsightly garbage can.

Another kitchen door convenience is the package receiver, a steel box placed conveniently so that it is handy both from the outside and the inside. After the parcel has been put in the receiver and the door closed, it automatically locks.



FINISHED SECTION
Detail of the Steel Door Buck and Bead Used in the Shaffer Steel Frame House.

When the packages are removed and the inside door closed, the outer door is unlocked. The package receiver is especially convenient for the delivery of milk in the morning, groceries and the morning newspaper.

The above described specialties are all fireproof and in thorough keeping with the high grade quality of this steel frame house.

The advantages of steel frame construction must be obvious even to the layman. Its fireproof character is, of course, acknowledged, for while "exposed" steel and specially light steel members would lose their strength under high temperatures, all of the members employed in this construction are enclosed behind surfaces of reinforced plaster or masonry. It is well known that a plaster wall on metal lath or this new type of reinforcing fabric is an effective fire retardant, while the air space within the walls helps to disseminate the heat so rapidly that only a very prolonged fire of intense heat would be likely to do permanent injury to the structure.

The rigidity of steel is equally important and this type of construction will eliminate the cracking of plaster due to vibration, wind stresses and other strains which commonly cause trouble in ordinary house framing. Steel is non-shrinkable and it expands and contracts so little under the temperature changes that are due to weather, that there is no possibility of plaster cracks or other defects developing within the structure. The steel house is permanent, for all of the steel employed receives a heavy coating of non-corrosive paint and is further protected on both sides by a waterproof membrane and by masonry surfaces

Concrete Masonry Used for First Time in Major Construction

Cinder Concrete Block and Brick Used for Back-up, Partitions and Fireproofing in 25 Story Integrity Trust Building

FOR the first time in the history of building concrete masonry units are being used for back-up, partitions and fireproofing in real skyscraper construction. They will be used from basement to pent house in the 25-story Integrity Trust Building which now is being built at the southeast corner of Sixteenth and Walnut Streets, Philadelphia. At this writing, August 13, the structure is up fifteen stories. It is expected to have it ready for occupancy by November 1.

When completed this structure will contain a total of 350,000 cinder concrete units in various sizes and 1,000,000 cinder concrete brick. Quite a sizable order, as any salesman will agree.

And it took real salesmanship, combined with service, to land the order. Concrete products men will take their hats off to Henry ("Hank") Crowell, of the Philadelphia Partition & Building Block Company, a subsidiary of the National Building Units Corporation, who sold this job. He scored a triumph not only for his own organization, but for the whole industry as well when he obtained such important recognition of the merits of concrete masonry. It wasn't a high

pressure job either. Intelligent thinking and working plus the assurance of real service were back of this salesmanship feat.

The nature of the construction required many units of odd sizes and shape. Could Mr. Crowell's plant furnish them? Mr. Crowell assured the architect and builder that his plant could not only supply the units of the necessary sizes and shapes, but would deliver them where and when they were needed. They are being delivered on time. Not only that, they are being delivered in such a systematic manner that the masons on the job do not have to search and swear when they come to places where the odd size units are needed. Waste and cutting have been virtually eliminated which means ideal construction conditions.

Philadelphia Partition & Building Block Company worked out a schedule of the proper size units for each floor. The importance of this scheduling job becomes more impressive when it is pointed out that variations in the dimensions of the steel and openings on the various floors required special masonry handling on each floor.

The most important thing of all about this record sale

of concrete masonry is the fact that the order will show a decent profit for the manufacturer.

And that's not all. There is a repeat order in this story. The Fuller Construction Company, general contractors for the Integrity Trust Building, are entirely satisfied with the quality of the product and the service that is being rendered in connection with their delivery. This had much to do with the fact that the Bouvier Apartments, a 23-story

structure which will soon be built in Philadelphia by the United Engineers and Contractors, will also have concrete masonry back-up and steel fireproofing to be delivered by the Philadelphia Partition & Building Block Co. Approximately 165,000 masonry units and 1,150,000 concrete brick will be used in the exterior walls alone.

A. H. Lavalley, of Springfield, Mass., is the architect of the Integrity Trust Building. J. E. R. Carpenter, of New York, is the architect for the Bouvier Apartments.

Philadelphia has always been an important center of the concrete masonry industry, and many millions of units are used annually in construction of all kinds in this

region. However, it was not until contracts for these two structures had been let that concrete building units were specified for structures of greater height than 10 stories. This sale establishes a precedent which, it is expected, will win wider recognition for this material.

In this connection it is interesting to know that Philadelphia not only will have the first real skyscrapers in which concrete masonry is used from top to bottom, but that it has the largest dwelling in this country built of concrete block and brick. This is the palatial Italian villa type of country home built for John L. Jacobs, President of the Philadelphia Paper Company, in which the equivalent of 30,000 8 by 8 by 16-inch block were used. F. H. UTHOFF.



"Stevens' Master Specifications" is the title of a new book published by Stevens Master Specifications, Inc., 220 S. State St., Chicago. It has been compiled because of the necessity for a certain standardization of specifications that will apply to all types of buildings. This book is a complete and thoroughly indexed file of essential data. One copy is being presented to each of 10,000 firms of recognized architects and engineers.



Exterior Wall of the 25-Story Integrity Trust Building Under Construction, Showing How Concrete Masonry Is Being Used for the First Time in Skyscraper Construction.

Good Construction Resists Florida Hurricane

ONCE again a storm, of hurricane proportions, passing over a portion of the state of Florida, has demonstrated the value of sound construction and the wasteful economy of skimping and poor construction. One report of the damage to buildings in the storm area states that "penny-wise economy, a flare for fashion and unsound structural engineering accounted for at least half the property loss. . . . Well built houses of both lumber and masonry construction and modern office and hotel structures withstood the storm, but in addition built since original construction and in those portions of these buildings in which unsuited materials and improper construction were permitted, the hurricane wrought havoc."



Lack of Anchorage of Roof to Side Walls Accounts for This Typical Roof Loss in the Recent Florida Storm. Good construction would have prevented this damage.

Following the storm engineers of the Southern Pine Association, which has made a particular study of the effect on such storms and the best methods of withstanding them, made an investigation of the wrecked buildings and their conclusions are quoted in the paragraphs which follow.

When a hurricane of the intensity of the recent tropical disturbance which passed over South Florida strikes a house or building four strains of major importance are transmitted to the structure, any one of which may pave the way to complete destruction.

In the absence of proper bracing of the structural frame, which was observed in most of the wrecked buildings, the association engineers reported the following failures:

(1) The entire building, holding together like a box, was toppled over from the foundation. The preventive to be applied is to bolt the sills to the foundation with strong bolts which are well fastened into the foundation. Though such fastening may be done after a structure is complete, it is far better to have done it as the bolts are placed on the foundations. These bolts should be placed 8 feet apart.

(2) The wind got under the eaves of the roof, forced there by the necessity to go somewhere, and, the roof was taken away from the top plates or jarred loose so that it was easily moved. The preventive to be applied is that of actually tying the roof to the upright framing instead of merely

toe-nailing at the point where rafters meet the top-plate. Another method is to place a piece of 2 by 4 on the top-plate, spiking it to the top-plate, and after placing the rafter at the end of the 2 by 4, nail through the rafter.

The strength of such a tie is almost immeasurably greater than the simple toe-nailing of rafter to top-plate.

(3) Twisting of entire house around on the foundation. The preventive here is the same as in the first case mentioned—to bolt the sills firmly down to the foundation every 8 feet.

(4) Walls caving inward or outward. Usually this does not happen until after the roof has been lifted. The preventive is a general one throughout the building, that of build-

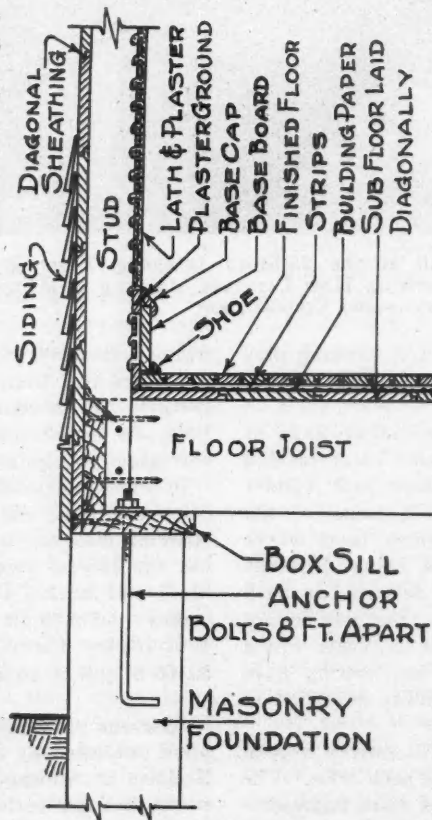
ing into the structure as many triangles as possible—bracing studs at corners, cross-bracing above windows and doors, bracing between studs, whether these studs be in outside walls or inside partitions.

Fifteen points of safe and permanent frame construction, from which the present conclusions set forth by the engineers are derived, were compiled by the Southern Pine Association after the Miami hurricane of 1926. In surveying the recent hurricane, it was found that the findings of two years ago as regards structural details of buildings left standing, as well as those demolished, again held true.

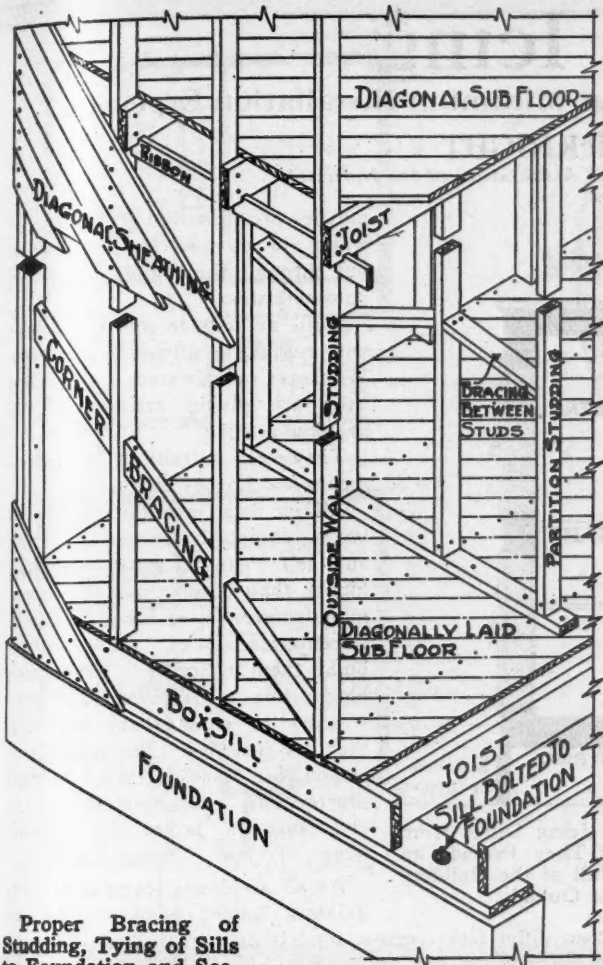
In explaining the manner of transmission of force by the hurricane to the different parts of the buildings, the engineering report continued:

We know that one part of any structure is weaker than another. The trouble is that we usually do not know where the weak spot is. The wind finds the weak spot in this way: it blows straight against a wall, which wall resists the attempt to force it down. But the joists have not been cross-bridged. The steady attack of the wind soon finds a weak spot in the placement of the joists, and the entire box of the house twists around on the foundation. This is overcome first by seeing that all sills are tied to the foundation with bolts placed about 8 feet apart.

But we have not ended here. Let us build a means for the transmission of the force by cross-bridging all joists. Thus we build up a resistance so that



Good Construction at the Line of Sill and Joist and in the Walls Is True Economy.



Proper Bracing of Studding, Tying of Sills to Foundation and Second Story to First Protect the House Against Storms of Unusual Violence.

not one or two bolts, or the bolts on one side are resisting the force of the wind, but the cross-bridging causes the wind-force to be transmitted to every part of the foundation, thus bringing about a multiplication of resistance.

The one tremendously important point about bracing is this: that the more directions into which we break down the force being applied, distributing that force in small parts to various portions of the building, the more easily does each part do its work. A combination of many resistances is far better than one resistance, it matters not how strong we may think we have built the one resistance.

Small pieces of 2 by 4 placed as stud bridging, small pieces of 1 by 3 placed as joist bridging, small pieces of 2 by 4 placed cross-wise above doors and windows—all these are adding an incomparable amount of resistance to forces from without. And the cost of this, material and labor included, is very small.

When we speak of a force being transmitted from one part of a building to another we actually mean that one resistance after another is used against the force from somewhere else. For instance, when a wall is framed with studs, a 2 by 4 or other piece of lumber is used as a 45 degree brace at each end of this wall, the force applied at either end is said to be transmitted down to the foundation by way of the 45 degree brace. If we think of it as commonly understood, the brace of 45 degrees is actually holding back the end stud from the force being applied to push it over.

But perhaps this single brace of 45 degrees is not enough to withstand the force pushing against the end stud. In

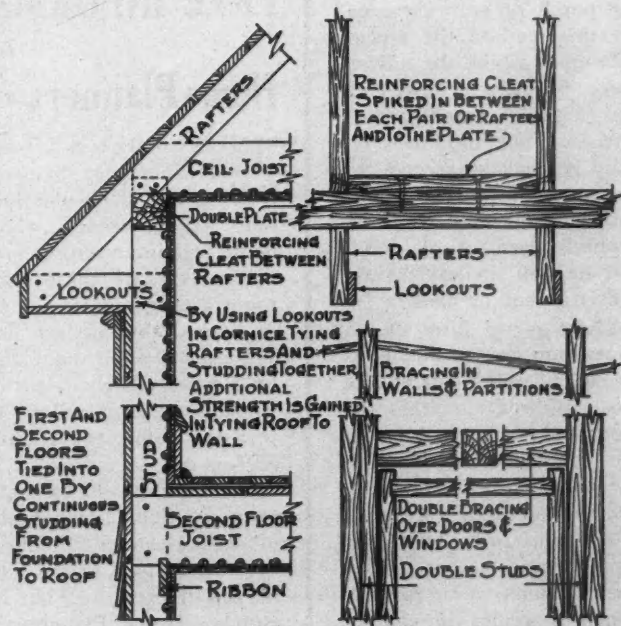
which case build in bridging between the studs in the wall, not setting them at right angles, or parallel with the sill, but tilting them at a slight angle, about 30 degrees, so that not only the 45 degree brace at the end stud is helping to hold back the force, but each of the bridging braces between the studs is transmitting a part of the force from one stud to another—that is, every stud in the wall is resisting the force being applied to the end stud in addition to the work which the 45 degree brace is doing.

If this form of construction is built into the outside walls, is it not reasonable that exactly the same form of braced and bridged construction should be used in the partition walls? Partitions are some distance away from the side-walls or end walls. Then, the braced form of construction, with bridging placed between studs in the partition, will give added strength to the outside wall at a point considerably removed from the end, where we have agreed to brace well.

For various reasons many two-story residences in the storm area were found to be constructed as two separate buildings, one on top of the other, in this wise: the studs for the first floor were put in place, with a plate on top of these. The floor of the second story was then laid by placing the joists on top of the top-plate of the first story. Above these joists on the second story the studs were placed, these again ending with a top-plate.

Now, we have a one-story structure sitting upon the top-plate of a one-story building, this top-plate being a portion of the foundation for the upper building, and all the story beneath acting as the foundation for this superimposed story on top. If we sheath the house horizontally, we end by having two separate buildings, one on top of the other, ready to break at the top-plate of the first story.

On the other hand, if this structure be diagonally sheathed, the boards pass across from one story to the other, making the top story actually a part of the lower story. We not only build in a great number of triangles to withstanding strains from two directions in a wall, but we so completely fasten the upper and lower parts of the building that a strain brought against the upper part is transmitted downward through the diagonal sheathing where it is met by more and more triangles.



Good Construction, at These Points, Tying of Rafters to Side Walls, Bracing Above Windows and Doors and Tying of Second Floor to First Is Cheap Insurance for Any House.

Outside Icing

Sells or Rents Apartments or Houses at Minimum Installation Expense

By ROBERT McKNIGHT

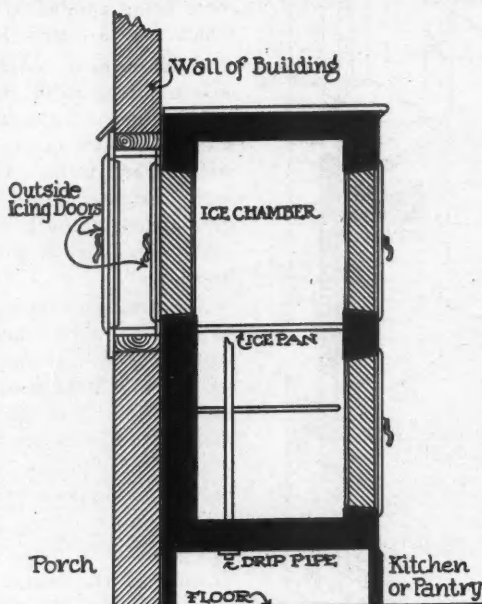
Director of Public Relations, National Association of Ice Industries

THE ice industry is now a billion dollar industry. It is selling more ice today than at any time before in its history, in spite of, or, it might be said, because of the competition of substitutes for ice. Vigorous competition has not only awakened the ice industry to a more alert merchandising of its product, but it has made the public "refrigeration conscious," more convinced of the need of proper refrigeration. And facts brought out in national ice advertising are convincing the public that the ice is giving excellent refrigeration at extremely low cost.

This year the ice industry will sell about \$40,000,000 more ice than last year, a peak year. This increase represents about 10 per cent. Ice production, with cold storage, forms the ninth largest American industry. Ice is used in more than 12,000,000 American homes, yet 48 per cent of the homes of the country are without any form of refrigeration, an excellent market for development, not alone by the ice industry but by ice box manufacturers. But even now the ice industry does 95 per cent of the refrigeration business of the country and that percentage is growing, rather than decreasing.

The ice industry in 1929 will advertise even more comprehensively. One facility that it has stressed extensively and will continue to stress is the use of ice boxes receiving ice from the outside, from the porch or rear entrance. By this method the housewife gets all of the advantages of using ice without the iceman entering her kitchen. She need not remain at home to receive the iceman. She can arrange with him to keep her ice box properly iced at all times and he will do so whether she is absent or present.

There is no form of refrigeration as dependable as ice in a well-insulated ice box. Melting ice keeps the foods cold enough, but not too cold; dry enough, but not too dry; moist enough but not too moist. Cold air drops constantly from the ice and in falling it pushes the warmer air upward. When it comes in contact with the ice it is cooled and the cycle of air circulation is repeated. Odors and im-



Ice Boxes for Outside Icing Differ from Regular Models in That They Provide an Opening Through the Wall of the Building for Receiving Ice from the Outside.

purities are dissolved in the film of water on melting ice and carried out through the drain. Ice works automatically. With an outside icer the housewife enjoys the utmost convenience. Wherever outside icers are installed they are giving satisfaction and proving popular. They help to rent or sell apartments and houses easily. All ice box manufacturers build boxes equipped for outside icing and sell them at prices but little higher than regular models. Some manufacturers keep icing models in warehouse stocks, while others build them to order. All furnish blue prints to architects and contractors to show them just how they are installed. The catalogs of all ice box manufacturers contain illustrations, descriptions, prices, etc., on ice boxes for outside icing. As all architects, contractors and builders know, outside icing ice boxes differ from regular models only in that they provide an opening through the wall of the building for receiving ice from the outside. This opening is protected by a door opening outside. Usually, behind the outside door is another door opening into the ice chamber, although some models have but one door. That opens to the air and gives direct access to the ice chamber. Doors and joints are well insulated against the warmer air outside of the ice box.

FREE INFORMATION SERVICE

for

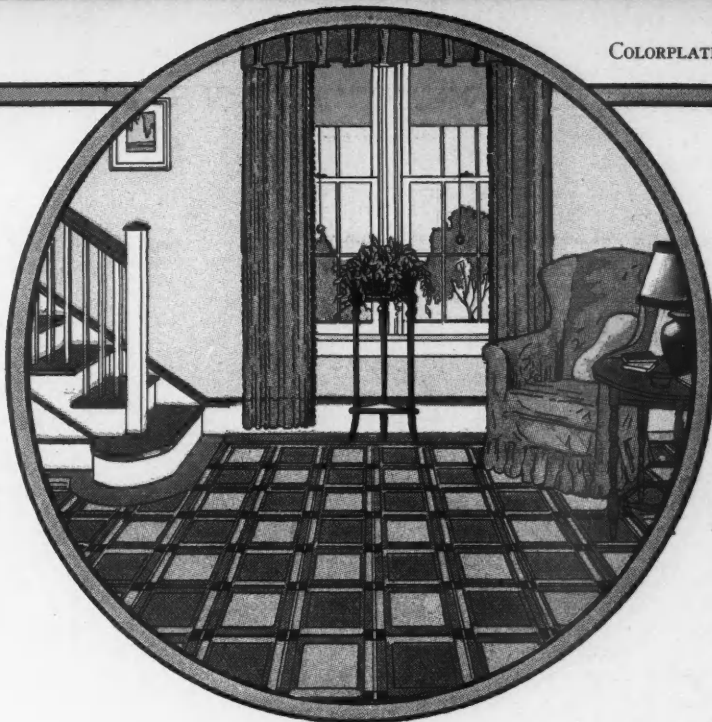
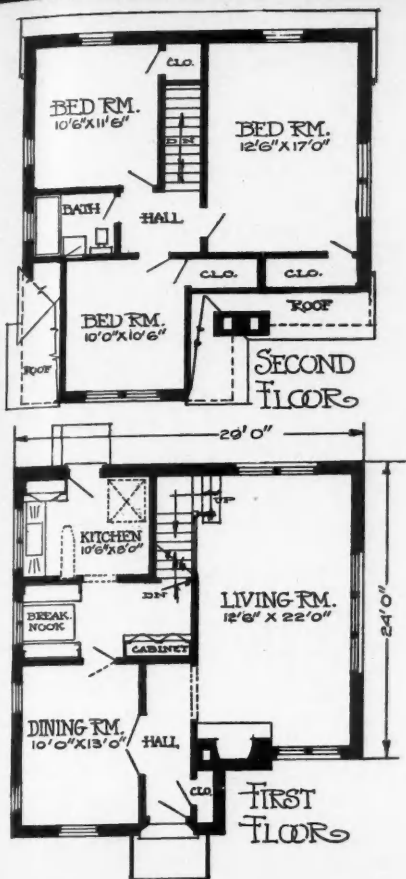
Home Planners and Home Builders

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.

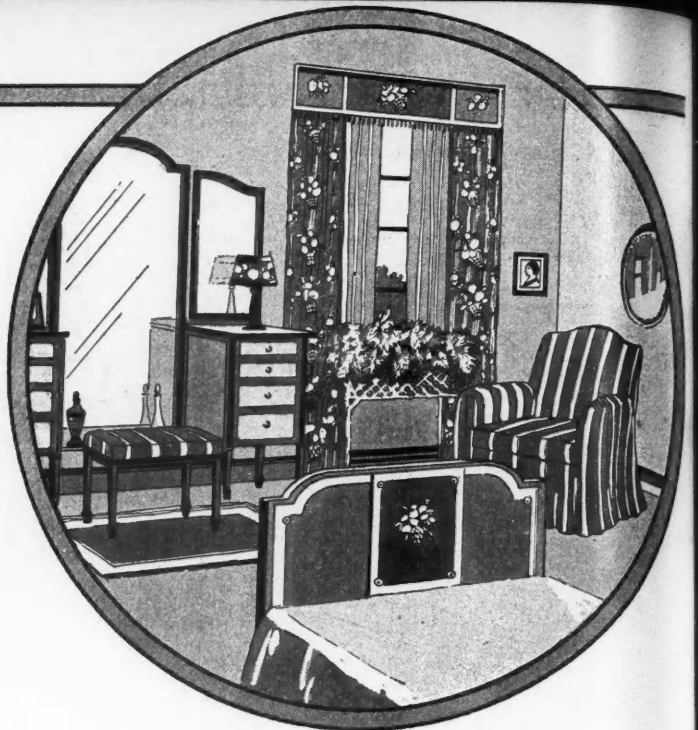
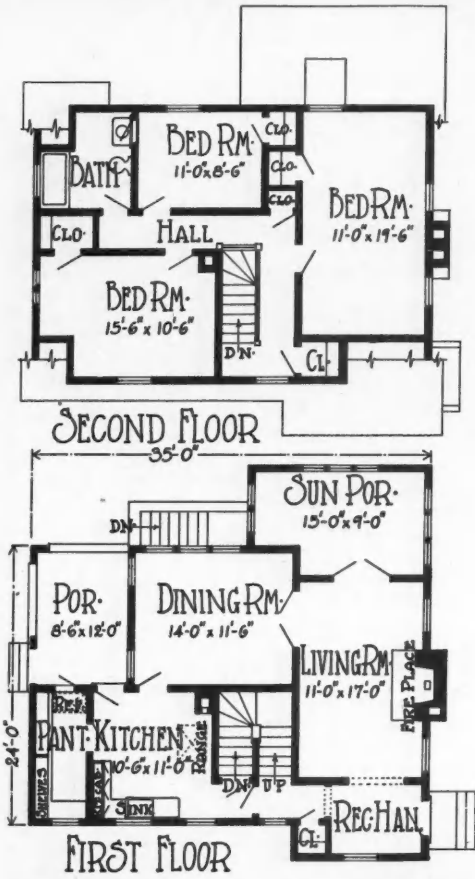
Constantly the National Association of Ice Industries is receiving inquiries concerning outside-icing ice boxes from builders at home and abroad. Although outside icers have been built into homes for more than a decade, the educational publicity of the association has aroused widespread new interest in them and many people view them as a distinctively new development. Enterprising builders should capitalize upon that feeling and help themselves to an inexpensive sales aid. Various bureaus of new home designing and construction and old-house remodeling—modernizing, if you will—have adopted outside icing facilities in their standard plans.



The KEENAN

A BRICK home of delightful charm—a flavor of the early English. The pattern brick work in the gable, the ornamented chimney, the antique shutters, and the blended color roof unite to raise this design out of the ordinary. Inside six fine rooms are provided, besides the bath room, breakfast nook, entrance hall and several large closets. The stair goes up from one corner of the living room, as pictured in the color sketch above.

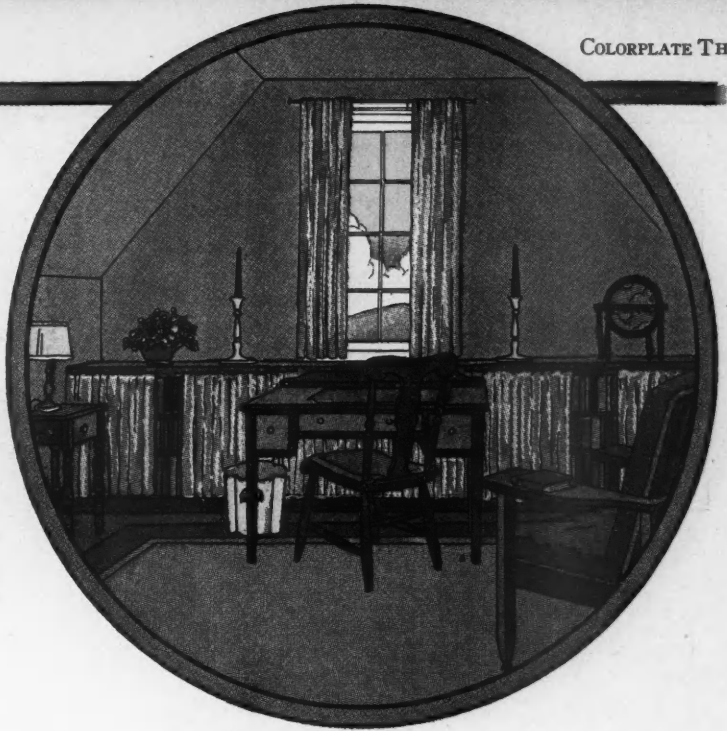
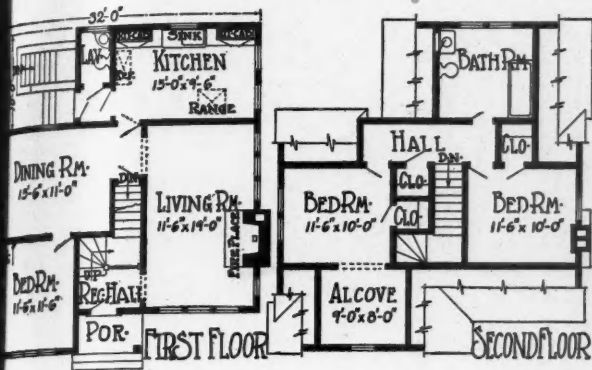




The GRANBY

A HOME in the English Colonial style is presented herewith which contains several unusual features. The reception hall, living room and sun porch arranged across the front have the prominent position, while the kitchen, dining room and enclosed rear porch have the quiet and privacy of the garden. On the second floor three large bedrooms, five closets and the bathroom are located. Above in the circle is shown a glimpse of one of the bedrooms with appropriate furnishings.



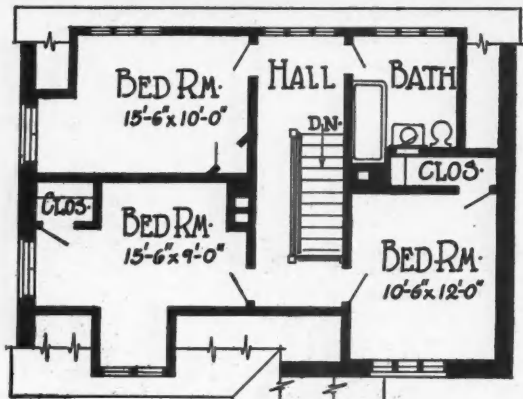


The JARDINE

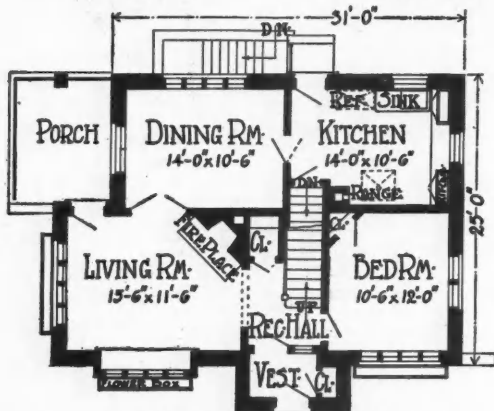
BELOW we present an unusual design of English lines containing six rooms and bath. In many homes the downstairs bedroom is wanted and here is a design which gives this feature in a very satisfactory way. This downstairs bedroom nicely supplements the two large bedrooms on the second floor. The other rooms in this house are laid out most effectively. It makes a very home-like home.

In the interior color sketch is a suggestion for handling the front alcove part of the bedroom as a library or study. Such a room affords great opportunities for individuality and adds to the interest of the home.

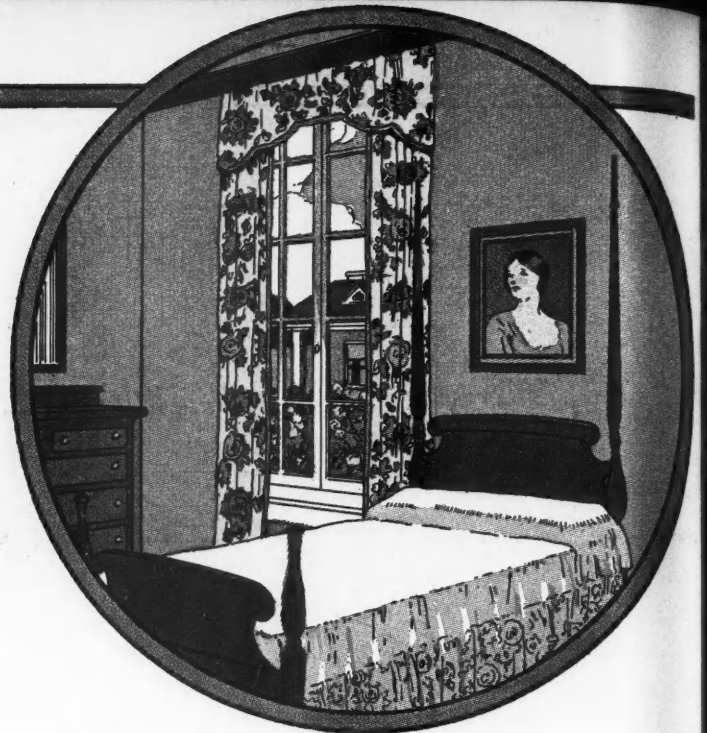




SECOND FLOOR



FIRST FLOOR



The JUNO

HERE is a compact, substantial home of modern English lines containing seven rooms and bath. A downstairs bedroom is a feature that is often wanted; for this room could be nicely used as a library, office or study. Three large bedrooms are found on the second floor.

In the color sketch above is a suggestion for window treatment and furnishings appropriate to this design.



APARTMENT HOMES

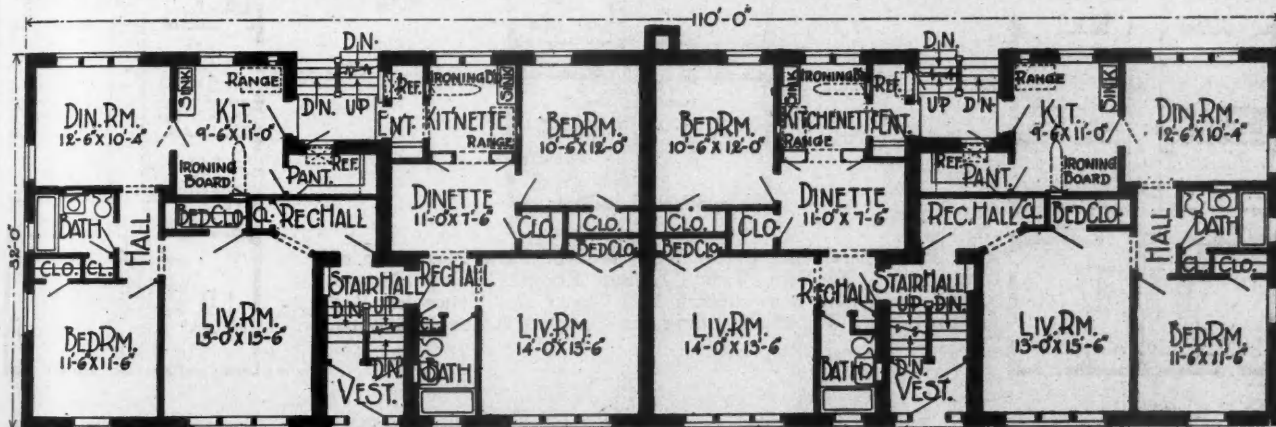


Income Building for Shallow Lot

Four-Room and Three-Room Units with Closet Beds and Dinettes Give Eight Attractive, Well Lighted, Efficiency Apartments in Two Story Building, 32 by 110 Feet

THE particular point of interest about this apartment building is the fact that it is adapted to a type of location which is sometimes a problem for the apartment designer, that is a very shallow lot. The problem has, here, been worked in a manner which is worthy of study. Not

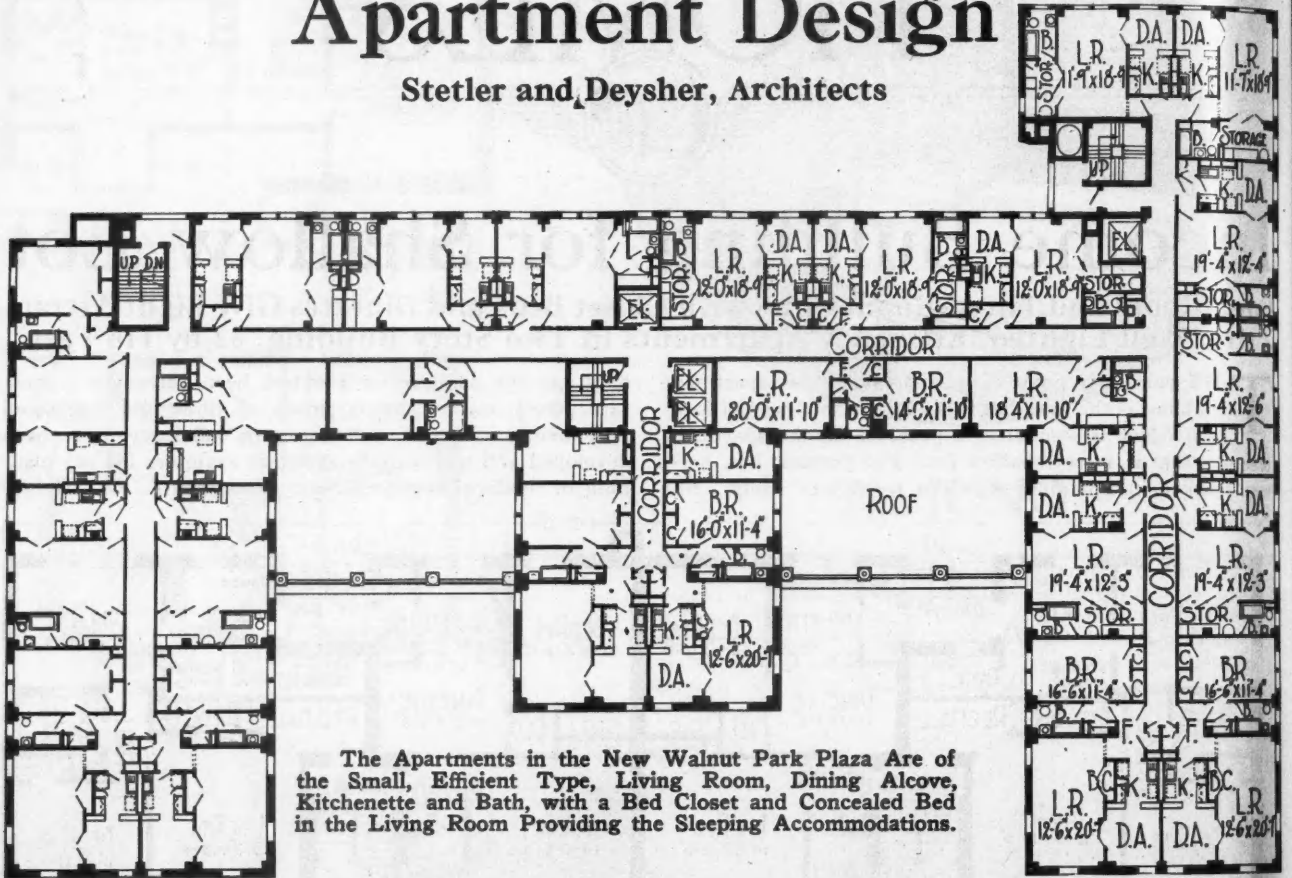
only has the shallow lot problem been solved in a most satisfactory manner but a group of three and four-room apartments, with four and five-room efficiency, have been developed and will provide excellent examples for the planning of modern, small, efficiency apartments.



Photograph and Floor Plan of Inexpensive Yet Good Income Building on North Lockwood St., Chicago. Bernard L. Roos, Architect.

Walnut Park Plaza is Typical of the Best in Modern Apartment Design

Stetler and Deysher, Architects



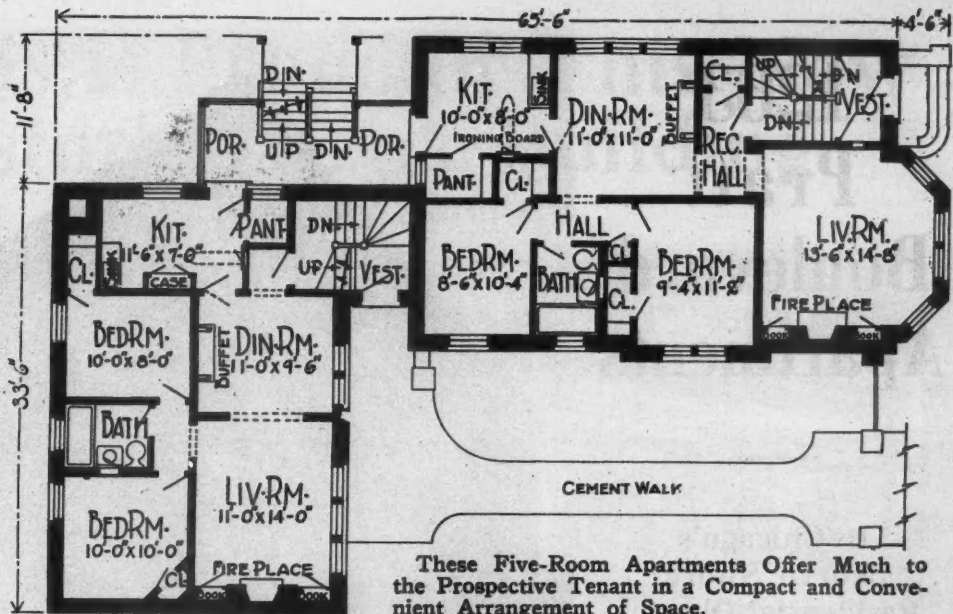
The Apartments in the New Walnut Park Plaza Are of the Small, Efficient Type, Living Room, Dining Alcove, Kitchenette and Bath, with a Bed Closet and Concealed Bed in the Living Room Providing the Sleeping Accommodations.



Here Is the Architect's Conception of How the New Walnut Park Plaza Will Appear When Completed, a Building Which Will Add in No Small Measure to the Beauty of the Residential District of Philadelphia, Where It Is Being Erected.

Beauty Achieved by Omitting Ornate Features

BERNARD L. ROOS, Architect



These Five-Room Apartments Offer Much to the Prospective Tenant in a Compact and Convenient Arrangement of Space.



This Apartment Building, Recently Erected on North Hamlin Ave., Chicago, Is the Sort of Dwelling Which Is Being Built in Large Numbers in All Parts of the Country and It Represents What Good Architectural Design Can Do with a Simple Treatment Adapted to This Unpretentious Type of Building.

Memphis is Proud of This New Investment Bank Building

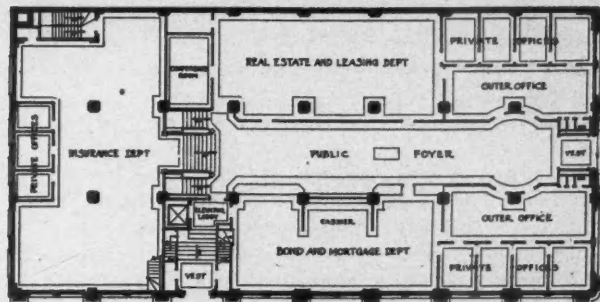
HANKER & CAIRNS, Architects



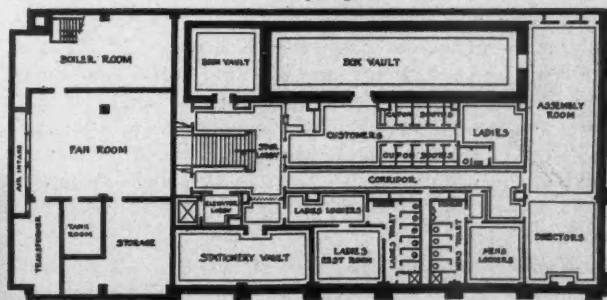
With Its Classic Exterior, This New Business Home of Marx & Bendorf, Investment Bankers, of Memphis, Tenn., Is a Noteworthy Addition to the Architecture of the City. It was designed by Hanker & Cairns, architects, of Memphis.

RECENTLY Marx & Bendorf, investment bankers of Memphis, Tenn., moved into a new building which has been described as one of the finest of its kind in the South, if not in the entire country. This new building is a two-story, mezzanine and basement structure, occupying a space 75 by 150 feet. The exterior is in classic style, finished in smooth cut stone. The interior is decorated with Missouri rose marble, cain stone and ornamental plaster.

On the ground floor the entrance leads into a spacious public foyer, with the insurance department at the far end. Along one side are ranged a group of private offices and the bond and mortgage department. On the other side of the foyer is another group of private offices and the real estate and leasing department. The entire first floor is furnished in walnut, while the mezzanine, balcony and directors' room are in mahogany and the agents' room in oak.



FIRST FLOOR PLAN



BASEMENT PLAN

In Addition to the Basement and First Floor Shown in These Plans, There Is a Mezzanine and Second Floor, Providing Additional Office Space.

The latter occupies the entire rear portion of the second floor, while the front portion of this floor has been equipped to accommodate the offices of a large law firm. The adjusting and inspection departments of the insurance department are also housed on the second floor. The mezzanine provides for the telephone switchboard.

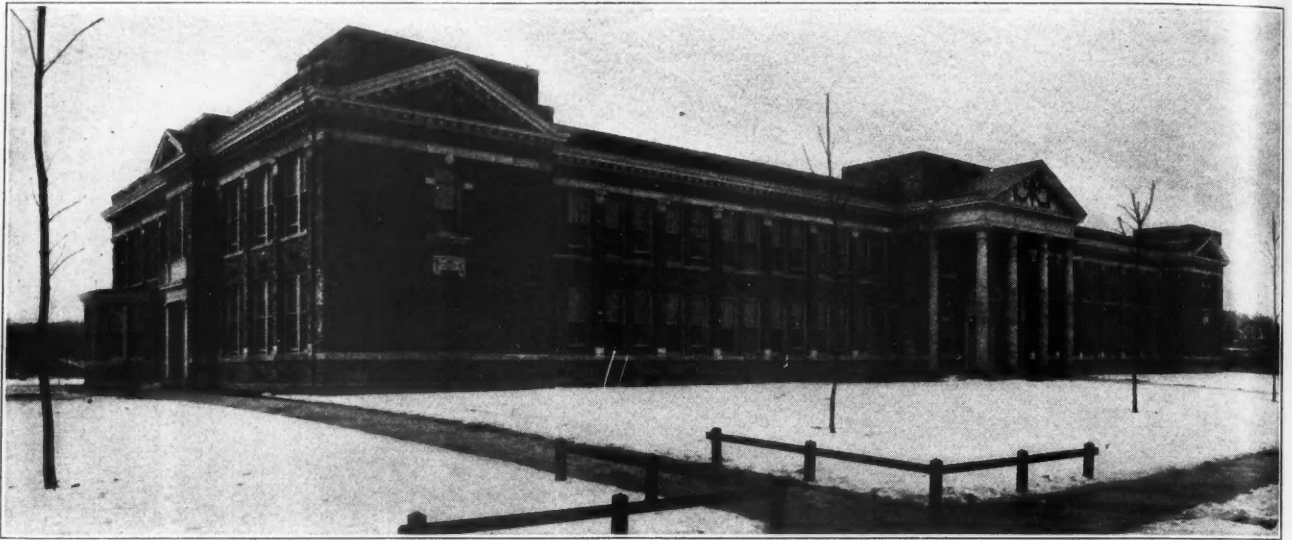


The Interior of the New Marx & Bendorf Building Is Finished in Missouri Rose Marble, Cain Stone and Ornamental Plaster and Furnished in Walnut.

An Ideal Platoon School

The Robert J. Vance School, New Britain, Conn.
Warren Holmes-Powers Co., Architects,

By E. A. MARTINI



"The Robert J. Vance School, at New Britain, Conn., Can Be Called Ideal and Is an Excellent Example of a Platoon School. The architects have planned it in strict accordance with all modern ideas pertaining to school buildings and their needs."

WHAT constitutes an ideal school?
A fireproof building substantially constructed assuring perfect safety from destructive elements?
A building amply lighted, well ventilated, with comfortable seating arrangement?

Or, one in which the teaching staff is the best in the country?

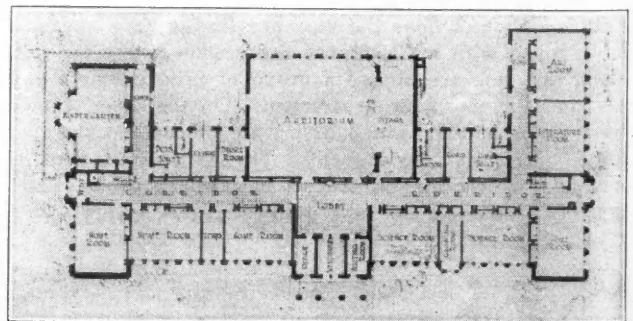
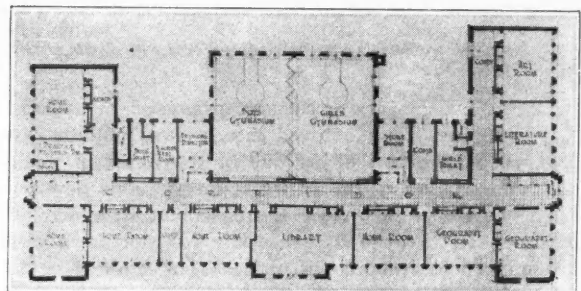
A school with perfect deportment where everything runs like clockwork?

No, a school may possess all these qualifications and still be far from ideal. A model home can be defined similarly to an ideal school: a structure free from all unwholesome elements whose occupants are unrestrained in their endeavors to develop their character, health and intellect.

Four walls and a roof do not constitute a classroom according to our modern conceptions. There are considerably more details to consider when planning a school. Naturally, the first items are essential, firesafe building, perfect ventilation, light, and efficient teachers. Of even greater importance are: adequate conditions for study and correlation between school requisites and the means of attaining them. An ideal school is the opposite of the old fashioned one where children were uncomfortably seated, watching the clock until recess.

One educator has stated: "In our modern life the child lives at school and attends home." In order to give such children full freedom to develop their minds and bodies, the platoon system is being established in progressive cities. In such a system each "platoon" uses a different room for each study, consequently, each classroom serves the purpose of teaching a specific subject. There are English rooms, arithmetic rooms, science rooms, etc., which require individual architectural treatment and details to meet the needs of the particular subject.

The Robert J. Vance school at New Britain, Connecticut can be called "ideal" and is a typical example of a platoon school. The Architects, the Warren Holmes-Powers Company, have planned it in strict accordance with all modern



This Building Was Constructed Under the Holmes Unitable System, Making It Economical to Build and Adaptable to the Changing Needs of the Community.

ideas pertaining to school buildings and their needs. Every minute item which tends to further educational interest has been considered.

Upon entering the building through the vestibule we reach the main foyer or welcome room, with convenient seats, an attractive fountain, interesting exhibition cases, entrances to the offices, the auditorium and main corridors. This room is one of the most attractive in the building and is in reality a welcome hall to give the pupils the feeling that they are truly welcome, and that a school is not purely a building to be locked up in until you know



This View of the "Activity Room" Shows How the Interchangeable Cases Are Built Into the Walls of Each Room to Meet the Special Requirements of the Department.

your lesson. Just a glance at the pictures and articles of interest will substantiate this statement.

The corridors opening off each side of the foyer with their linoleum and terrazzo floors and cases are also attractive. The center strip of linoleum flooring helps to subdue the noise of the traffic. The cases built flush with the walls exhibit exceptional work performed by the pupils. Such exhibits tend to stimulate the children to strive for a higher quality of workmanship and are of great value in our modern system of education.

Passing through the corridors previous to entering the various classrooms, it is noticeable that no open doors are visible. At first thought the doors appear to open into the room rather than out, but upon examination it is found that the distance between corridor and classroom measures three feet, two inches, the width of the door and hinge. Hinged on the classroom side, each door is placed in a recess. This construction eliminates the disadvantage of obstructing the main corridor when a door is opened. Located at the extreme rear and front of each room, these glazed doors permit the superintendent to see the entire room from the recess, while the pupils cannot look into the corridor from their seats. Two doors from each room to the corridor are advisable in a platoon type school to facilitate rapid access and egress for the two classes, one passing out—the other in.

The average reader may presume the walls to be 3 feet, 2 inches thick and, if this were so, it would be a waste



The Library of the Vance School Illustrates How Several of the Units Under This System of Construction Can Be Used as a Single Room.

of space and money. The distance is three feet, two inches, not the walls, and the space is not wasted. Placed at regular intervals are so-called H-piers; concrete supporting piers built in the form of the letter H, a construction invented by the architects. These piers are 2 feet by 3 feet 2 inches in size with one opening toward the corridor and the other toward the class room. These openings, covered with metal lath and paster on their outer sides, are used for air flues and for the necessary piping.

When the piers are set at ten foot intervals this arrangement allows an 8 by 3 foot space between them which instead of being wasted is utilized. Where exit doors and their recesses do not occur, class room or corridor cases, exhibit cases and



The Main Foyer of the Vance School Has Been Called the Welcome Room, for It Is Designed to Make the Pupils Feel They Are Truly Welcome and Not Merely "Locked Up" Till They Learn Their Lessons.

teachers closets are built. Each class room case is designed for the needs of the specific subject taught in the room. Each one serves its purpose.

For instance, the case in the geography room has compartments for maps and map making material. Provision is made in the social science room for current magazines. A sewing room contains drawers for pupils' work. Of special importance is the fact that all single cases are the same width and double ones merely twice these dimensions.

If it becomes advisable to alter rooms to teach a different subject, it is a simple matter to interchange the cases because of their identical size.

To insure a maximum amount of quiet all floors in the class room are covered with battleship linoleum.

On the class room side covering the H pier opening are bulletin boards of cork composition to be used as tacking space for pictures or notices interesting the pupils. Behind these boards are panels which facilitate reaching the pipes in the H pier flues, when necessity demands it. No workman loses time trying to locate piping. It is all in the H piers. Below the boards are registers to conduct the foul air from the room to the roof through the opening in the piers.

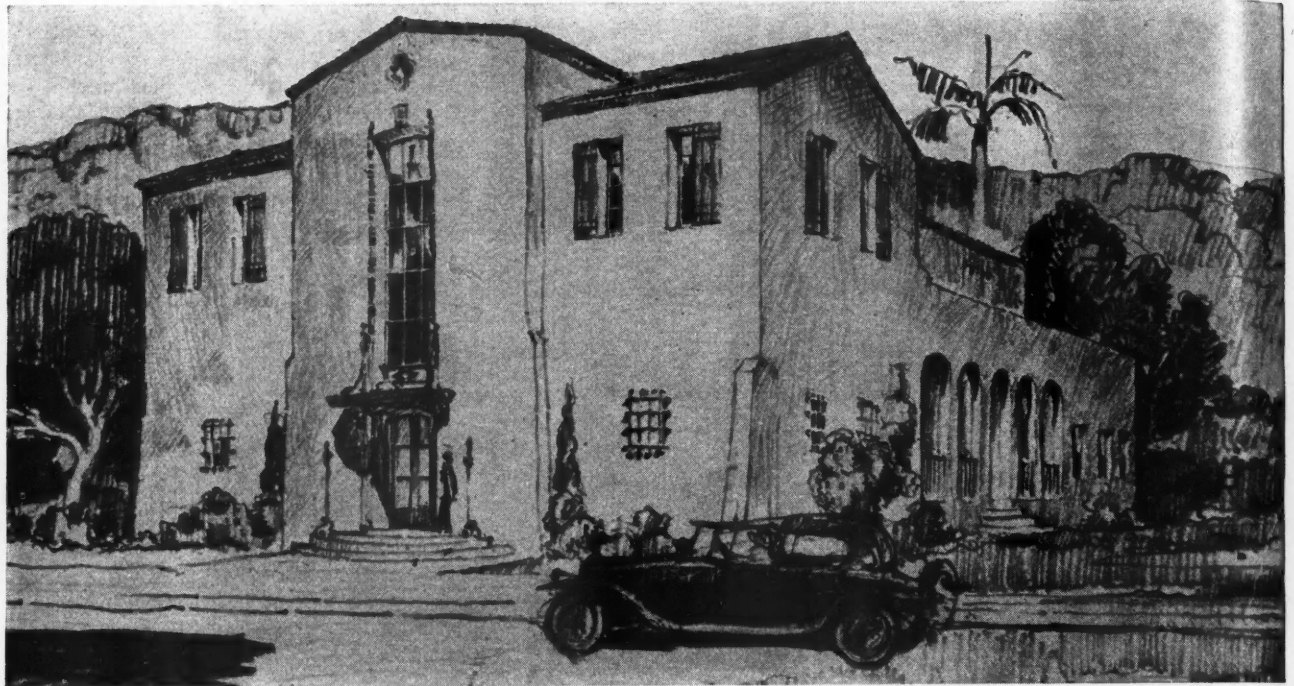
This school is constructed under the Holmes Unitable system. This system makes it possible to build an entire structure in sections similar to those in sectional book cases. The main part of the building is erected in units which are identical in size, each one being ten feet wide and the depth of class room and cir-

(Continued to page 95)

A Small Lodge Building

A Small Masonic Lodge Building Exceptionally Well Planned

EDWARD E. RUST, Architect



A Pleasing Adaptation of the Spanish Style of Architecture Is Seen in This Lodge Building Which Is of Frame Construction Finished in a Deep Cream Stucco and with a Roof of Dark Red, Burned-Clay Tile.

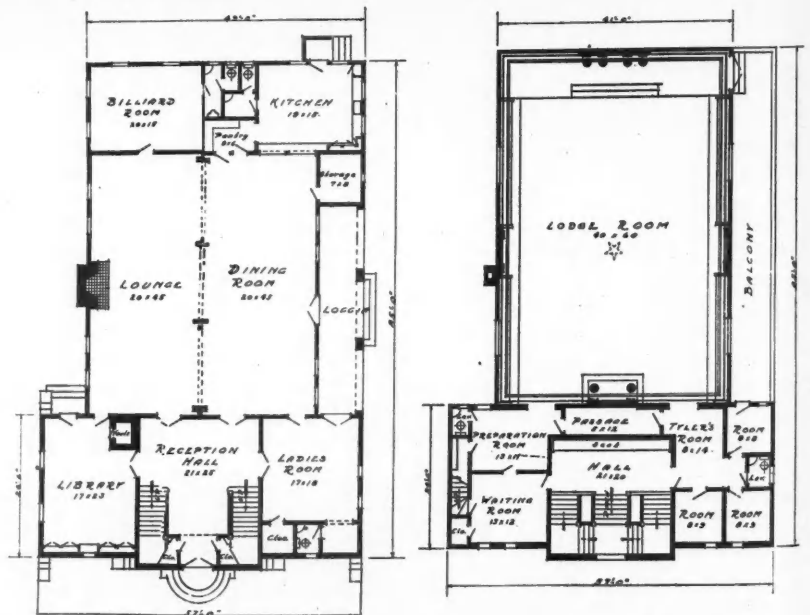
THE illustrations here show a small Masonic Lodge building that is not only very attractive in architecture but has an especially well-arranged interior. It is the home of Eagle Rock Lodge No. 422, A. F. & A. M., of Eagle Rock, Calif., and was designed by Edward E. Rust, architect, of Los Angeles.

In architecture, the building is a pleasing representation of the Spanish style. The outside walls are of deep cream cement-stucco over metal lath and frame construction, resting on a solid concrete foundation, and the roof is composed of burned-clay tile, in a dark red color. The quite limited wood trim of the exterior, including shutters of the rustic order at the second-story windows, is done in old blue, and the lower front windows are grilled with black wrought iron.

The front door, at either side of which stands a tall electric light standard of wrought iron, is of dark brown oak, attractively paneled, and directly above its small bracketed hood there is, for lighting the entrance hall and stairway, a tall window which bears the Masonic emblem in art glass. The staff work at either side of this window, as well as the entrance hood, is in tan.

An enhancing feature, architecturally, of the exterior is a long, narrow corridor, or loggia, on one side, designed with a total of five arches and partly enclosed by black wrought iron grille-work. It is floored with cement, and provides a side entrance to the dining room. Above is a long balcony, accessible from the second floor room.

The building has a width of 57 feet and a depth of 85



The Arrangement of Floor Space Is Handled in a Manner Notably Practical and Pleasing with Ladies' Room, Dining Room, Lounge and Library All Opening Off the Reception Hall.

feet. It contains, on the ground floor, a large reception and stairway hall, ladies' room, library, lounge, dining room, billiard room, kitchen, kitchen pantry, toilets and a small storage room. On the second floor is located the lodge room, as well as a number of small rooms used for lodge-meeting purposes.

A number of details in reference to the interior planning are especially deserving of study. The reception hall, 21 by 25 feet in dimensions, provides direct access, in each

instance through double doors, to the ladies' room, the library, the dining room and the lounge; and from it, to right and left, rise two separate stairways. Underneath these stairways, and opening into the hall, are two general utility closets, and in the landing hall of the second floor there is a long built-in seat.

The ladies' room is equipped with both a closet for wraps and a lavatory, and in the library are found a pair of built-in bookcases, equipped with glass doors, a lower cabinet of concealed shelves for odds and ends between them, and also a built-in fireproof vault. The dining room and lounge, the later possessing a large fireplace, are separated by folding doors, to enable their being thrown together into one large room, if desired.

The kitchen is provided with the usual sink and commodious built-in cupboard room, and in the pantry is a serving shelf. The second-floor conveniences include a closet in the waiting room and two lavatories, and the lodge room, in addition to the customary features, is equipped with two long built-in seats for members on either side.

The finish of the interior is simple and inexpensive in style, but is attractively dignified and pleasing. The woodwork, save for the stationary equipment of the lodge room, which is of oak, consists of pine throughout, and is finished in white. The walls are plastered and tinted, different color shades being employed in the various divisions. In the lodge room the walls are treated in paneled style, the plastered areas being done in light cream with a border beading effect in dark, old ivory. The ceiling of this room is tinted in skyblue and embellished with gold stars.

This building, as a lodge home for a comparatively small membership, offers, as will be observed, a number of particularly interesting and practical suggestions, and at the same time presents a most creditable neighborhood appearance.

CHARLES ALMA BYERS.



An Ideal Platoon School

(Continued from page 93)

ridor deep. Each unit contains one H pier, one double window, separate electric outlets and individual heating and ventilating units. An average classroom 30 feet wide is composed of three units, single ones ten feet wide are employed for stairs, toilets, offices, etc.

If it is necessary to change classrooms or their dividing partitions in the future the actual construction remains intact as these partitions are not bearing ones and can be rebuilt wherever the new conditions require. Provision is made in the original construction to support such a partition between each unit by placing an extra joist in the floor. This standardization naturally reduces the cost

of construction to a great extent. Standard size lumber used in the construction of the piers can be reused when one part of the building is completed. The outside brick walls are carried up while the concrete is poured. As all dimensions are identical in each unit little time is wasted taking measurements. A contractor experienced with this class of construction can figure a large part of the building by counting the units and multiplying by the cost of one.

In proportion to the growth of a community schools must be enlarged. In ordinary construction it is seldom

practical to build an addition to a school unless provision has been made in the original building. The system used in the Vance School provides for future expansion by extending the two rear wings, when necessity demands it. The same style of architecture can be carried out, which will improve rather than impair the appearance, the final result will be a harmonious structure rather than a patchwork of several buildings connected by corridors. This latter condition can be seen all over the country and modern school planners are endeavoring to prevent recurrence. Their aim is to build schools with exteriors which are a pride to the community.



Will Standardize Refrigerators

THE establishment of national specifications for domestic refrigerators to permit their purchase on the basis of quality and performance is to be undertaken by a technical committee representing manufacturers, dealers, purchasers,

government departments and all other interests concerned, it has been announced by the American Engineering Standards Committee, under whose auspices the work will be conducted. A general conference of all interests concerned with domestic refrigerators, voted unanimously in favor of standardization.

This conference decided that the standardization activities, for the present at least, should be devoted chiefly to ice boxes and other refrigerators which may contain units operated by gas or electricity.

"The need for specifications to guide the purchaser may be judged from actual tests of three different refrigerators of about the same size conducted by a manufacturer," says the announcement. "To maintain the same temperature inside the ice box, one refrigerator melted 22 pounds of ice per day, another melted 28 pounds per day and a third 34 pounds. In other words, the third refrigerator required over 50 per cent more ice than the first to maintain a proper temperature. Yet a buyer, unaware of this, might pay more for the poor refrigerator than for a good one. In another test, it was found that the use of extra insulation representing a cost of \$20 resulted in a saving in ice of about \$9 per year, an annual dividend of 45 per cent.



Close-Up Photo of the Entrance of the Eagle Rock Masonic Temple. Notice how closely the finished building follows the architect's preliminary sketch.

HOW DAN DOES IT



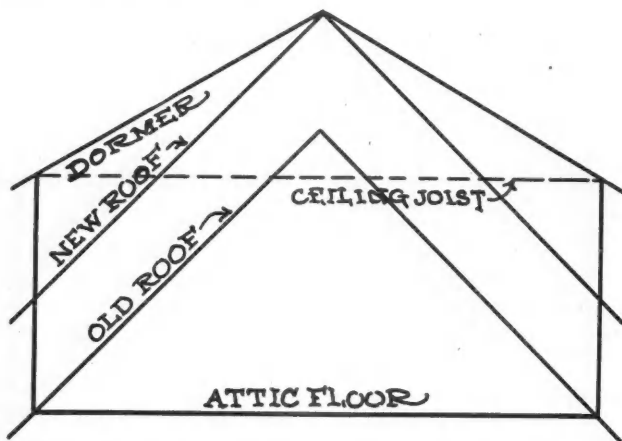
A Department for Passing "Life Savers" along to other Builders

\$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.

Building the New Roof First

SOME time ago I had a difficult job which I had to perform alone. I wanted to add rooms on the upper floor of a house and to do this it was necessary to elevate the roof about five feet and add some dormers. As I did not want to take a chance on rain I figured out a way to build the new roof first.



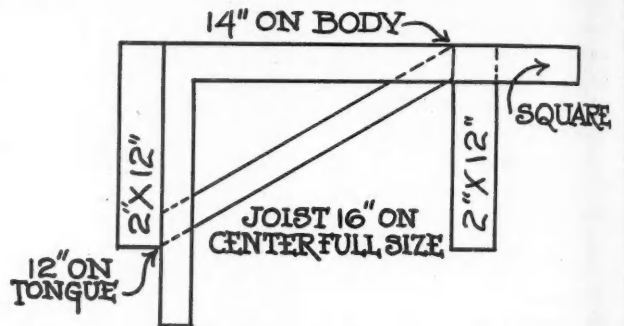
This illustrates the position of the New Roof and Dormer Which Were Built Without Removing the Old Roof and Exposing the House to Rain.

By tearing out enough shingles at the eaves, and also at the gables, to set my studding I was able to add the extra story, including the dormers and apply the new roof before tearing out the old. In addition I had the old roof to work on instead of making a scaffold. It looked like a big job for one man, but I was able to handle it quite easily in this way.

C. J. MILLER, Fayetteville, Pa.

Cuts Bridging with Square

IN recent issues of the AMERICAN BUILDER I have seen several methods of cutting bridging described. I use a method which is not entirely original with me, but which may not be known to many who would prefer it, as I do, to other methods. This method is by means of the steel square alone. It cannot be used if the joists are more than 16 inches deep or spaced more than 24 inches on centers. Up to this size and spacing it is most satisfactory. Place



Here is a Method of Measuring and Cutting Bridging by Means of the Steel Square Only.

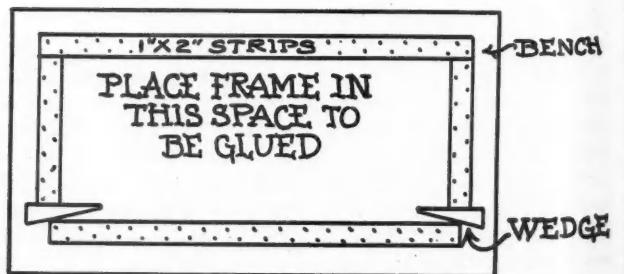
the square as shown in the sketch, the width of the joists on the tongue and the distance between joists on the blade, of the square. Notice that the width of the joist is on the lower side of the bridging and the distance between joists is on the upper side of the blade.

NILS O. FAGERSTROM, 150 9th St., San Francisco, Cal.

A Handy Gluing Method

HERE is a suggestion, for gluing doors, frames and screens, which I have found very practical. Take four pieces of one by two inch material and nail down three pieces to fit around the article to be glued. The fourth side should be left far enough from the frame to permit one to drive in wedges to pull the joints together. After dowels have been driven the wedges can be knocked out and the frame removed. This clamp can be nailed onto any bench or table and taken up after the job is finished.

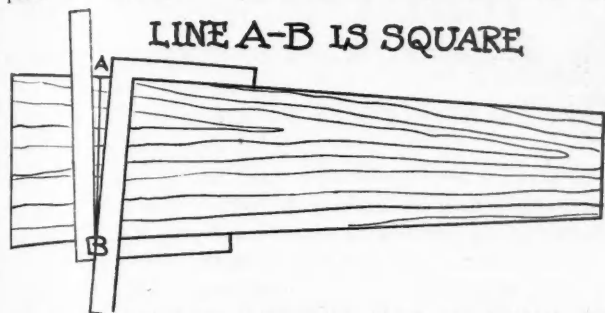
W. C. HAMBRIGHT, 915 Pine St., Chattanooga, Tenn.



A Frame and Wedges Used in This Way Are Helpful in Gluing Doors, Frames and Screens.

To Square a Tapered Column

A SATISFACTORY way to square the ends of a tapered column is illustrated in the sketch. The square is placed at the point on one side of the column at which it is



The Base of a Tapered Column Can Be Squared Off Easily Quickly and Accurately in This Way.

desired to square it and a light mark made along the blade. It is then reversed with the blade passing through the point at which it formerly intersected the first side and a mark again made along the blade. A point on the second edge, half way between the two marks is indicated. This is repeated on each of the four sides and the points connected by lines as the line A-B which square the column.

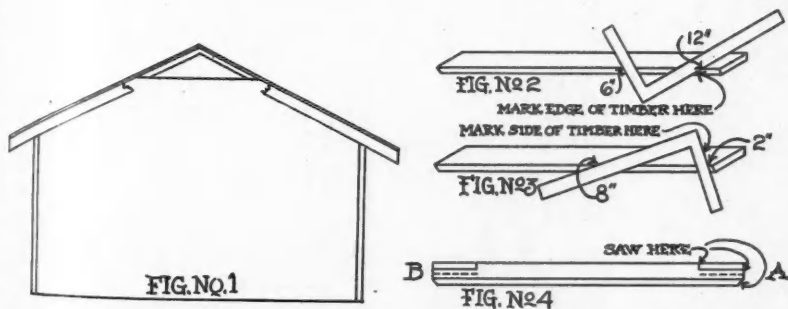
L. B. ANDERSON, Preston, Idaho.

How to Cut a Ventilator Sill

IN order to cut a ventilator sill to fit against the sheathing of a gable and give it the proper slope, I first bevel the edge of the timber enough to make it plumb when the sill has a slope of one inch in eight inches, which is the proper slope for window and ventilator sills. Now with the square placed on the bottom and long edge, with six inches on the tongue and 12 inches on the blade, which is the run by the rise for one-fourth pitch, marking along the 12-inch side will give the proper edge cut. This cut is shown in Fig. 2.

Now the one-inch slope in eight inches is the same as one-inch rise of the roof or the amount of the rise taken up the slope of a sill eight inches wide. One-inch rise represents two inches run of a roof with one-fourth pitch. The sill for this roof should be four inches longer on the front edge than on the back, because it gains two inches on each end. This is before any is cut out to let part of the sill go between the first pair of common rafters.

Next, place the square as shown in Fig. 3 with two inches on the tongue meeting the edge cut and eight inches on the blade and mark as shown. Now, as you have the edge cut and the side cut marked on the bottom side, mark from each end the amount that is to project from the weather boarding as shown by the dotted lines in Fig. 4. Measure the distance on top of the weather boarding, from the sheathing on one side to that on the other, and take this distance on the sill from the point made by the side cut "A" and the



These Four Figures Fully Illustrate a Method of Cutting a Ventilator Sill to Fit Against the Gable and Give It the Proper Slope.

dotted line, measuring toward "B" and mark on the dotted line.

The length is now found and the end "B" is cut the same as the end "A," with the side cut passing through the point found on the dotted line. Now from the dotted lines mark off the thickness of the weather boarding and cut out enough from each end to allow for the common rafters. These cuts are the same as the other end, edge and side cuts, respectively.

If the roof were one-half pitch, the figures to use, in Fig. 2, would be 12 inches and 12 inches and those in Fig. 3 would be eight inches and one inch. In this case one inch rise would represent one inch run and the sill would be only two inches longer on the front edge than on the back edge.

RALPH COX,
Route 4, Fort
Payne, Ala.

Fitting Door Locks

I HAVE a method of marking for the striking plates of mortised locks which gets away from the slow method of measuring and assures a quick, neat job. After the mortised lock has been placed on the door, shoot out both bolts and rub the ends with paint or grease (Fig. 1). Then shoot the bolts back and close the door. Now shoot the bolts out against the jamb. This will leave the marks of both bolts on the jamb in the exact position that the mortises should be made. Hold the striking plate against the jamb with the mortises on the paint marks and mark around the plate with a fine marking point or chisel. Let in the plate to the required depth and you will find you have an exact fit and a neat job.

J. R. MARSDEN, 37A Garmley Ave., Toronto, 5, Ontario, Can.

A Convenient Roofing Knife

THE accompanying illustration shows a knife which I find to be a very efficient and practical tool to use in putting on asphalt shingles and roll roofing, when it is



An Ordinary Putty Knife, Ground as Shown Here, Is a Handy Tool When Working with Roll Roofing or Asphalt Shingles.

necessary to cut the roofing material. To make such a knife, first obtain an ordinary putty knife. Take it to a grindstone, carborundum or emery wheel and grind the blade down, heaving a tooth about the size and beveled shape of the cutting tooth of a cross-cut saw, but bevel all four sides. This makes a knife which is much better than a pocket knife for this work and which can be resharpened easily with either a file or stone.

JAMES F. FAIL, 105 3rd Ave., Meridian, Miss.

LAW for the BUILDER



"You Can Pay the Cashier"

"I PLACED that \$500 note that you owe me in my safe-deposit box in the Brick Bank, and you can pay the cashier," the contractor told the maker.

Before the note fell due the maker paid the principal and interest of the note to that date to the bank cashier, but the note was not delivered for the good and sufficient reason that the cashier did not have the key of the deposit box; the cashier credited the money to the contractor's account, but neither the maker nor the cashier notified the contractor that the money had been paid.

Before the money was actually paid to the contractor the bank failed and the contractor sued the maker.

"You told me to pay the cashier. I did so, and that relieves me," the maker contended.

"The day the note fell due if you had paid \$500 and a year's interest at 5 per cent, \$525, your contention might be correct, but all you paid was \$521.60, being the interest down to the date of payment, and the cashier had no authority to accept the money in advance of the due date nor to accept less than the full year's interest," the contractor argued, and the Wisconsin Supreme Court, in 212 N. W. 929, ruled that the maker was bound to pay again.

"There is no circumstance from which it could be inferred that the contractor authorized the cashier to accelerate the maturity of the note or to accept any other than the amount of the note with interest according to its terms," the court said.

The Builder and His Bank

"I AM enclosing herewith my check in full payment of my account, which I trust you will find in proper order," the customer wrote, and the manager of the Ajax Building Company received the check after banking hours on a certain Monday.

"Deposit that check as soon as the bank opens tomorrow morning," the manager ordered.



The Check Was Received After Banking Hours, but Was Deposited When the Bank Opened in the Morning.

The bookkeeper deposited the check in the bank where the company carried its banking account. The bank sent the check to the clearing-house, and it was presented to the bank on which it was drawn on Wednesday and was unpaid, as the drawee bank had suspended business on Wednesday morning.

Whereupon the manager demanded payment from the customer.

"I paid my account by check," the customer protested.

"And the check was dishonored," the manager pointed out.

"If you'd presented the check within a reasonable time, as required by law, it would have been presented on Tuesday and paid, as I had ample funds to meet it when the bank suspended business," the customer contended. The manager sued, and the Idaho Supreme Court in the recent case of Bhisland vs. Benting, 228 Pacific Reporter 309, ruled in the favor of the Building Company.

"When a check has been received after banking hours, deposited by the payee with his own bank on the next day, and presented by that bank to the drawee bank or the clearing house on the following day, the presentment is within a reasonable time, as required by law," said the Court, and there are New York and Pennsylvania decisions to the same effect, while the Nebraska Courts have apparently ruled the other way.

The Disregarded Instructions

A KANSAS contractor had sold his business, drew a transfer of the property to the buyer, and a chattel mortgage from the buyer to the contractor, to secure the unpaid balance, and forwarded both documents to a Kansas national bank doing business in the buyer's home town.

"When the chattel mortgage has been duly executed you will deliver to the buyer the enclosed transfer, and return the chattel mortgage to me for recording," the contractor wrote.

The bank delivered the transfer, failed to
(Continued to page 108)

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White-Lead and Oil Plastic Finishes

By M. REA PAUL

Department of Decoration, National Lead Company

PART II—(Concluding Article Begun in October Issue)

Producing Various Textures

A NUMBER of the interesting textures that can be worked up with white-lead and oil plastic paint are shown on the center pages of this issue.

The colors used are, of course, not necessarily the only suitable ones. Many other harmonious combinations are possible with each textural effect. It should be seen, however, that the color scheme selected is in harmony with the dominating color of the furnishings of the room to be decorated.

Similarly the tools used in executing the different designs are purely arbitrary. Other tools will produce equally distinctive and intriguing results. In fact, the same tools manipulated differently will give other effects. It is this ease with which white-lead and oil plastic paint yields new designs that makes its use fascinating.

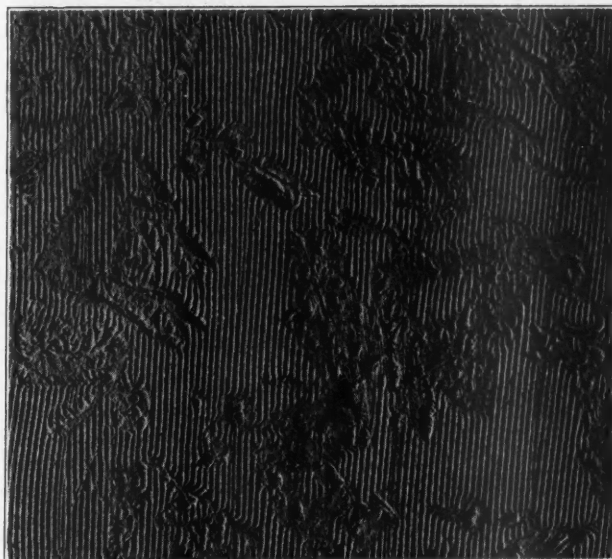


Figure 2—Just a Crumpled Piece of Newspaper, Handled as Shown Below, Is Required to Produce this Effect.



White Lead and Oil Plastic Paint Is Applied as Shown But with Flat Brush. Coating should be about equal in thickness to two ordinary paint coats.

Figure 1

This finish calls for plastic paint tinted a light blue-green. The colors-in-oil used are medium chrome green and Chinese or Prussian blue.

After applying the tinted plastic paint to the wall, draw the brush over it with vertical strokes. The brush marks thus made will stand out in relief. Now wad up a piece of lintless cloth in the hand.

Starting from the top, press the wad of cloth against the paint and drag it downward in a figure S or snaky motion. Repeat this operation again and again until the entire painted surface is covered with zig-zag trails. In between these trails will show the vertical lines of the brush.



Producing the Crumpled Roll Effect Shown Above, Figure 2, in Plastic Paint with a Wad of Crumpled Newspaper.

Figure 2

To produce this



Figure 1—Shows an Interesting Texture Tinted Light Blue-Green Which Is Produced by Means of a Wad of Cloth as Shown at the Right.

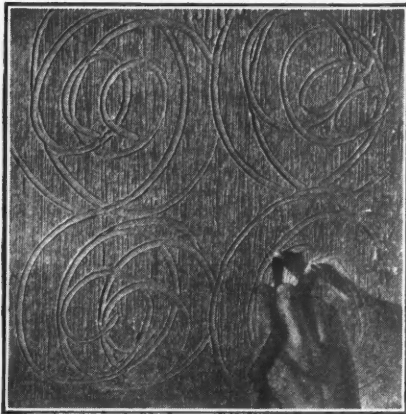


Showing How the Interesting Texture Shown at the Left, Figure 1, Is Worked by Means of a Wad of Cloth.

effect, first put on a ground of plastic paint tinted a cream with medium chrome yellow. This done, draw a graining comb down the paint to give the series of regularly spaced lines. Next tamp a wad of crumpled paper lightly against the paint here and there. This breaks down the comb lines at the places



Figure 3—Here Again Is a Texture Made with Simple Tools, Just the Two Sticks Held as Illustrated Below.



Illustrating the Position of Two Sticks Used to Produce the Design Above, Figure 3.

Figure 3

The plastic ground coat for this finish is tinted with medium chrome green and a small percentage of chrome yellow.

Two blunt sticks, each rounded at one end, are used to produce the swirls illustrated. Hold one stick securely between the thumb and index finger and the other between the middle and ring fingers. Pressing the rounded ends of the sticks against the paint, move the hand in a circular motion first from left to right in one place and then from right to left in another. The swirls should touch each other as shown in the illustration, thus leaving some blank spaces. Fill in these spaces with grooves by dragging the sticks up or down. No attempt should be made at an exact geometric design. The variation in shape and direction of the lines or grooves adds greater interest to the finish.

After the plastic paint has set up, brush on a coat of flattening oil. Then apply burnt umber and raw sienna in spots, blending these colors together. Finish by wiping the glaze off the ridges to give high lights.

Figure 4

In this case the plastic paint is tinted in light ivory by using French ochre.

Apply the plastic ground in the usual manner and cross-

tamped and leaves the irregular impressions of the crumpled paper. Now allow the paint to set firmly. Then sandpaper it to cut down slightly the ridges left by the comb and the crumpled paper. Finally, dust off and finish by brushing on a glaze of burnt sienna and raw umber, wiping in high lights. This produces an interesting effect.

brush it to make sure of a uniformly spread coating. Then, using an ordinary serving spoon, make overlapping spirals at random in the paint with no attempt at a definite design. Simply place the bowl of the spoon against the paint at various places and draw it around in a wide, swinging, circular motion. To break their outlines, pull the spoon diagonally across the circles here and there. Now drag a dry brush lightly down the paint. The bristles will reduce or modify the raised points in the texture.

When the plastic finish is dry, brush on a coat of flattening oil. Then apply rose lake, cobalt blue and raw sienna in spots with separate brushes. Blend these colors together, using a ball of cloth and the figure 8 motion. Finish by high-lighting.

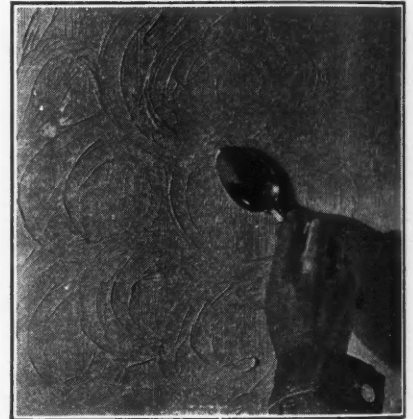
Figure 5

The ship design is produced in a second coat of plastic paint. At the spot where this relief motif is to be, apply this additional coat to a thickness of about one-eighth inch. It should go right over the already textured, dry first coat. When the second coat is also dry, place against it a ship picture or any other design selected. Trace the ship on the paint, using a knife point for the purpose. Once the ship is outlined in this way, it is a simple matter to cut away the second coat at the edges of the design so that the ship stands out in relief.

To accentuate portions of the design, add a few touches of color here and there. Then finish by applying a coat of glaze, wiping it out before it has set up.

Figure 6

For a texture effect similar to Figure 6, start with a coat of plastic paint tinted green. While this coat is still wet, apply cobalt blue and rose lake in spots and work these colors into the paint by stip-



A Serving Spoon, Manipulated in the Manner Explained in the Article Gives the Unusual Design Shown Below, Figure 4.



Figure 4—An Unusual Effect but Very Simple to Produce with the Curved Back of a Serving Spoon.

pling with the same brush that was used for the plastic. The next step is to execute the swirls or circular figuration. Use a ball of cheesecloth for this purpose, simply moving the hand in spiral fashion.

The straight lines across the swirls can be produced with any blunt tool such as a stick with a rounded end or a knife handle. For fine lines, a clothespin will serve. To vary the effect, employ vertical lines as well as horizontal lines as illustrated.

The short wavy lines are made by drawing the tool with a snaky motion through the paint.

After the textured ground coat has set up, brush on a thin coat of white-lead paint tinted yellow. When this is dry, sandpaper the raised portions of the finish so that the green ground will show through at those places.

Finish with a glaze of raw and burnt sienna, wiping it out at various points.

Figure 7

The foundation of this interesting treatment is white-lead and oil plastic paint tinted pink by the addition of Venetian red.

After applying the plastic, work touches of medium chrome green into it at various places. Use a separate brush.

Now brush the paint carefully so as to produce the vertical brush marks.

This accomplished, place a straight edge (which may be a ruler or a specially designed tool for the purpose) against the paint. Hold the straight edge at one end and then give it a quarter turn with the wrist. The result will be a scraping of the paint into straight ridges. Repeat the operation at numerous places on the wall without respect to position.

Sandpaper the ridges when the paint is dry to eliminate the sharp points and then glaze the surface with raw sienna and medium chrome green. Finish by highlighting.

Figure 8

This finish is produced as follows: First brush on a coat of plastic paint tinted a rich cream. Then, here and there on this coat, apply a brushful of plastic paint and tinted pink.

The painted surface is now ready for texturing. Use a dry brush to produce the swirls. Simply place the



Figure 5—This Ship Design Is Produced in a Second Coat of Plastic Paint, Traced in Outline with a Knife Point and the Second Coat Around the Edges Cut Away.

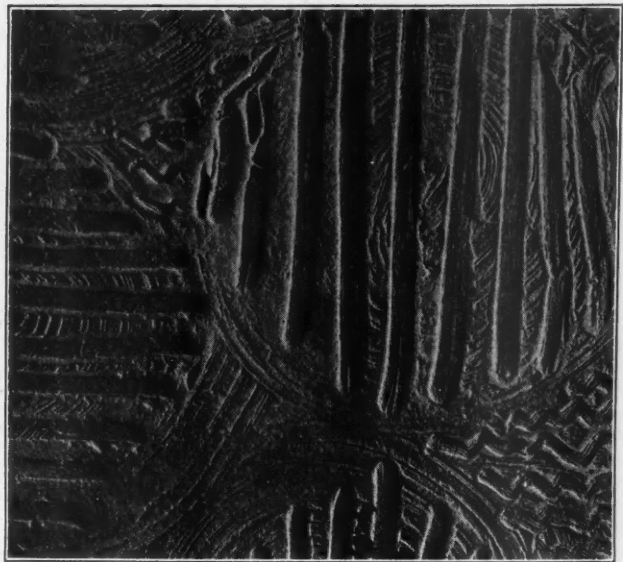


Figure 6—When the Wad of Cloth and Blunt Stick Shown Below Are Handled as Indicated They Give This Result.

bristles lightly against the paint and twist the wrist in a circular motion. Repeat the operation until the entire surface is completed, interlacing the swirls as shown in the illustration and making no attempt at regularity of pattern. Much of the charm of this finish lies in the total absence of a hard-and-fixed design.

After the work is dry, cut the raised portions lightly with sandpaper. Then drag a brush containing a little green over the entire surface. This will color the high points that have been sandpapered.

Figure 9

White-lead and oil plastic paint tinted cream with French ochre is used in this instance.

To produce the texture of fine lines illustrated, simply stipple with the bristles of a brush, using the flat side. Slap the brush against the paint in every possible unmarked area. Change the position of the brush each time. In that way, uniformity of pattern is avoided.

Finish, when the plastic paint is dry, by glazing with spots of raw sienna, raw umber and burnt umber applied over flating oil. Blend the colors together and high-light in the usual manner.

Where to Use the Finishes

The modified type of plastic finish is appropriate for many interiors. These include homes as well as other buildings.

Besides the color, it is the character of the texture largely which determines the type of interior for which a particular finish is best suited. If a design is of a more or less conservative nature, it may be employed with success in the home. On the other hand, the heavier,



The Novel Finish Illustrated Above, Figure 6, Is Accomplished by Means of a Wad of Cloth and a Blunt Stick or Other Tool.



Figure 7—Another Simple Design to Produce But Interesting in Its Results.

more ornate designs are not suitable for small interiors, but may be used to advantage in large interiors such as are found in public buildings.



Just a Twist of the Wrist—Another Finish. Simple to execute yet very effective as may be seen in Figure 7, above.



Figure 8—A Swirled Finish That Is Quite Popular and Is Made with a Dry Brush with a Circular Motion.

For Homes

The conservative, subdued style of treatment is illustrated by Figures 1, 4 and 9. These textural effects are appropriate for entrance halls, living rooms and dining rooms in homes and would also serve for bedrooms when rendered in delicate colors. These are smart, attractive effects.

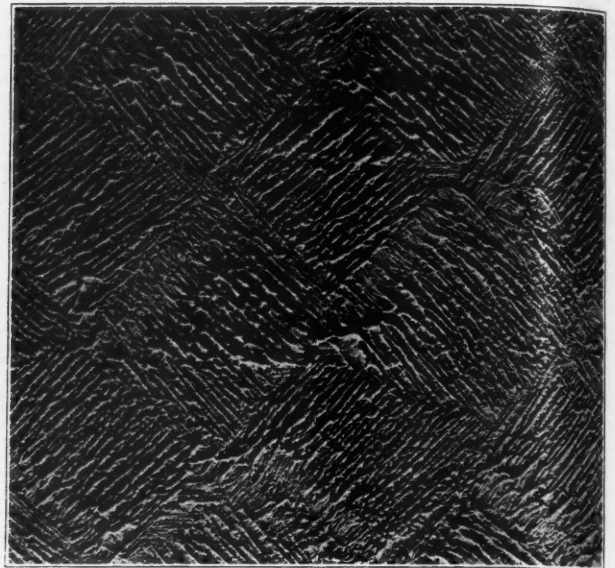


Figure 9—Another Effect Design Made with a Brush Handled as Shown Below.

For Public Buildings

Figures 3, 6 and 7 are illustrative of the type of more ornate design whose use should be restricted to large interiors such as the hotel lobby, the theatre, the restaurant and the club room. It will be seen that heavy, bold motifs of this character would be decidedly out of place in the average home interior.



The Effect Shown Above, in Figure 9, Is Produced by Slapping the Flat Side of a Brush Against the Wet Plastic.

Special reference should be made to Figure 6. While in other colors this texture would be suitable for buildings of the kind mentioned, the treatment was included mainly to show the possibilities in white-lead oil plastic paint when very novel effects are desired.

For All Buildings

There are some textural effects which may be used successfully almost anywhere. Under this head come such designs as those illustrated in Figures 2 and 8.

For Panel Treatments

Many effective panel treatments are possible with plastic finishes of modified texture.



A Half Turn of the Brush Brings About the Novel Swirls Seen at the Left, Figure 8.

(Continued to page 108)

Insulation for 80 Below Zero

Commander Richard E. Byrd Adopts Tropical Product to Protect His Expedition Against Antarctic Cold

THE preparation for a two years' stay in a region where temperatures are 80 degrees below zero and where winds attain unknown velocities, is a test which calls for the greatest care and the surest judgment. Decisions once made in preparation for such a trip cannot be changed later. Such were the problems which had to be solved by Commander Richard E. Byrd on the eve of his departure on the Byrd Antarctic scientific expedition. In solving these problems, he has, as everyone would expect, applied the best scientific knowledge expedition of the country.

One of the most important was the problem of providing quarters for the expedition so thoroughly insulated against the extreme temperatures of the Antarctic as to enable the men to live in comparative comfort during the two years that they will be conducting experiments and making scientific research in a heretofore unknown region.

These houses had to be built here in sections. From the expedition's ship "New York" they will have to be carried by sled over the Antarctic wastes to the base camp, where they will be erected by the members of the expedition as a permanent home. On the authority of tests by the United States Bureau of Standards and other nationally known refrigeration authorities, Byrd specified that the walls of these houses should be insulated with a material, itself the result of scientific research in the high duty insulation field.

The walls of these houses are 6-ply insulated, a combination of wood fibre board and a fibrous filling, as shown in



Commander Richard E. Byrd and His Architect, R. F. Barratt, Inspecting the 6-Ply Insulation in a Section of the Walls of His Antarctic Houses.

the photo. These walls are 5½ inches thick, 4 inches of which are of this fluffy insulating material. According to the engineer responsible for the research which resulted in the selection of this material, its extreme lightness—it is one-seventh the weight of cork—and its superior efficiency, made it the ideal insulation for this, the most extreme requirement in the history of practical insulation.

Incidentally, it brings to light an odd circumstance, for this material is obtained from the pods of the Ceiba tree which grows in the tropics. Several years ago it was found these extremely light, minute tubular fibers, when "grained" so that the fibers lie perpendicular to the line of heat flow, produce one of the most efficient insulations ever introduced into commercial use. It has proved of particular advantage as an insulation material for refrigerator cars, motor trucks with re-

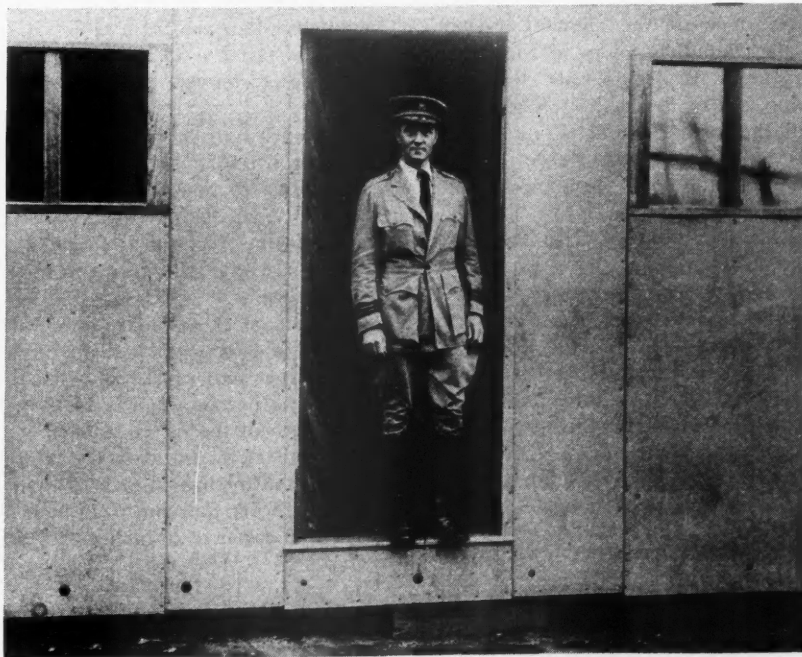
frigerating bodies, refrigerators and cabinets for holding perishable foods at low temperatures.

These fibers are also highly averse to moisture, this

being one of the reasons why it is chosen for the Byrd portable houses. Commander Byrd expects this insulation and its "seal" to relieve him of the task of chopping ice from the inside of his shelters, as there will be no inside condensation.

Members of the expedition will actually be living in what are in effect, huge refrigerators functioning to keep cold out, heat in.

The strong wood fibre boards give strength to the panels, besides contributing much to the warmth of the structure.



Commander Richard E. Byrd Standing in the Doorway of His Insulated Portable House Which Will Shelter Him and Members of His Party for Two Years in the Antarctic.

INSTRUCTIONS *in* ROOF FRAMING



The Gambrel Roof

By JOHN T. NEUFELD

IT is said that necessity is the mother of invention, and we would like to add, the mother of good architecture. A roof is one of the most necessary parts of a house and if designed along lines to fulfill its function will add greatly to the architecture of the house. The best way to get a good looking roof on the house is to build it so that it best fulfills its purpose.

Historians tell us that the Dutch people were the first to develop the roof that we now know as the gambrel roof. They found it necessary to make their roofs rather steep because of the heavy snow. This required the use of long timbers and as long timbers became scarce they looked for some other methods to accomplish their needs. Thus they started to cut off the upper ends of the rafters making the upper part of a little less pitch and making the rafters out of two pieces.

They kept the lower part as long as possible, leaving the part that had the less pitch as the shorter part so that there would not be too much chance for snow to lodge. They did not go to the extreme, as we so often see it in the gambrel roof of today, of having the upper part almost flat. This, too, was given a fairly steep pitch.

In our present day one may see every type of roof in one single town, regardless of what the climate of that locality may be, and we also find that many of the roofs look out of place. Sometimes it seems that there is more unity and harmony in a city flat district where the real estate dealer has built the most room on the smallest possible lot than there is in the suburban district where every one has tried to work out his own peculiar ideas in his house, with no regard for locality.

Let us proceed to frame our gambrel roof, assuming that it is in the northern states.

The architect has indicated the pitch of the roof by giving the run and the total rise of each set of rafters. Fig. 3 shows how the rise per foot run and the length of rafter "A" are obtained. The length of this rafter could also be found by taking the numbers 4 and 6 on the square and measuring between these two points, or it could be figured out by square root. The length of this rafter is the square root of (4 squared + 6 squared), equals the square root of 16 + 36, equals square root of 52, equals 7.211 feet or 7 feet 2½ inches.

Fig. 4 shows how to mark for the cuts for rafter "A." The pitch of roofs of this kind is sometimes given in degrees. The cuts are then made according to the degree given. This simplifies the work very much.

Rafter "B" is shown figured out in detail on the drawing.

The cuts for the end studs may also be marked by using the same numbers on the square as for the rafters. It is

well in this connection to note that the cut for the end stud is the same as the cut at the upper end of the rafter to which it frames.

The cut for the collar beam is the same as for the rafters.

Problems

1. Assume a roof similar to the one given in the illustration with the following dimensions:

Run of lower rafter, 5 feet 0 inch.

Run of upper rafter, 4 feet 6 inches.

Rise of lower rafter, 6 feet 3 inches.

Rise of upper rafter, 3 feet 0 inch.

Find the lengths and cuts for the rafters.

2. Assume a roof with the following dimensions:

Lower rafter, 16-inch rise per foot run, with a run of 8 feet 0 inch.

Upper rafter, 7-inch rise per foot run with a run of 5 feet 6 inches.

Find the lengths and cuts for the rafters.

Answers

1. Rise of lower rafter is 6 feet 3 inches, or 75 inches.

Run of lower rafter is 5 feet 0 inch.

Rise per foot run is $75 \div 5 = 15$ inches.

Length per foot run from tables is 19.21 inches.

Length of rafter is $19.21 \times 5 = 96.05$ inches.

To change to feet we divide by 12. This gives 8 feet and .05 inch.

The .05 inch may be changed to sixteenths of an inch by multiplying by 16. This gives $.05 \times 16 = .80$. This is $\frac{8}{10}$ sixteenths, or, in other words, almost one-sixteenth of an inch.

As the rise per foot run is 15 inches the numbers 15 and 12 on the square give the cuts for the rafters and the studs and collar beams.

The upper rafter has a rise of 36 inches.

The run is 4 feet 6 inches, or 4½ feet.

The rise per foot run is $36 \div 4\frac{1}{2} = 8$ inches.

The length per foot run is 14.42 inches.

The length of the rafter is $14.42 \times 4\frac{1}{2} = 64.89$ inches.

The numbers for the cuts are 12 and 8.

2. Lower rafter has 16-inch rise per foot run.

The length per foot run is 20 inches (from tables).

Length of rafter is 20 inches $\times 8 = 160$ inches, or 13 feet 4 inches.

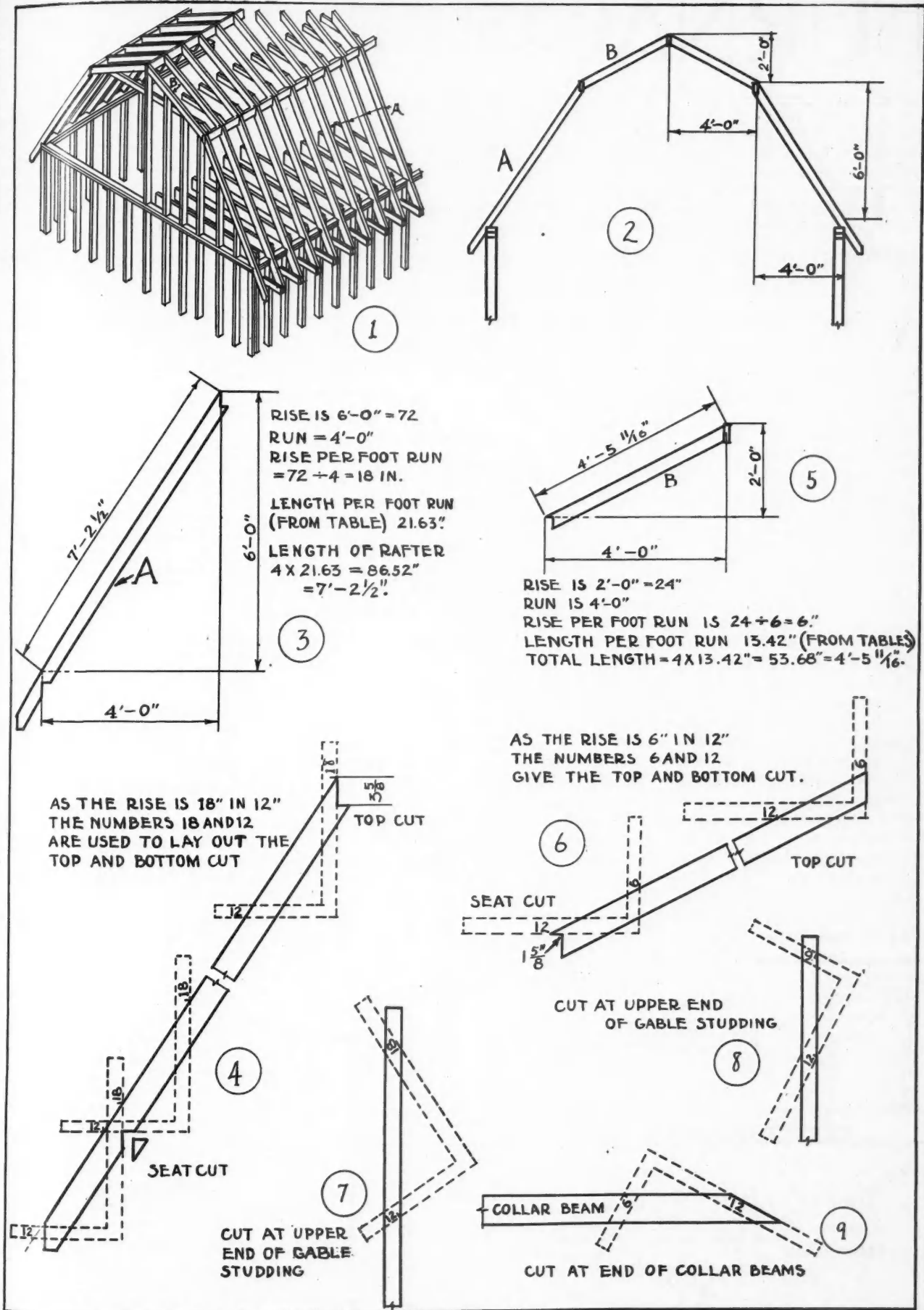
The cuts are 12 and 16.

Upper rafter, 7-foot rise per foot.

Length per foot is 13.89 inches.

Length of rafter is 13.89 inches $\times 5\frac{1}{2}$ (the span) = 76.395 inches, or 6 feet 4¾ inches.

The cuts are 12 and 7 inches.



Some Drawings Illustrating the Correct Method of Framing a Gambrel Roof.

FURNACE HEATING



Heating Commercial Buildings

Comments on the Adaptability of Warm-Air Furnaces in Industrial Heating

This Department by R. C. Nasow, Heating Expert, appears every month in American Builder.

ALTHOUGH they lack the pretentious appearance of skyscrapers and public buildings the square footage represented in the aggregate in commercial buildings is vast. Heating such structures often brings problems more complex than is true of residences, churches, schools and like places. Methods are more varied and sources of heat loss more numerous. Coupled with the matter of heating there may be manufacturing processes involved as well.

Take commercial drying as a single instance. Here the question to be solved often is not heating at all but extraction of moisture from articles, then getting rid of the moisture. Such problems rank in importance with cooling and artificial air conditioning.

Photographic films are dried today not by the sun on the metal piazza roof as in former years but by a current of warm air under pressure. Vegetables now are dried with warm air, packed and shipped to barracks or famine areas across a continent or two. Painted automobiles must be dried and rushed out to waiting consumers. Bricks dried in the sun make good bricks but kiln dried bricks fill an urgent need. Lumber may weather in the sun, yet may be dried with warm air more quickly. Thus the warm air furnace and mechanical fan speed industry on its comet-like flight from raw materials to finished products.

Carpet drying has become a technical business. The dirt first is beaten and shaken out by mechanical beaters and huge tumbling barrels. Next a compressed air stream

forces out the remaining dirt. Then comes scrubbing with soap and water. Last, the carpets must be dried. There are two processes. They may be laid out in the sun, wherein drying requires several days if the weather is fair; or they may be slung on poles, placed in a drying room and a current of warm air passed over them. If a warm air furnace is used, with a mechanical fan, they may be dried in six hours.

Circulation here is required so that the moisture laden air may be exhausted when nearly saturated with the water taken from the carpets in process. Unless the water left in rugs after the scrubbing process is gotten rid of quickly drying may require 12 hours instead of six as in modern practice.

A typical rug drying room is shown in plan in Figs. 1 and 2, which represent an actual installation. The room is 25 feet wide and 40 feet long and the rugs are hung on poles about 1½ feet from the 11-foot 6-inch ceiling. At the front are two vertical heat stacks 16 by 24 inches and these terminate about two feet from the ceiling.

In the center of the room there is a partition and on either side a square, floor register. A 33-inch diameter firepot furnace is located on the floor below and four 20-inch diameter ducts connect the bonnet to the four heat registers. Thus there results a vertical and horizontal flow of warm air which, joining, moves at moderate velocity towards two, low, exhaust grilles in the rear. Here two 14-inch diameter electric exhaust fans pick up the moisture-laden air and discharge it into the atmosphere. Under normal operation the

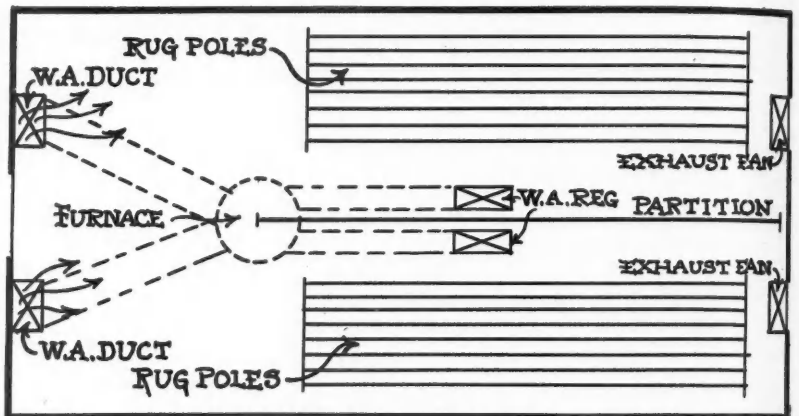


Fig. 1—Plan of a Typical Carpet Drying Room, Moist Air Being Eliminated by a Warm Air Furnace and Exhaust Fans.

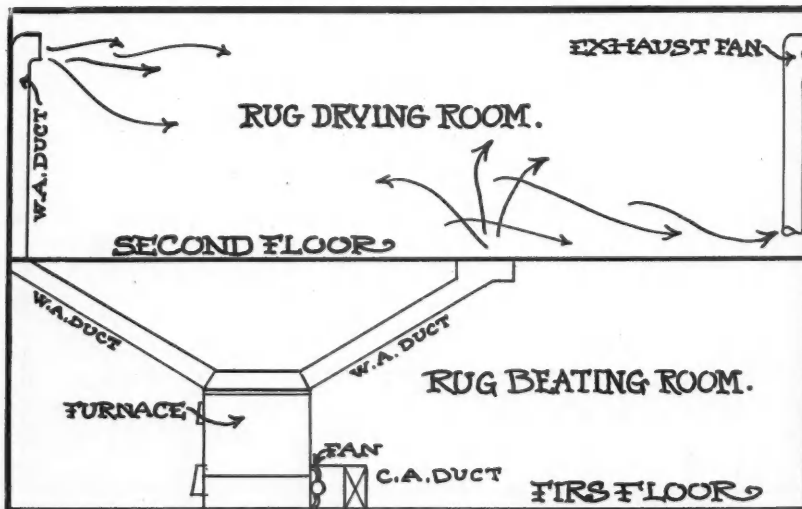


Fig. 2—Elevation Showing the Method of Installing Furnace and Heat Ducts in the Building Shown in Fig. 1.

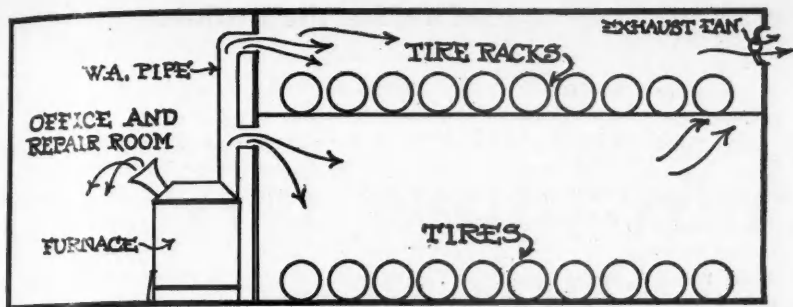


Fig. 3—Elevation of a Tire Shop Heated by a Warm Air Furnace. The exhaust fan at the rear removes the odors.

openings in the exhaust ducts are located six inches above the floor, but the height may be raised to 12 inches by telescopic sleeves in the outlets.

The use of warm air heaters for industrial applications as just described is by no means new, for warm air propelled by mechanical fans is generally regarded as ideal for drying most all kinds of loose material.

A type of commercial structure much in evidence in late years is the garage and repair shop combined. Such places often include display rooms for new models. Here carbon monoxide gas from the exhausts of automobiles must be removed and heat supplied for personal comfort. Some manufacturers offer, for heating buildings of this nature, what are known as unit heaters which employ gas, oil or coal as fuel. When these units are not direct-fired, that is, fueled at the heater itself, steam coils are the heating medium and the boiler is located in a separate room. Direct-fired unit heaters are nothing more nor less than warm air furnaces with modifications and a different name.

One garage recently noted has a warm air furnace located in a small room in a corner of the storage floor. There are short leaders, or snouts, and a duct connected to the office. Warmth is delivered to the office through plain grilles about seven feet above the floor. Sometimes heat is supplied through baseboard registers. In this instance there are also two bell-mouthed diffusers faced toward the car storage room for heating. The entering air is about 110 degrees and of sufficient velocity to blow the heat at least one-third of the distance between the heater and the most remote corner. The remainder of the room air will become warmed by convection.

When there is a display room added the installation of the heater would be much the same but with a heat leader to the display room. In the absence of car storage space in such buildings the heater would best be placed in the basement as in a residence. Heat leader ducts should extend to floor or baseboard registers in the office, display, spare parts and other rooms. It goes without saying that in garages outside air supply is preferable to recirculated air because of the impurity of the interior.

Many tire shops today are of good size, especially wholesale places like those maintained by leading manufacturers. Unless there is positive circulation through such rooms the atmosphere becomes charged with rubber odor. The putrid air sinks to the breathing area and floor, being heavier than non-charged air, and endangers health. It is wise to remove such odors as they are generated. A warm air plant is excellent for odorous places of any kind because of the circulation which keeps the interior air moving. If there is a mechanical fan a pressure condition is built up and the odors forced out. Such an installation is shown in Fig. 3.

Dye plants especially require warm air in circulation. As dyed materials are removed from huge vats considerable steam

fills the rooms. Unless there is circulation of the air the steam rises, strikes the cold roof and walls, condenses and drips onto workers and materials. It is most unhealthful to work under such conditions and thousands of dollars worth of goods will be spotted by condensation.

Scientific clearing of the air in dye houses specifies blowing in a large supply of warm air, discharging it near the floor and along the walls. The capacity of warm air to hold moisture in suspension is appreciably greater than cold air. Hence, when warm air is supplied, it will pick up moisture and

the saturated air may then be removed through vents in the skylights or by exhaust fans, usually placed overhead or high in exterior walls. When a warm air furnace is used for installations of this nature mechanical fans become a practical necessity.

Another kind of industrial structure where the warm air heating idea may be carried forward is in large, high ceilinged areas like car shops, metal fabricating plants and roundhouses. Unit heaters are much used here because it appears desirable to provide warmth for the breathing area, say from the floor to 10 feet above it at least. The object is to make the personal activity area comfortable regardless of other heating considerations. To warm the ceilings and exterior walls of such buildings would require extra fuel and costly equipment, whereas local heating achieves the prime object sought.

Sometimes in storage warehouses and metal stock sheds great saving may be obtained by keeping stock conditioned. Rust is easier kept off ferrous metal while goods are easier to handle. It is not desired to have high temperatures in such places, rooms being maintained, say, at 50 degrees. A warm air furnace with short distributing nozzles is admirable for this purpose.

Not long ago the author's attention was directed to a successful furnace installation in a railroad locomotive repair house. Here the doors were opened frequently to permit entrance and exit of locomotives and, needless to mention, the doors were large. A current of warm air, under fan pressure, was directed towards the doors, hence when they were opened cold air did not filter in to any extent.

In the rear was a small engine room which furnished electric lighting power to a large building some distance away. A warm air connection was led to the engine room, about eight feet above the floor and warmth delivered there through an open duct end. Both rooms were comfortable in the most severe weather. An important factor in accomplishing good heating is the quick warm-up afforded by a furnace. When dampers are opened in heaters of this type added heat is immediate. The furnace has no long "wind-up," but starts to pitch from the shoulders.

In factory heating, installers are at variance as to whether unit heaters should be placed beneath the roof or on the

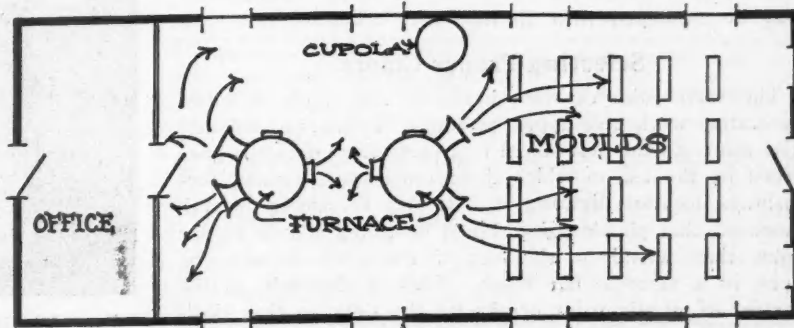


Fig. 4—Plan of a Foundry Heated with Warm Air Furnace Units.

floor. Roof location adds nothing to the heating efficiency of the apparatus but gives more floor area. If personal comfort is desired, aside from other considerations, the nearer the heater is to the points to be heated the more easily will the desired result be effected. An arrangement of heaters like that shown in Fig. 4 should give good results.

Varieties of commercial structures are so numerous comment cannot be made on all types, yet one kind of plant, wherein the furnace is particularly adaptable, is the commercial gymnasium and swimming pool. Were direct radiation to be installed along the walls of such rooms there is danger of injury from contact with heater sections, whereas there is no danger from registers through which a constant current of warmth enters. It is essential, too, that air circulation be provided to carry off body odors. Gymnasiums need not be heated much over 55 degrees as exercise makes for personal comfort.

An excellent factor in connection with the warm air furnace is that, in summer, if the heater is provided with a mechanical fan, cool air may be supplied through the same ducts and registers which admit the heat in winter. The heater thus becomes a year-around unit, is valuable in one season as another. In general, wherever stoves, unit heaters and hot-blast heating systems are adaptable, so also are warm air furnaces, with the added feature that they may be converted into an all-year blessing.

Although the warm air furnace commonly is thought of as being best adapted to residences, schools and churches there remains as large a field for their installation in our constantly multiplying commercial buildings.



Plastic Finishes

(Continued from page 102)

Of the finishes illustrated, Figure 4 is suitable for panels in the home, Figures 3 and 6 for panels in public buildings Figures 2 and 8 for panels in almost any type of interior.

Special Relief Motifs

Relief motifs, such as the ship design, lend considerable interest to textured surfaces. The motifs may be judiciously spaced over the entire wall or just a single design may be used effectively in one place, as over the mantel. So as to permit the attention to center on the relief motifs, the texture of the wall itself should be kept fairly simple. There are certain pretentious homes where individual raised motifs and connected relief work may be used to good effect although these special treatments find their greatest application in public buildings.

Other Color Effects

As stated in the previous chapter, the colors used in the finishes illustrated are purely suggestive. With his knowledge of color possibilities, the decorator can very readily work out many other pleasing combinations for each of the textures. The suggested color combinations, for example, are interchangeable. Any one of these combinations may be employed with all the other textures.

Selecting Proper Colors

The same rules of color harmony that apply in other decorative work also apply, of course, to textural finishes. The color scheme best suited to a particular interior is governed by the use to which the room is put, its size, furnishings, location, lighting etc. It may be said in general, however, that plastic paint should be tinted a little lighter color than would be the case if the work were to be done in a smooth, flat finish. This is desirable as the texture of plastic paint breaks up the light so that shadows are cast on the surface, making it appear darker than it is actually.

Law for the Builder

(Continued from page 98)

secure the chattel mortgage; the buyer gave a chattel mortgage to a third party; the contractor lost the unpaid balance, and sued the bank for damages in the Kansas courts.

"A national bank has no authority to act as agent for other parties under these circumstances, and consequently the bank is not liable for damages," the bank contended.

"If that's the case, you should have returned both the papers to me, but when you undertook to do the business, and did not carry out my instructions, you are legally liable," the contractor retorted, and the Kansas Supreme Court so ruled in the recent case of Bock vs. National Bank, 225 Pacific Reporter 68.

"A national bank cannot act as an agent or broker for others in dealing in stocks, bonds, mortgages or other securities, and especially in guaranteeing them; nor can it act as a broker in lending the money of others. Nevertheless, where a bank has lawfully received money or property, it must account for the same or its proceeds, notwithstanding an ultra vires agreement in this respect," the court said.

M. L. HAYWARD.



Motion Pictures Sell Contractors' Equipment

TO produce a convincing demonstration of the work that is being done by road building and contractor's machinery equipment of his firm, Tom W. Harron, president of Harron, Richards and McCone, San Francisco, has worked out a motion picture sales story.

"I use a Filmo hand camera with an arc light in taking inside pictures of machine tool manufacture and of the woodworking end of our business and am getting results."

The manufacturer of concrete machinery uses films to tell the story of its machines. One reel shows a paving mixer working on a 20 per cent grade in San Francisco, a steam shovel on drag line work in Los Angeles, and a shovel working in a railroad cut 65 feet deep near Valley Spring, Calif.

R. G. THACKWELL.



Tom W. Harron, President of Harron, Richards and McCone, Takes Motion Pictures of Construction Machinery in Actual Use to Aid His Company in Its Selling Program.

Ten thousand painters MUST be right!

Remember that wartime song "Fifty million Frenchmen can't be wrong"? Well, neither can the ten thousand Master Painters using Johnson's Permacote. We wish we could reproduce their whole chorus because it is the greatest advertisement in the world. But just listen to a few stray notes:

"We find your Permacote the best flat paint we have ever used. It covers perfectly, spreads over a larger surface per gallon, and works easy. Also we are not bothered with any odor, as is generally the case with flat paint."
ONTONAGON, MICH.

"Your flat white cannot be beat for quality; the best I ever used."
CHICAGO

"I first tried your flat paint on old walls formerly papered. After applying your size mixed with flat paint for the prime coat, I had no trouble in finishing the job with another coat of flat paint (stipple finish) and it proved to be better than I had ever experienced. It was a perfect job."
NEW YORK

"The best I ever used, and I have tried nearly all of them."
CEDAR FALLS, IOWA

"Your Permacote is something I can use the year around. It's the only flat paint I ever used that gives a good finish on wood. I have used it in ceiled houses on beaver board, on sheet rock, and on plaster, and I consider it has no superior."
EAST SPENCER, N. C.

"I have had considerable trouble and loss through trying to get a good flat paint, but now my 'flat' troubles are over as your Permacote is what a flat should be."
PIKESVILLE, MD.

"I did a large job three years ago, using your Permacote, and it is standing up so well that I have been recommended for several jobs."
WASHINGTON, D. C.

"Permacote the best flat I ever used. It covers extra thoroughly, works well under the brush, goes farther and looks better. Great stuff."
McKUNE, KANS.



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The Barker House, said to be the first house in America, was constructed of Pine in 1628 at Pembroke, Massachusetts. The nation's oldest home now

standing is the Fairbanks House, built in 1636 at Dedham, Massachusetts. Its unpainted Pine siding has stood exposed to the severe New England climate for almost three centuries.

"Certified by Centuries of Service"

There are scores of old Colonial homes built of Pine long before the



FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

Revolutionary War which are as livable today and as sound in timber and beam as the day they were built.

The Wetherald House pictured on the opposite page was built of Pine in 1752 at Deerfield, Massachusetts and is an excellent example of the middle colonial period when a definite American architectural manner began to assert itself.

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Down through the years, the true American home has been of Pine in colonial design. Today it is the real American home of Pine that is once more gaining favor. And today, Shevlin Pine is the nation's home-building material.

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You may obtain Shevlin Pine from leading lumber dealers in five varieties: Shevlin Pondosa Pine, Shevlin California White Pine, Shevlin Northern White Pine, Shevlin Norway Pine and Shevlin California Sugar Pine.

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The booklet, "Specify Shevlin Pine", contains information which we believe will be of interest to you—the uses of Pine, its characteristics, physical properties, and other information. Just send us the convenient coupon below.



Stair hall in the Vernon House, Newport, Rhode Island. This home, built in 1758, is an interesting example of the use of Pine woodwork in one of the nation's early homes.

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SHEVLIN, CARPENTER & CLARKE COMPANY
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SHEVLIN PINE

WHAT'S NEW ?



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

A Highly Efficient Insulation

A NEW insulating material, which has stood the test of more than 20 years' extensive service in European countries, has recently been introduced in this country and is now on the market. Dried peat moss, the basic material used in the manufacture of this insulation, was long known as an excellent insulator. Extensive scientific research and experiment by a prominent German engineer perfected the transformation of this natural product into a material suitable for building insulation.

As now marketed this material is in the form of sheets 19½ by 39 inches and from 1 to 6 inches thick. Its weight is less than one pound per board foot and it can be cut with a knife or saw, making its application very simple. On the other hand, because of its fibrous content, it will not break easily. It does not rot and, as it contains no bituminous binder, it provides a permanent insulation against heat and sound.

The manufactured material is of a dense, finely pored texture, the pores being smaller than 0.004 inch in diameter. Scientific experiments show, it is stated, that the thermal conductivity of air pores 0.2 inch in diameter is 82 per cent greater and the thermal resistance correspondingly less than in pores of only 0.004 inch. Because of this the ther-

mal conductivity of this material is exceptionally low, 0.27 B. T. U. per square foot, per hour, per degree of Fahrenheit temperature.

The thermal conductivity of any material also depends greatly upon the moisture content of its pores and, since the conductivity of water is about 20 times greater than air, low moisture content reduces thermal conductivity. This material is impregnated against water absorption, which is a guarantee of the permanency of its insulating quality. For this reason it can be used with wet mortar in connection with concrete, or laid as a roof insulation in wet weather.

Rigid tests have shown this material possesses a high degree of resistance to compression. Its compression in one inch under a load of 1,764 pounds per square foot is only 0.03 inch. It is not only an efficient heat insulator, but an highly efficient sound-absorbing material, and its use for this purpose has been extensive. It is free from harmful odors and has been used with entire satisfaction in storage plants where food is stored, in refrigerator cars and refrigerator boxes. It will not harbor vermin of any kind, being completely sterile. It is a fire retardant, as it has been thoroughly impregnated against rapid ignition and may be used as a heat insulator up to 230 degrees Fahrenheit.



Cold Water Paint

AN exterior, cold water paint, suitable for application with a hand brush or spray gun, has recently been announced by a well known company as the latest product of its research laboratories. This paint, it is stated, is suitable for application over any clean, masonry surface that is in good condition. The material itself is a white powder. Water is added on the job. Any shade of color can be obtained by mixing in limeproof colors. This paint will be distributed through a representative dealer organization that has been built up for the sale of this company's products.



This House Has Been Painted with a New, Cold Water Paint Which Can Be Applied by Hand or Spray Gun to Any Clean Masonry Surface.



Insulation Board of Specially Treated Pressed Peat Used on Roof of the Patriotic Building, Hamburg, Germany. This material also selected to insulate roof of Steel Frame Model Home, Pittsburgh.

A Frame for Every Kind of Building



Build homes for Beauty.. and to last

Are you appealing to the modern demand for beauty? If you establish a reputation for building beautiful homes—homes that will last and that will be worth lasting—you will gain the appreciation and business of the home owners of your community.

Foremost of the items that make for beauty in any house are its windows and their trim. Andersen Window Frames*, with their wide or narrow casings, offer the proper settings for beautiful windows—the “eyes” of the homes you build.

Andersen Frames come in styles and sizes suitable to the finest architectural effects. They are made with genuine, soft, white pine sills and casings, have exclusive weather-tight features, and can be easily and quickly converted for any kind of wall construction—yet they cost only a few cents more than ordinary frames.

Let us tell you the whole window frame story—it will interest you if you are building homes for beauty and to last. Let your Andersen dealer show you, or fill out and mail the coupon below.

*Look for the Andersen Trade Mark on every frame.

Andersen FRAMES

SUPERIORITY
 GUARANTEED by this trade mark

Genuine White Pine Sills and Casings

White Pine for PERMANENCE
 Styles and Sizes for BEAUTY
 Weather-tight for HOME COMFORT
 Available at dealers for CONVENIENCE
 Standardized Quantity Production for ECONOMY

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 Standardized 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 LUMBER COMPANY

Box 2111, Bayport, Minnesota.

Please send me without cost or obligation the material checked in squares on this coupon.

Set of illustrated folders describing construction and uses of various Andersen Frames.

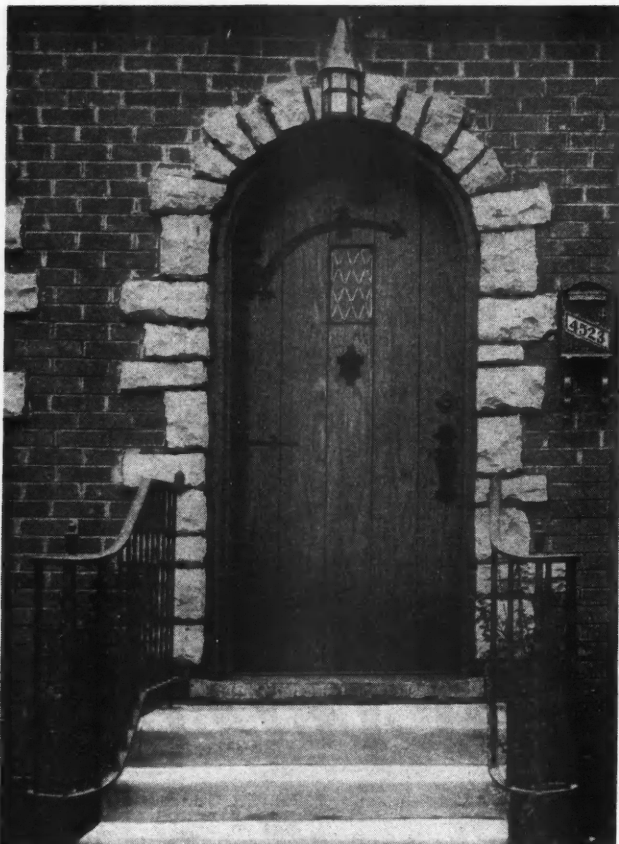
"How to Make Your New Home More Comfortable"—an illustrated booklet of interest to all home builders.

Name _____ Business _____ Street Address _____
 City _____ State _____ Name Lumber Dealer _____

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

A Handsome Mail Box with an Illuminated House Number

THE accompanying illustration shows the handsome entrance to a fine modern home. How often is such an entrance spoiled by a cheap and flimsy mail box hung beside it, one which is entirely out of harmony with the



The Mail Box Installed Beside This Entrance Will Add Much to the Appearance of Any Home and It Incorporates an Illuminated House Number.

house from the start and which soon rusts and becomes more unsightly than ever. But such is not the case with the entrance shown here. As will be instantly observed, the mail box is something very much out of the ordinary. Its artistic appearance, with graceful supporting brackets, will add to the appearance of any home.

Not only is its appearance an ornament when first installed, but it will remain so, for it will never rust. The supporting brackets are not for beauty alone, but are designed to hold securely, newspapers, magazines and other bulky mail which will not go into the box. The door for removing mail can be placed on either side of the box, according to whether it is to be installed at the right or left side of the door.

But these are not the only things which recommend this mail box to the discriminating home owner or the builder who is on the lookout for those refinements which make his houses more salable. In the front of this mail box there is an electrically illuminated house number. The numerals are $1\frac{1}{2}$ inches high, large enough to be plainly visible at all times at a distance of 50 feet. They are sand-blasted into white opaque glass and finished in black enamel. The electric bulb used to illuminate the numbers is the same as those used in automobiles. The current consumption is so small as to be almost negligible and for this reason it is never necessary to bother with turning on the light in the evening and turning it off in the morning.

It can be left burning all the time without noticeably affecting the light bill.

These boxes are easy to install, there is nothing about them to get out of order, the occasionally replacement of a burned out lamp is simple and inexpensive. They will last indefinitely, being impervious to rust. They require no batteries, being connected to the house lighting system and they require no expensive wiring. The overall size of this fixture is eight by 20 inches, the size of the box proper eight by 11 inches. It is made of cast iron finished in two tone or black.

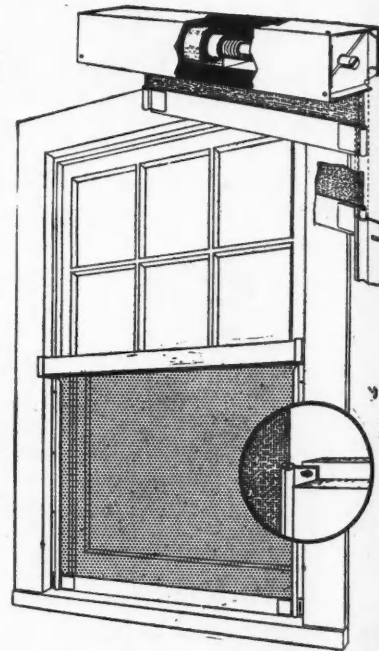


New Model Rolling Screen

FOR some time there has been on the market a screen which can be installed on any window, new or old, which rolls up into a housing, in much the same manner that a window shade rolls up. In this way it is always in place when wanted, and is fully out of the way, but fully protected when not wanted. It is not necessary to repair and repaint the screens each season, it is not necessary to provide a storage place for them during the winter. It is not necessary to put them up, with the usual fitting and bother, and take them down each season.

The company making this screen has now brought out another screen which is like its original product except that it covers only the lower half of double hung windows and is installed on the outside, instead of the inside, of the window. It, too, can be installed on either new or old construction without alteration of the standard window frame. It is inconspicuous and affords a minimum amount of obstruction of the window opening.

This screen is made of lead coated terne plate metal which offers a perfect bond for paint, so that it may be painted to harmonize with the building. The screen cloth is a 16-mesh cloth woven of an aluminum alloy which is almost invisible and will not sag or bag. It is stretched by the tension of the spring in the housing and is held at the sides of the jaws of the guides which grip lugs on the edges of the screen. The construction insures proper alignment and operation and slotted holes in the guides allow compensation for shrinking or swelling of window frames.



This Well Known Rolling Screen Is Now Made in a Type Covering the Lower Half Only of Double Hung Windows.

The method of holding the screen cloth in the guides prevents damage by a blow. In case of a blow hard enough to tear or bag the ordinary screen, the lugs are released at the sides without injury. Upon pulling up the released lugs, raising the screen and again lowering it, the lugs automatically re-enter the guides and the screen is stretched in its normal position. When lowered the screen is automatically locked to the sill by latches accessible from the inside only. These screens are made to fit openings from 1 foot 4 inches to 4 feet 7 inches wide, by variations of $\frac{1}{2}$ inch and heights up to 3 feet by variations of any fraction of an inch.

SANDS MY FLOORS THREE TIMES FASTER THAN MY OLD MACHINE

And
Gets Me More Work Than I Can Do

That's What

THE AMERICAN HIGH PRODUCTION FLOOR SANDER

Is Doing for A. J. Florey of Brownwood, Texas,
and That Means Exactly Three Times the Profit

THIS wonderful new ONE MAN floor sander should do the same for you, in fact, do the same for anyone who is willing to be shown. If you have a sander now, you can't afford to continue using it, unless it is an American High Production Floor Sander. If you don't have a sander, you can't afford to be without this new "ONE MAN" machine.

A One Man Machine—For Any Size Job

On the big jobs THE AMERICAN HIGH PRODUCTION FLOOR SANDER will produce for you on a truly High Production basis with quality work that brings you big profits. Likewise in the small cramped spaces this machine saves you both time and money.

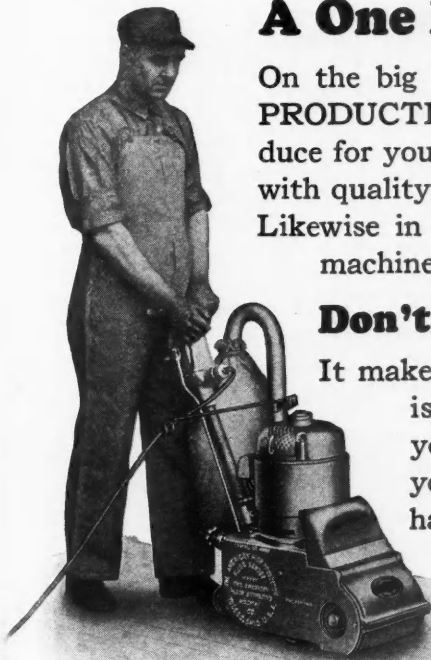
Don't Buy It Until You Try It

It makes no difference what the machine is, you are entitled to try it before you buy it. There is no reason why you should put your money in the hands of any manufacturer until you have proven to your own satisfaction that you want to buy the machine.

Our "On Approval Plan" gives you that opportunity and you can secure the complete information, by mailing the coupon TODAY, as well as many definite reasons why it will pay you to investigate and learn the FACTS about this great machine.



"Easily Carried by One Man"



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

Gentlemen: I'd like to find out how I can see the American High Production Floor Sander in operation without obligation. Please send me literature and prices, too.

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An Adaptable Floor Machine

HERE is a floor machine which is adapted to a wide variety of uses. It can be used for scrubbing any kind of a floor and will handle such work without the least splashing. It is also used for applying floor wax, to polish waxed floors and for scrubbing off shellac, or varnish and for light sandpapering. When used for scrubbing cement floors, where it is necessary to remove oil and grease, a steel wire brush is supplied at a slight additional cost.

The standard equipment of this machine includes a ¼ H. P. motor, 40 feet of rubber covered cable, one polishing brush and one scrubbing brush, each 13 inches in diameter. The weight of the machine, with one brush attached, is 52 pounds. The brush operates at 150 R. P. M.

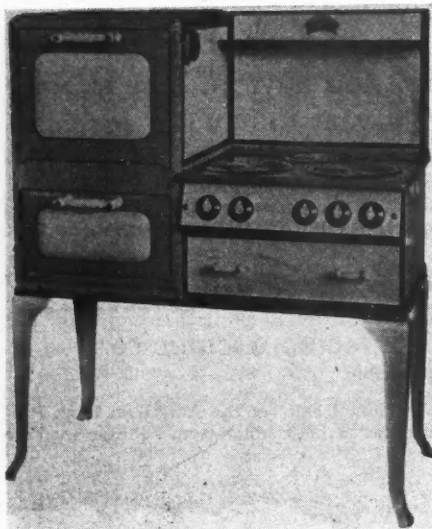


Versatile Operation and Simplicity of Construction Are the Features of This Floor Machine.

All moving parts can be readily inspected without taking the machine apart. The motor is mounted with four bolts to an aluminum casting, in a horizontal position. A small pinion gear on the motor shaft meshes with the bevel gear and the spiral, steel, bevel gears are located in a cast aluminum gear housing. This also is bolted to the large aluminum casting on which the motor rests.

The gear housing has an aluminum cover which prys off easily and permits instant inspection of the gears and the quantity of gear grease. Ordinarily it is necessary to replace the grease only once every six months. The use of the steel bevel gears makes the machine noiseless in operation and permits it to be used for scrubbing and polishing of floors without any annoyance to those about.

Modern Electric Ranges



Electric Ranges, in Two Styles, Designed to Reduce the Labor of Housework.

WITH the many modern appliances which are now going into the up-to-date homes and apartments of this country, household drudgery is rapidly becoming a thing of the past. Standing over a hot kitchen range is one of the things which is being done away with through the development of the modern electric range

such as the one illustrated in the accompanying photograph.

This range is made in two styles. The de luxe model has either three or four surface burners; a large oven, 16 by 18 by 14 inches; a broiler; food and plate warmer; a utility drawer; a convenience outlet and a broiler pan. The oven can be washed out, in either model, without removing the bottom oven burner. Both models are furnished in color combinations of black and white, gray and white, and green and white, in either the three or four surface burner style.

The console model has the broiler and broiler pan in the top of the oven, which measures 16 by 18 by 12½ inches. Either model may be had in plain, full or semi-automatic styles.

These ranges are substantially constructed throughout, rugged and will not twist or get out of line. The range itself is rigid and firm. They are economical of electricity and fast in operation. They may be obtained with either open or closed type burners and with the oven on either right or left side.

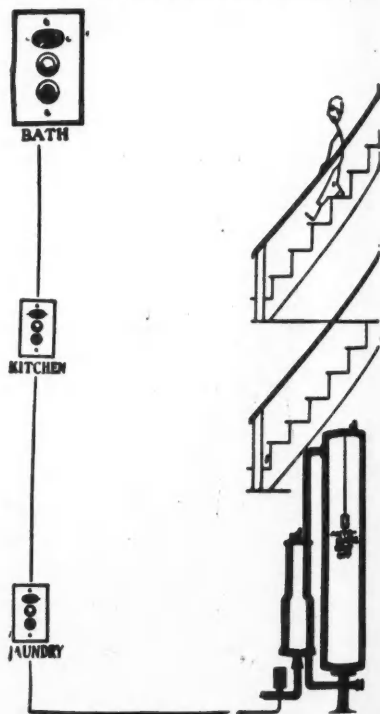
With the automatic control it is possible to place a meal in the oven, set the control to start and stop at certain times, leave the house and come back to find the dinner ready cooked.

A Water Heater Control

IT is possible for the home owner to have hot water when he wants without having to run up and down stairs to light his water heater and turn it off. This is made possible by an electrical device which can be attached to any gas water heater in any home. With it installed, it is possible to turn on the heater by pressing an electric switch in either the bathroom, kitchen or laundry, and to turn it off in the same manner from any of the switches.

While the heater is going, small red indicator lights in the switches act as a reminder so that one will not forget to turn it off. In addition there is a thermostat attached to the heater which automatically shuts off the gas when the water is hot so that there is no danger of overheating or wasted gas even if the heater is forgotten.

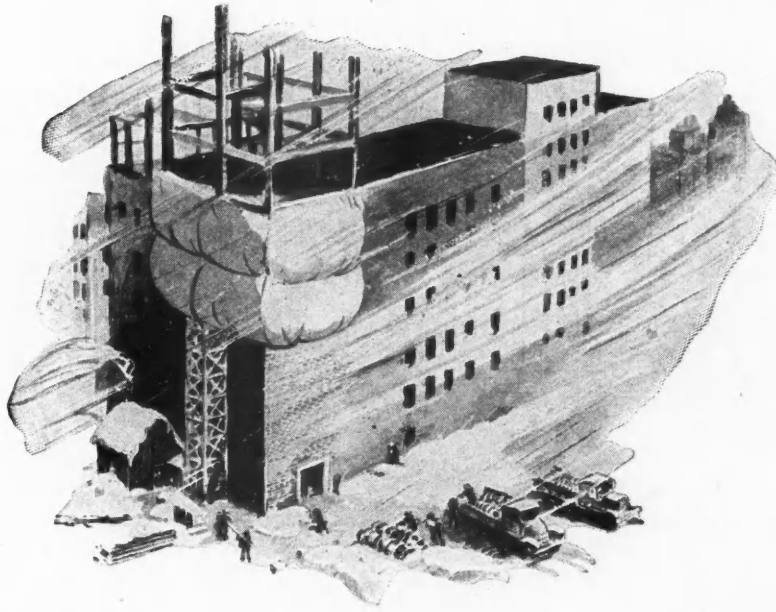
This device can be installed easily, in a few hours, neatly and with all wiring concealed. It operates from the regular house current and is attached to whatever form of gas heater may be in use already. This is one of those conveniences which makes the difference between a truly modern home and one which is out of date, which conserves the time of every member of the family, relieves the burden of housework, and aids the investment builder in the sale of his houses.



This Simple Control System Makes It Possible to Turn the Water Heater On and Off from Bathroom, Kitchen or Laundry.

Carney Cement Mortar

Has a Fine Winter Record !



IF YOU have a job of winter masonry, you won't go wrong with Carney Cement for the mortar. Time after time Carney Cement has been put to the acid test of winter construction and has come through flying. Scores of the country's important structures bear testimony of Carney's winter record—among them such recent examples as the Cleveland Union Terminal, the Standard Oil Company Building, Chicago, and the Minneapolis Municipal Auditorium.

When you select Carney Cement for winter work, you can do so with a confidence inspired by nearly fifty years of practical demonstration.

T H E C A R N E Y C O M P A N Y

DISTRICT SALES OFFICES

CINCINNATI CHICAGO DETROIT ST. LOUIS MINNEAPOLIS

NOTICE—Regardless of the binding material used for brick mortar, it is always advisable to heat the sand and water thoroughly in freezing weather. It is also important that the mortar be used as soon as possible after mixing.



Specifications:

1 part Carney Cement to 3 parts sand.

Cement Makers Since 1883

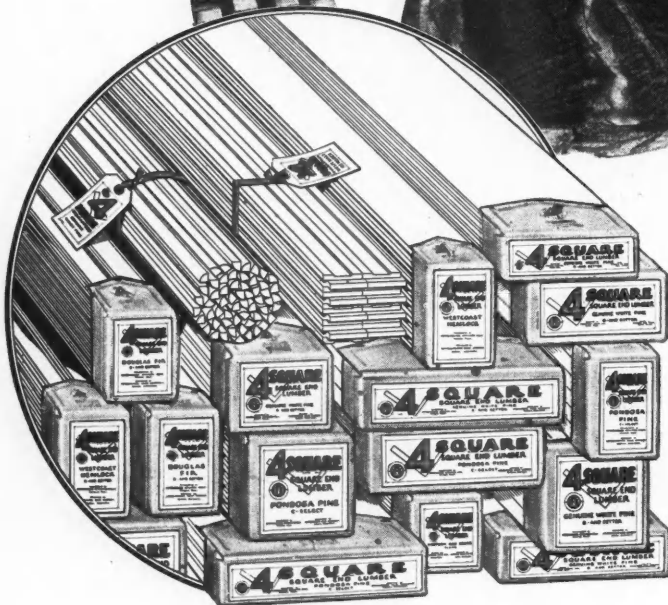
CARNEY CEMENT

for Brick and Tile Mortar

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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
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achievement-Wasteless Lumber!

packaged ready to use

Now 4-Square Lumber

beats "low bidders"

THIS new packaged lumber helps the honest builder to maintain his reputation.

It strips all mystery and uncertainty from the buying and selling of lumber. It is sold in attractive packages with the species and grade plainly printed on the label and guaranteed by Weyerhaeuser.

By this easily recognized identification of values your bids will stand on quality quite as much as on price. Competitors will have to meet not only your price but your quality as well.

4-Square Lumber is *more* than a competitive advantage. It is better lumber—thoroughly seasoned—milled to precise dimensions—cut to exact lengths—perfectly squared and smooth at both ends—packaged for protection of face and ends and ease in handling—labeled with the grade and species to avoid substitution.

Leading builders everywhere are praising this new achievement because with it they can effectively combat cut-throat competition and dishonest practices.

Local Lumber dealers have 4-Square in a wide variety of items and sizes. Ask your dealer about it or if he is unable to supply it, write to us.

SAINT PAUL · MINNESOTA

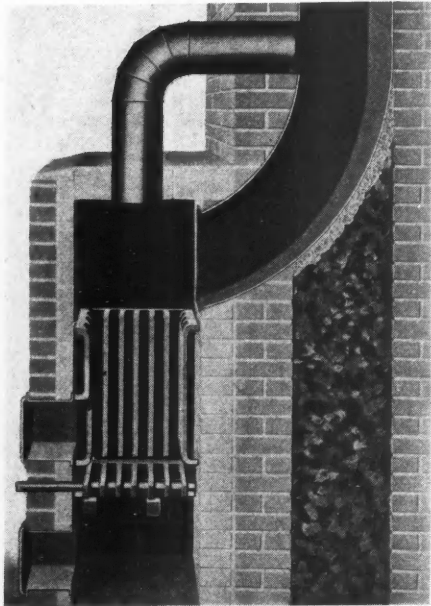
SALES COMPANY · Spokane, Washington

TOLEDO · PITTSBURGH · PHILADELPHIA · NEW YORK

Practical Small Incinerator

THIS little incinerator is described as differing from the conventional type unit in that it employs an offset principle. The value of this construction is that falling refuse does not go through into the grate line. Instead the impact is absorbed by the curvature of the stack which then throws off loosely into the combustion chamber. The grate of this unit is a cast iron basket suspended within the masonry and the rocking grate is carried within the grate basket.

A special stack is not required for this unit. In either



The Offset Principle on Which This Incinerator Is Based Is Its Outstanding Feature.

This unit employs a principle which serves as a forced draft during burning. While the incinerator is cold the oxygen is admitted to the combustion chamber at a very high velocity generating the refuse mass, evaporating moisture preparatory to burning. The reason for this high velocity through the air port is that its area is approximately one-twelfth of the flue area of the incinerator and the motion within the flue will cause oxygen to enter the ports very rapidly.

This incinerator is of 6.72 cubic foot capacity, large enough to handle any residence or two family or four family apartment. It is comparatively inexpensive and can be furnished in metal at only a slightly higher cost. It can be installed inside or outside a building and in either gas or gasless type. The gasless type can be converted to a gas type at any time with but a few minutes' work.



Copper Coated Steel Wire

AFTER an extended period of laboratory experiment, field research and actual test service, a new copper coated steel wire has been introduced as a material for residential, industrial and institutional fences, according to an announcement from the manufacturers. This new type of fence is available in both ornamental and chain link constructions.

In making this wire a thick layer of ductile copper is molten welded to a steel core. This is done by heating a steel billet to a welding, white-hot heat, after which it is surrounded with a layer of molten copper. The process is illustrated, in principle, by the accompanying drawing which shows the operation of pouring the molten copper around the steel billet that has been centered in a graphite mold.



Above: Method of Applying Wire to Fence. Right: Illustrating the construction of the ingot from which this wire is formed.



old or new homes it may be installed in the general service chimney or the heating plant chimney, provided either of these chimneys pass up through or near the kitchen wall. The feed door should be located within the kitchen. Tests have proven that this incinerator actually enhances the draft if the smoke stack is of sufficient size to carry the heating plant or other service, the manufacturers claim.

Ordinarily this round steel billet is seven inches in diameter and 48 inches long. After having been thoroughly cleansed and fluxed the steel billet is centered in a mold with uniform spacing on every side. The mold is then sealed and placed in a furnace where both are heated until the surface of the unoxidized steel reaches its melting point.

Molten copper is then poured into the mold, filling the space between the white hot billet and the inner wall of the mold. This liquid copper, coming into contact with the liquid surface of the steel, forms an absolutely continuous weld which, it is claimed, neither bending, twisting, hot-rolling, cold-drawing, forging or sudden temperature changes will destroy.

This ingot, which is now nine inches in diameter, is first hot-rolled into a rod $\frac{3}{8}$ -inch in diameter, after which it is cold-drawn into wire of the required size. The combination copper and steel ingot rolls and draws as one metal, the original proportion of copper and steel remaining the same through all stages of fabrication, it is stated.

It is claimed that the copper exterior affords almost indefinite life to the wire by reason of its rust resisting qualities. The wire can be colored to any desired shade of green, or brown, merely by the application of acids.

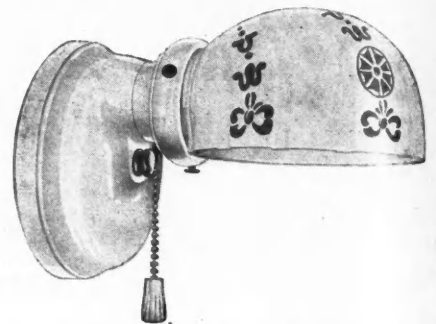
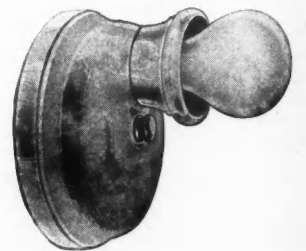


New Porcelain Light Unit

THIS new lighting unit is made of genuine porcelain and is one of the easiest devices to install that is on the market today, yet it sells at a low cost and in a standard package. A deep recess in the back makes it possible to install this device over almost any box or outlet, including a stud. It will fit over boxes that are set flush with the surface of the wall as well as over a stud box that is set close on the surface. For this reason it should be especially attractive to the wireman.

This new bracket may be had in the pull-chain or keyless type with or without the convenience outlet and also with a porcelain ring for exposed lamps, or with a $2\frac{1}{4}$ -inch shade holder for glassware. Both of the latter two models are shown in the accompanying illustrations. Glassware is, of course, not supplied.

Because these brackets cost less, yet are applicable to such wide use and are so easily installed, it is expected that they will prove highly popular.

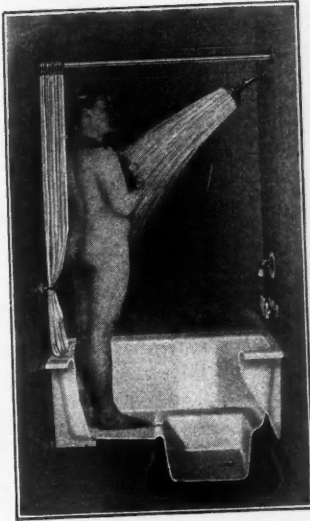


This New Bracket Can Be Had in Two Types and Either with a Ring for Exposed Lamps or with Shade Holder for Glassware.

A Bath of the Future The Combination Bath Tub

Regular Bath, Shower Bath, Seat Bath, Foot Bath, Child's Bath. All in one piece, Patented

Semi-Vitreous Porcelain and Enamelled Iron Ware



**COMBINATION BATH
PLATE 10-E**
Enamelled Iron Ware, 44x30 inches to tile in recess only. Enamelled white front. Waste in foot section either right or left hand end.



**COMBINATION BATH
PLATE 11-E**
Enamelled Iron Ware, 44x30 inches to tile in right or left hand corner. Enamelled white all exposed parts. Same as Plate 10-E except for corner installation.



**COMBINATION 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.

The COMBINATION BATH is an entirely new departure in the development of modern sanitary comfort, comprising, as it does, a SEAT, FOOT, SHOWER and CHILD'S bath, all in one.

It possesses many essential common sense features not found in any other types. For instance, it is more comfortable and less wasteful of water; it is possible to bathe and treat the feet without the removal of all clothing, by having only a small amount of water in the foot section. The ledges on the end and both sides of the foot section enable one to treat the feet conveniently, while the dimensions of the foot section allow ample space for the feet when standing or sitting. The mother or maid can bathe a child in the comfort under ideal conditions. The child can be bathed on the seat section, and then, if desired, dipped in the water filled foot section.

Remember, when you are considering the length of the COMBINATION BATH in comparison with other kinds of tubs, that you do not assume a half reclining position when using the COMBINATION BATH, but instead a sitting position; so that your length from the knee down does not count in the length of the space required as it does when using the ordinary bath; also that the uncomfortable, cramped position assumed in the latter case is entirely removed and supplanted by a natural, comfortable posture, such as experienced when sitting in any easy, comfortable chair with just as much room in every direction as a person would have in using the ordinary bath of greater length.

Furthermore, when the COMBINATION BATH is used as a shower bath it is equal to any standard type shower receptor. The arrangement of the seat and foot bath permits the taking of a head or body shower bath, the latter without wetting the hair. This commends it, and is a feature which should not be too lightly regarded; in fact, we strongly recommend installation of showers in connection with the COMBINATION BATH.



Plate 126-E "The Tranquil" all white Syphon Jet Water Closet Combination.

When one desires to get out of the COMBINATION BATH, he can do so without the aid of grip-rails or even the use of his hands, by merely standing up—just like arising from a chair.

Water can be turned on and off or discharged without changing from a sitting position, instead of being obliged to slide along the bottom of the tub, in order to reach the valves, as is necessary when using any other type bath.

In planning bath rooms, space saving is oftentimes a most important problem, which can be readily and satisfactorily solved by the adoption of the COMBINATION BATH. This is all accomplished without encroaching on the space required for persons weighing as much as 250 pounds to an extent that comfort is sacrificed in any degree.

Tone will be given the bath room wherein such a distinctly attractive and meritorious fixture as the COMBINATION BATH has been installed—an added attraction fully appreciated and not likely to be overlooked by your guests.

We furnish plans for installing the COMBINATION BATH, avoiding the necessity for having any part of the waste fittings extended through the ceiling below the bath room, requiring a suspended ceiling; which, in many cases, would prove undesirable.

These plans provide for raising the bath about four inches above the floor level, and filling in the open space with tile. This increases the extreme height of the tub from floor to top to about twenty-one inches, which is slightly less than the height of a staple bath on legs or base.

Many of the COMBINATION BATHS have been installed in this manner, and have proven entirely satisfactory.

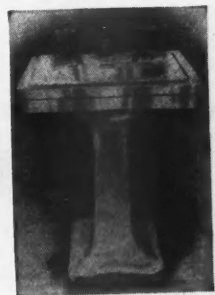


Plate 100-E Lavatory on Pedestal. Two sizes—24x20 inches and 26x22 inches.

Write Us for Descriptive Booklet Giving Measurements and Other Details

WHEELING SANITARY MFG. CO.
WHEELING, W. VA.

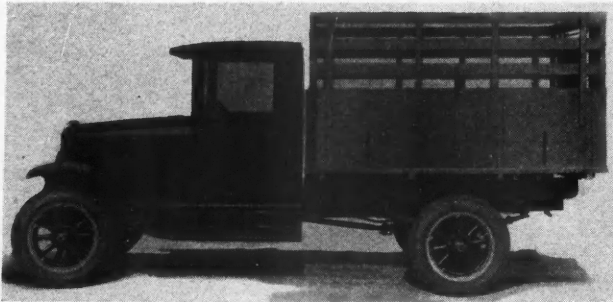
Manufacturers of High Grade Plumbing Fixtures
Sold by Leading Jobbers of Plumbing Supplies

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Small Heavy Duty Speed Trucks

THE manufacturers of this truck state that there has long been a demand for a small, heavy duty truck for compact, heavy loads, to look and go like a snappy speed truck, with frame and springs to stand all kinds of punishment and with gear reduction such that the engine power can be used down to the last ounce when a heavy load is caught in hard going. This truck was designed to meet that demand.

This new speed truck has six forward speeds and two reverse speeds. The transmission has three speeds forward and one reverse and a two-speed, spiral, bevel rear axle, of new type, provides two axle reductions for each transmission speed. There are, thus, two ranges of speed, one an extra low range, ordinarily found only in some of the big, heavy duty trucks. This low range, with its three speeds, is for rough roads, mud, fields, hills, wherever the going is tough. Then there is the high range, with its



Here Is a New Truck Which Is Both a Heavy Duty Unit and a Speed Unit and Is Winning Much Favor.

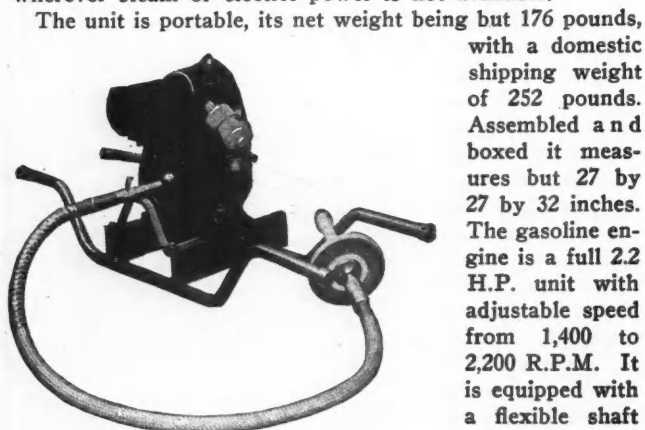
three speeds, for fast hauling where the roads are good.

This new truck has unusual flexibility, it is stated, as well as speed and utility. It is reported that sections where this truck was released six months ago are now taking it in dozens of trainloads requiring a production schedule far ahead of any other model made by the company.



Portable Rotary Motion Unit

A UNIT described as the only tool of its kind, the only application of flexible shafting with a gasoline motor, is shown in the illustration. The manufacturers, well known makers of flexible shafting for industrial purposes, state that this machine is one which can be used to advantage by builders, contractors and construction firms in metal, wood, marble, brick and floor work, at isolated points or wherever steam or electric power is not available.



In This Machine There Has Been Made an Application of Flexible Shafting with a Gasoline Motor Which Will Be Found Useful by Builders.

The unit is portable, its net weight being but 176 pounds, with a domestic shipping weight of 252 pounds. Assembled and boxed it measures but 27 by 27 by 32 inches. The gasoline engine is a full 2.2 H.P. unit with adjustable speed from 1,400 to 2,200 R.P.M. It is equipped with a flexible shaft with metal case, length 10 feet, for an eight by one-inch wheel.

Artificial Daylight Units

ACCORDING to the manufacturers of the lighting fixture shown here it is a fact that the lighting in a majority of offices and industrial plants is lacking in "quality," although the "quantity" may be ample or even excessive. And also that the users are seemingly satisfied because they do not know, as a rule, that a better quality light is available at a low cost, and that making this light adjustable to all requirements of the individual greatly increases its effectiveness.

This company has specialized on the manufacture of lighting units producing a high quality of artificial daylight (white light) that is very beneficial to the eyes and retains true color value. These units may be used as drops or in combination with a complete line of adjustable fixtures and portables, for office or industrial use. These units consist of reflectors with special lenses which produce a very white light which is close to actual daylight in quality.



One of a Line of Lighting Units Put Out by a Company Specializing on the Production of Artificial Daylight.



Paint Gun Has Complete Control

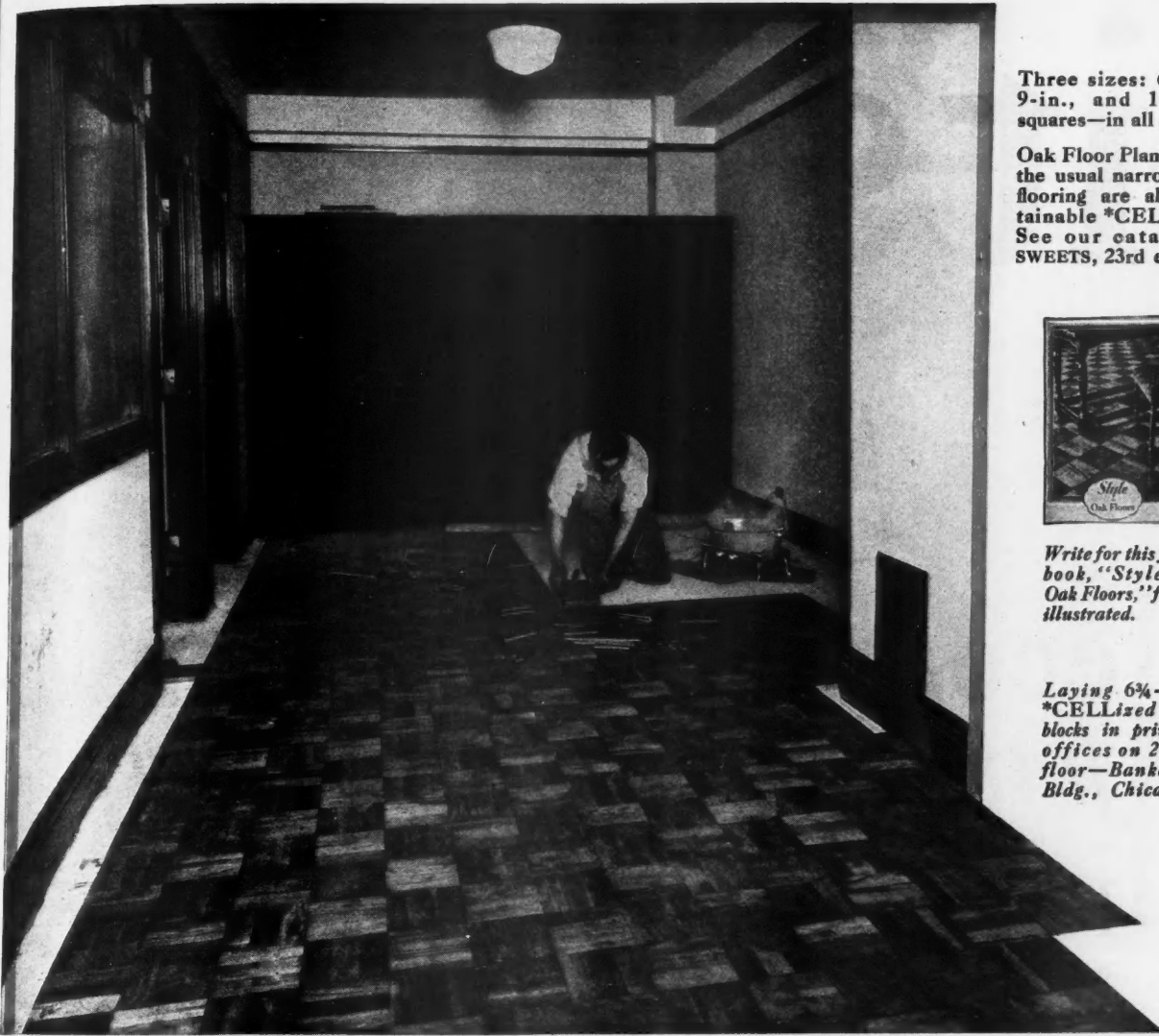
THE new paint spray gun shown here has two important additions as compared with this company's older models. These features are a dialed head and a series of indicator numerals on the paint valve plunger. The dialed head gives numerous different spray adjustments, from a circular spray to a fan of a wider field than was formerly possible. The dialing permits the operator to obtain any desired spray instantly without first making tests.

In connection with the indicator numerals, a pointer is operated as the operator turns the adjustment button. Just as the dial in the head produces the exact spray wanted, so the indicator numerals on the paint valve plunger provide the exact volume desired without the necessity of losing time by testing. The operator, having found that a certain class of work is best performed when the indicator points to a certain figure, makes the proper adjustment before beginning to spray.

Two Additions Have Been Made to This Paint Spray Gun Which Give the Operator Complete Control of the Spray.

The new improvements calibrate all operations and enable the operator to "tune in" instantly on the proper adjustment for perfect operation. They also substitute scientific accuracy for "rule of thumb." These improvements are also available to the owners of older guns as the new parts have been made interchangeable and can be inserted in the older gun bringing it up to date.





Three sizes: 6¾-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, "Style in Oak Floors," fully illustrated.

Laying 6¾-in. *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 *CELLized unit oak floor block.

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. Squeaking is eliminated. *CELLizing, a deep-cell chemical treat, protects each block from distortion by moisture, resulting in a smoother and more perfect hardwood floor. The treat also permits a richer, more lasting finish, with less finishing material. Insect and decay proof.

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

In remodeling, lay *CELLized oak floor blocks in EVERBOND, over old worn floors.

*CELLized oak floor blocks are sold through lumber dealers everywhere; manufactured by

- THE LONG-BELL LUMBER CO. Kansas City, Mo.
- ARKANSAS OAK FLOORING CO. Pine Bluff, Ark.
- TENNESSEE OAK FLOORING CO. Nashville, Tenn.
- NASHVILLE HDW. FLOORING CO. Nashville, Tenn.
- BRADLEY LUMBER CO. of Arkansas Warren, Ark.
- E. L. BRUCE COMPANY Memphis, Tenn.

Oak Floor Planks, and strip flooring also obtainable *CELLized

*CELLized Oak Flooring Inc.

MEMPHIS — TENNESSEE

Write for the name of the Approved Flooring Contractor nearest you.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

- it's here

A practical and economical system
for framing houses with steel

HERE at last, is the simple, practical system of steel house framing for which every progressive architect and building contractor in the country has been looking for many years—a system that makes the modern house truly firesafe, stormsafe and at a cost comparable to ordinary wood construction.

The complete steel frame is fabricated at the mill and delivered to the job site ready to erect with the use of ordinary tools. The wrench takes the place of the hammer and saw with this construction. Any competent building craftsman can assemble and erect a "STEEL FRAME HOUSE"—no specialized skill is required.

STEEL FRAME HOUSE COMPANY

A Subsidiary of McCLINTIC-MARSHALL CORPORATION

OLIVER BUILDING

PITTSBURGH, PA.

STEEL
THE MODERN METHOD



This is the Steel Frame for the Shaffer House—pictured in colors on the Cover of this month's issue of the American Builder

THIS STEEL FRAMED HOUSE was designed by Lyon and Taylor, Architects of New York, to meet the particular requirements of the owner, Mr. W. H. Shaffer, Jr. of Pittsburgh, and illustrates the unlimited possibilities of "Steel Framing" as applied to any architectural design, large or small.

INVESTIGATE this modern method of house construction. Send for your copy of our booklet "Steel Framing for Dwellings"—you will find it extremely interesting and profitable.



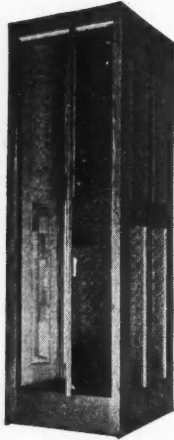
STEEL FRAMING

METHOD OF HOUSE CONSTRUCTION

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Complete Telephone Booths

THE telephone booth illustrated here is one of a line manufactured by a company specializing in the production of telephone booths which has recently made arrangements with the Bell interests by which it is now allowed to sell its booths anywhere. Certain portions of the country show a surprisingly small number of public phone booth installations and a wider use of this convenience would open up a new source of revenue to owners of stores, shops and buildings.



One of a Complete Line of Telephone Booths Now Available Anywhere.

These booths are available in four types, a folding door type, a receding door type, a swinging door type and a folding door type for group installation. The latter is furnished with unfinished sides and separators are used between the units of the installation and finished panels at the ends of the group only.

Both the folding door types are of the same size, 88 $\frac{1}{4}$ inches high, 29 inches wide and 30 $\frac{1}{2}$ inches deep, but in different finishes. The inside is lined with metal, shelves are furnished in the separate booths and wiring chambers in both types. Lighting equipment is furnished only when specified. These types require only three inches in front of the booth for opening the door.

The receding door type requires six inches in front for opening the door.

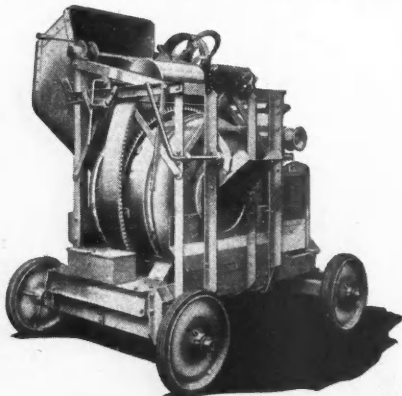
The dimensions are slightly smaller.

The swing door opens outward requiring a large space for opening. All of the booths are shipped knocked-down, in a substantial crate, ready for easy assembly. The finishes, varying slightly in the different types, include plain oak with medium finish and birch with dark or light mahogany finish.



Long Lived Non-Tilting Mixer

THIS 7-S, non-tilting, concrete mixer, on four wheels and with a spring hung chassis, is the latest announcement from a well-known manufacturer of concrete mixers. Its mixing time and time for charging and discharging are the same as for another, one bag trailer, introduced by this company a year ago, which has established a reputation for its speed.



A New, Non-Tilting Mixer Designed to Give Long Life and Save Wear on Tires.

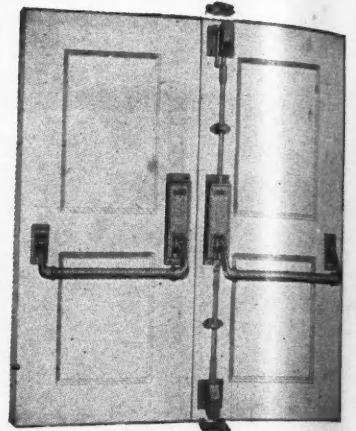
Longer life for the mixer and saving of wear on tires, due to the new spring mounted construction, are features of this machine which are emphasized by the manufacturer. Being built of steel, this machine also combines an estimated 50 per cent

extra strength with a saving of $\frac{1}{2}$ ton in weight. The rollers and countershaft are ball bearing and the steel, disc wheels are roller bearing.

The price on the standard model, which is stated to be considerable reduction under the present market, includes an automatic skip shaker, an accurate measure water tank, and a two-cylinder, Le Roi engine. It is also built in low charge type.

Dependable Panic Bolts

THE illustration shows one of a line of panic bolts which have been developed with the idea of simplicity of construction, sturdiness and ease of installation. Only the best of material and workmanship goes into their production. The installation shown is a combination used on double doors, one model on standing leaf and another on active leaf.



A Combination Panic Bolt for Double Doors Produced by a Company Specializing in Panic Bolts.

This combination, the manufacturers state, is the best they have ever designed for use in connection with panic bolts.

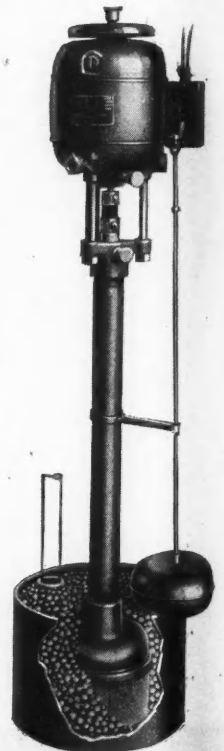
The working parts are cut to a minimum and only one spring is used, the one spring required for ejecting the bolt. The parts are so constructed as to withstand all of the heavy shocks to which panic bolts are subjected. The bolt is so simple as to make it almost impossible for any part to get out of order, it is claimed, and should require no attention after it is once installed.



New Efficient Sump Pump

HERE is an efficient, dependable sump pump for draining cellars, pits, basements and other places where water will accumulate without the natural means of gravity drainage. It is fully automatic in operation. The electric current is controlled by an automatic float switch of positive action. The manufacturers of this pump state that, from an engineering standpoint, its design and construction embody superior and advanced improvements and developments in sump pump engineering.

This equipment is very easily installed. It can be used either in a permanent installation or as a portable pump for draining ditches, pits and open cellars. It is especially adaptable to the uses of a construction engineer. It can either be supported by pipes screwed into the three connections on the motor, which would rest on the top of any size pump, or it can rest on its base, which is sufficiently large in diameter to support it solidly. The electric connections are easily made. The dimensions are 42 inches by 12 inches and the shipping weight is 105 pounds.

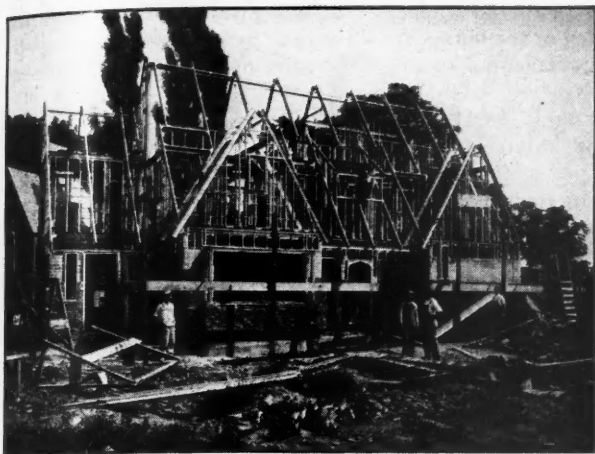


This Sump Pump, for Draining Basements, Pits, Etc., Is Fully Automatic in Operation.

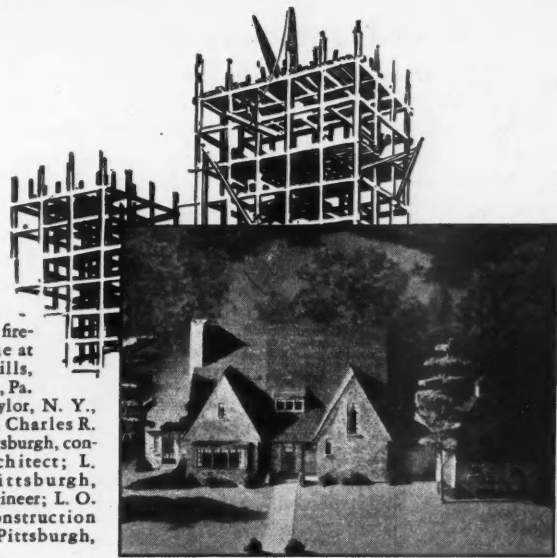


"What About the Supply of Oil Fuel?" is a booklet published by the Oil Heating Institute, 420 Madison Ave., New York City, which aims to establish that, despite increasing demands for petroleum products, our petroleum reserves should prove ample for generations to come, in contradiction of various prophecies of its early exhaustion.

The house is beginning to take shape. The steel frame is erected, the brick veneer is being set up over STEELTEX for Stone or Brick Facing.



Steel frame, fire-proof home at Mission Hills, Pittsburgh, Pa. Lyon & Taylor, N. Y., architects; Charles R. Geisler, Pittsburgh, consulting architect; L. Brandt, Pittsburgh, housing engineer; L. O. Maines Construction Company, Pittsburgh, contractors.



America's most talked-about house uses STEELTEX

Skyscraper methods now applied to homebuilding

Like a page from the Arabian Nights is the story of America's most talked-about house, now building at Mission Hills, Pittsburgh, Pa.

Here, at last, is the fireproof home, built by skyscraper methods using steel girders and steel framing, *yet brought within reasonable cost*. This result is due largely to STEELTEX. This modern reinforcing material is now repeating in this new field the success it has had in over a quarter million homes, apartments, etc., of standard wood construction.

STEELTEX makes it possible to use economical brick facing, reinforce it with steel, have an absolutely moisture-proof wall, and with the same material, add insulating and sound-deadening qualities. In fact, this construction in a steel frame house is endorsed by the Common Brick Manufacturers' Association of America.

STEELTEX guards the plaster-walls with completely embedded steel reinforcing — mini-

mizing the crack hazard and bringing added insulation and sound-deadening.

STEELTEX puts a 4-inch sealed air space around this house to prevent the passing of winter's cold and summer's heat. STEELTEX brings such economies to the building of reinforced concrete floors that these fire barriers have been constructed under all the wooden floors.

There are several forms of STEELTEX, all alike in principle. They consist of welded steel fabric attached to a tough, fibrous backing. Between steel and backing is a space for concrete, stucco, or plaster, which is thus spread under and over the steel. Different weights of steel and different backings are required for different types of services. STEELTEX is the time-tested product used in over a quarter of a million installations. You will want complete details about STEELTEX. Write or send the coupon today. Please indicate which information interests you.

STEELTEX

FOUR TYPES — SAME PRINCIPLE — SAME PROTECTION for plaster . . . for stucco . . . for floors and roofs (concrete and gypsum) for stone or brick facing



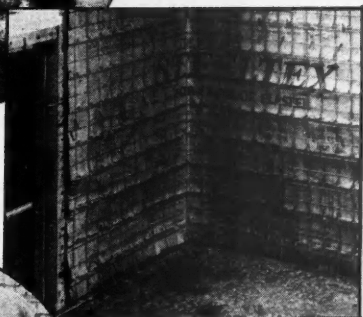
National Steel Fabric Company, 3111 Union Trust Bldg., Pittsburgh, Pa. Without obligation send information about material I have checked.

- Steel Framing for Dwellings
- Steeltex for Floors
- Steeltex for Plaster for Stucco
- Steeltex for Stone or Brick Facing

Name _____
 Business _____
 Street _____
 Place _____



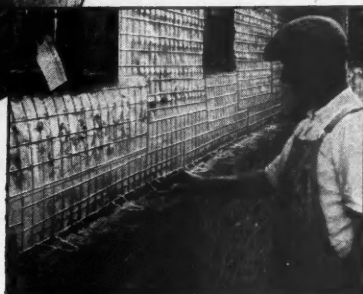
STEELTEX for interior Plaster, attached to the steel framing, gives automatic back-plastered, reinforced construction, plus insulation and sound-deadening.



The V-shaped STEELTEX attachment bar has flexible metal ties welded to it at regular intervals. In woodframe construction, STEELTEX is nailed to framework in sheets.



STEELTEX for Brick Facing provides a 1-inch reinforced cement slab, cast in place as the bricks are laid, forming a monolithic, moisture-proof wall of brick, steel and cement. Wall ties, hooked to the STEELTEX, are embedded in mortar.



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Pilot Lights Save Electricity

ONE of the many interesting and practical wiring device installations now on the market is an arrangement of warning lights in one of the front hall stair risers. These pilot lights have red and green jewels and are so wired that, should the owner forget a cellar light after fixing the furnace, or perhaps the back vestibule light, or leave the garage without remembering to turn the switch when he retires for the night, he cannot miss the bull's eye which warns him from the stair riser. He knows, if either of these lights are burning, that he has forgotten some light downstairs and he can stop this waste of current by turning the switch at the head of the stairs.

There are many combinations of these warning lights, but the one described and illustrated here, though exceedingly simple, is effective and valuable. It is but one of many practical and convenient electrical installations described and illustrated in a 16-page bulletin which gives front elevations, floor plans and views of each room in a model house. This model house is completely and economically equipped from the standpoint of wiring device installation, and the architect or contractor can secure many helpful ideas from it.

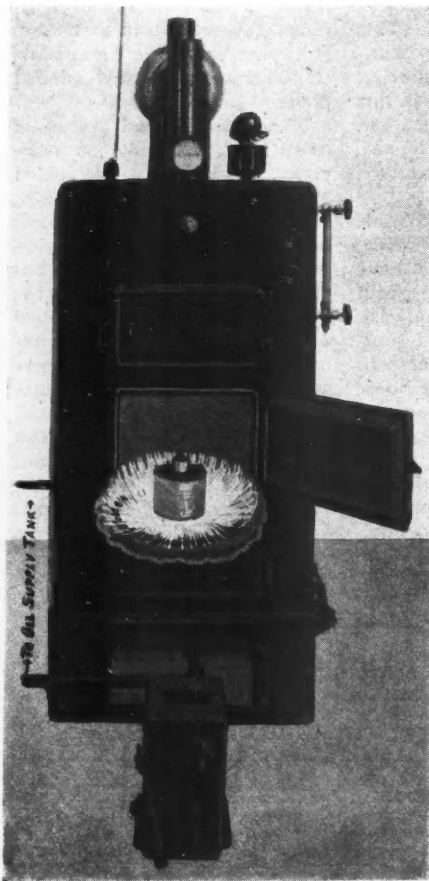


This Pilot Light Installed on a Stair Riser Warns if Basement, Garage or Other Lights Have Been Left Lighted.

helpful ideas from it.

An Oil Burner for Small Homes

MODERN, oil burning, heating equipment for the small home of five to 10 rooms, is provided by the system illustrated. This sturdy, simplified equipment is adaptable



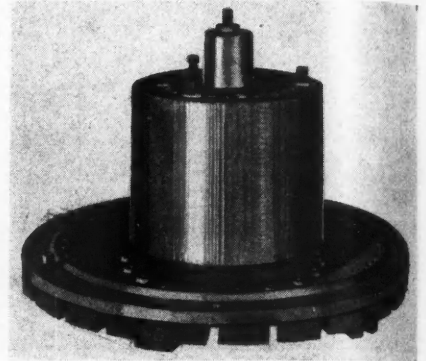
Oil Burning Equipment, Adapted to the Requirements of the Five to Ten Room House, Which Is Simple, Efficient and Economical.

to all types of furnaces, steam, hot water, warm air, vapor and pipeless. It can be installed in a few hours without any change of the furnace already in use and is said to be absolutely noiseless in operation and dependable at all times.

Both its silent operation and dependability are attributed to the fact that it is a gravity feed system entirely independent of outside supply, as electricity or gas, and with no moving parts. This freedom from moving parts also reduces the need for servicing. The principle on which it operates is very simple, depending upon heat from the

burner to vaporize the oil and the draft of the chimney to mix the required quantity of oil to form a combustible gas.

This burner uses furnace oil, which is obtainable from any of the oil companies in any quantity desired. The oil is fed to the burner from the tank by gravity and the supply is governed by an automatic valve operated by a thermostat control of well known make. The thermostat is placed in the living room, hallway, or wherever desired, and assumes the entire work of tending the furnace, keeping the house at the desired temperature.



The Burner Receives the Oil by Gravity and the Heat of the Burner Vaporizes the Oil.

There are no motors, blowers, or mechanical parts to get out

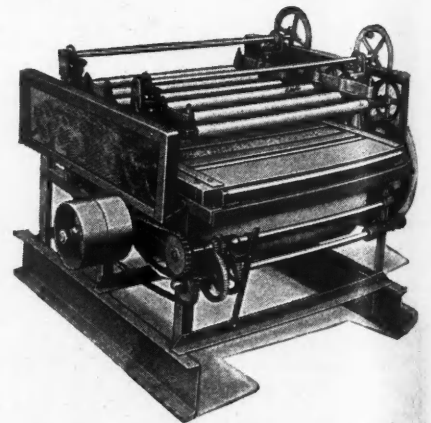
of order. The equipment supplied with the system includes the thermostat control with clock, automatic basal valve (listed as standard by the National Board of Fire Underwriters), and a 275-gallon tank for the basement. The manufacturers guarantee that their heating system will furnish satisfactory heat without soot or carbon to the rated capacity of the heating plant in which it is installed. This system is priced at a level which makes it available for any home.

Drum Sanders Improved

A WELL-KNOWN and popular line of 24-inch single drum sanders and double drum 36-inch sanders has recently been improved by the addition of a steel bed plate, permitting first-class sanding of material as thin as $\frac{1}{8}$ inch and as short as $7\frac{1}{2}$ inches. This improvement provides this line of low price sanders with a capacity for first-class close work equal to all woodworking requirements of carpenter shops and retail lumber yards, it is stated.

The sand drums are accurately lathe turned, 19 inches in diameter, made up of kiln dried strips, covered with Brussels carpet and bolted to three cast iron flange pulleys and mounted on a $1\frac{1}{16}$ -inch, cold-rolled steel shaft. The feed rolls are cold-rolled steel, all power driven and adjustable up to $4\frac{1}{2}$ inches with two speed feed change. The bed plate on the bottom feed rolls is ground and polished level and true to handle material as thin as $\frac{1}{8}$ inch and as short as $7\frac{1}{2}$ inches, with perfect alignment and even pressure.

An oscillator improves the sanding finish and keeps the sandpaper clean. The sander operates at a speed of 300 R. P. M. The power is supplied to the single drum by a three H.P. motor and to the double drum by a five H. P. motor.



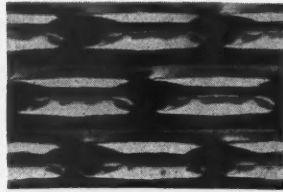
One of a Line of Drum Sanders to Which Have Been Added Steel Bed Plates, Permitting the Handling of Thin and Short Material.

Results for the Contractor in Dollars and Cents

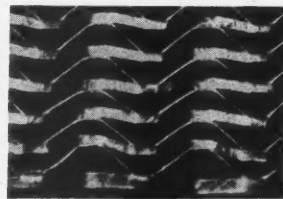
Contracting on a profitable basis requires something more than simply hiring and firing men.

Making a profit today includes the choice and use of building products that have the "stuff" built into them — products that are widely recognized — products that can cut erecting time — and products that have a wide distribution.

The Kalman line of building products will carry you from basement to roof. It will carry you through a line of building products, the quali-



Troff Kalmanlath



Cup Kalmanlath



Kalman Expansion Corner Bead



Kalman Wing Corner Bead

ties and economies of which can substantially cut your building costs.

They are the kind of products you'd want in your own home or building—the kind that boosts your "rep" with the architect and building owner. Kalman products give you these advantages.

Check the Kalman line below for the products you need—then go after the nearest dealer, or, if necessary write, phone or wire our nearest office — you can always get prompt delivery.

Kalman's Line of Products for Building

3/8" 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 Scribed 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
Crimpt Metal Furring
Hanger Rods
Tie Wire
Staples
Nails
Hot Rolled Flats
Hot Rolled Angles

Metal Trim
Kalmantrim Fabric
Hanger Inserts
Adjustable Inserts
Sleepers Anchor
Screed Chair
Forms for Concrete
Reinforcing Bars and Spirals
Bar Supports and Spacers
Road Reinforcement
Wire Shapes
Steel Buck and Bead
Kalmantruss Joists

KALMAN STEEL COMPANY

Chicago
New York
Buffalo
Newark

Detroit
Boston
Baltimore
(Export Office—New York)

Pittsburgh
Syracuse
Milwaukee

Philadelphia
St. Paul
Atlanta
Houston

Kansas City
Dayton
Minneapolis
Columbus

Youngstown
Charlotte
Niles
Washington, D. C.

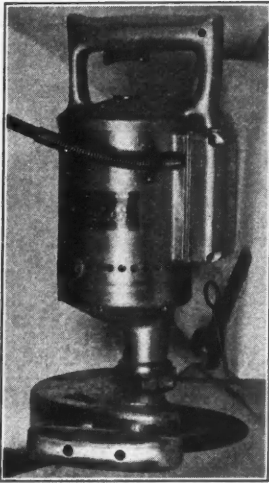
KALMANLATH

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Tool Cuts Stone at the Job

WHILE the desirability of stone for house building has long been recognized, stone houses have been few and far between. This was largely due to the fact that stone was considered too expensive for home building. The expensive reputation of stone was due in part to a mistaken idea of its cost and in part to the labor costs involved in stone construction. This latter disadvantage has been, in a large measure, eliminated by the tool which is illustrated here.

This tool was first used for cutting tile and dressing mill stones, but one of the largest companies producing building stone "discovered" it and, by experiment, proved it adaptable to the working of building stone. With this tool it is a comparatively simple matter to cut and bore stone right on the job.



The Cost of Stone Construction Is Materially Reduced by This Tool for Cutting, Boring and Grooving Stone.

This machine comes in two sizes, the smaller adapted to work with Indiana limestone and the larger for use on marble and hard materials. It is fitted with a variety of wheels to meet all requirements of this type of stone work.

For cutting limestone a narrow groove is cut by the tool, free hand, along a marked line, the back of the stone is tapped with the hammer and a neat break is obtained. This scoring can be done in various widths for various purposes and window sills may be grooved with drip grooves using a beveled wheel. Drilling for anchoring stone facing is equally simple. For grooving window sills a special attachment can be obtained. Another attachment, a track and carriage, may also be used for cutting slabs of marble on job.



Improved Radiator Vent Valves

ONE of the principal causes of inefficiency in steam radiators has been overcome by the recently perfected air valve shown in the illustration. When the new type radiation is used on one pipe steam jobs, the steam has a tendency to short circuit through the top nipples and close the air valve before all the air has been vented. This trapped air greatly reduces the heat output of the radiator, often to such an extent that additional radiation is used. This is needless for the real trouble is caused, not by insufficient heating surface, but by trapped air, incomplete venting.

The valve designed to overcome this difficulty is made in two styles. The first of these prevents short circuiting and assures complete venting by means of a baffle disc that fits tightly into the nipple connection of the last section. This forces the steam to travel up the last section and drive all the air out ahead, before it can come in contact with the valve and close it. The heavy spring on which the baffle disc is mounted allows for variation in design, threads or casting, and thus insures a positive blocking off of the last section at the top of the nipple.

The valve fits all new type radiators made by the leading manufacturers, it is stated. Its threaded plug is 1½-inch I. P. S., and is made of brass so that it can be made up tightly in the correct position with the arrow on the name plate pointing straight upwards. The operation of this valve is based on a thermostatically charged float used success-

fully in previous valves made by this company. The illustration shows how air will pass out through the large venting channel until steam reaches the float. Then the volatile liquid within the float expands, bulging out the bottom. This raises the float and closes the port.

The second style of this valve is for "below atmosphere 'jobs'." It

permits the air to escape but prevents its return into the system. It has all the venting features of the other style and a vacuum seal with hand lapped monel disc and seat. This valve vents with only a slight boiler pressure. But as the steam goes down the air seal closes tightly, creating a partial vacuum in the system and retaining heat for hours after the fire is banked.



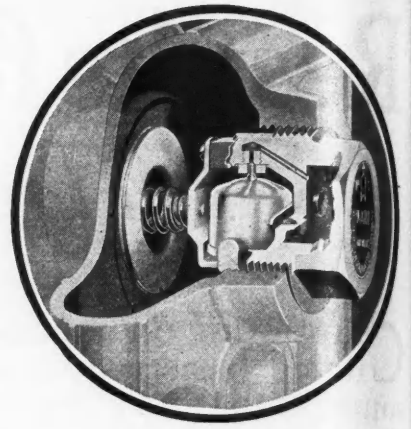
Gasoline Motored Paint Spray

HERE is a portable paint spray outfit powered by a two H.P., air cooled, single cylinder, gasoline engine, built directly into the compressor by means of a silent, spiral, bevel, transmission. This is an automobile type engine, with muffler, spark plug, carburetor and force ventilation. Powered in this way the outfit is available for use anywhere, whether electric power is available or not.

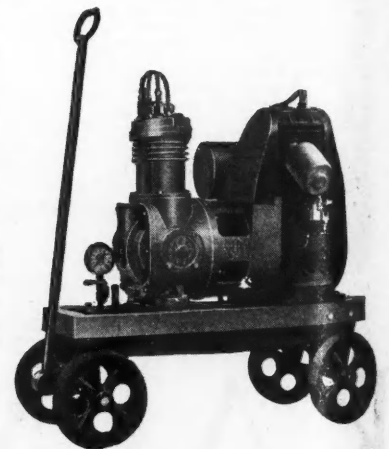
The complete outfit is mounted on a steel truck with sturdy steel wheels and balloon tread rubber tires. It has a convenient handle and rack to hold the hose when not in use. It is very compact, measuring 31 inches high, 33 inches long, 19 inches wide, with a 32-inch handle. The same outfit may also be obtained equipped with an electric motor and extension cable in place of the gasoline engine.

The compressor is conservatively rated, it is claimed, at 8½ cubic feet per minute displacement, and is guaranteed to keep one large size spray gun wide open in continuous operation at suitable spraying pressure. It is a twin cylinder unit which assures ample capacity with less wear on the motor and other moving parts.

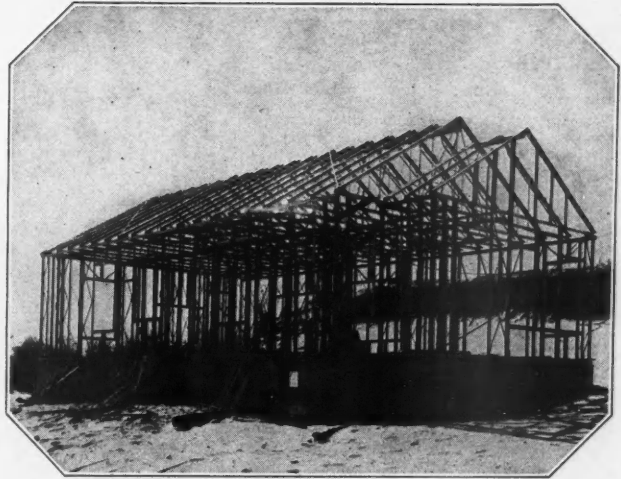
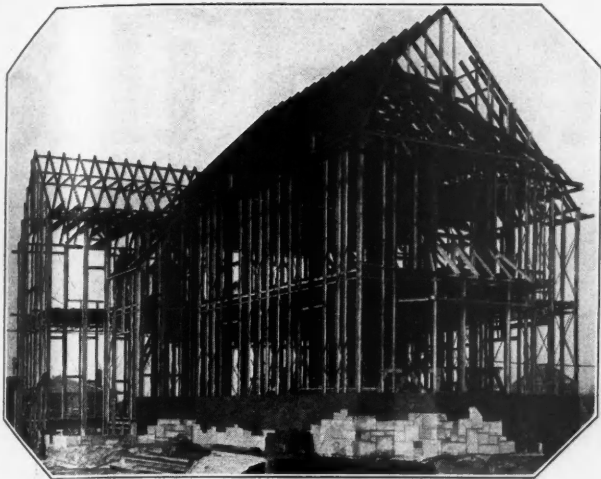
Seamless, leak-proof tubing is used for all connections and an accurate pressure gauge, air filter, oil gauge, oil and moisture drains and safety valves of highest quality are provided. Twin cylinders with a one-piece removable head, modern plate type valves, snug fitting pistons with oil regulating rings and a foolproof splash system of lubrication are used.



Complete Venting of Air from Steam Radiators Is Now Possible by Means of This New Valve.



This Gasoline Engine Motored Paint Spray Outfit Will Handle the Job Efficiently Whether Electric Current Is Available or Not.



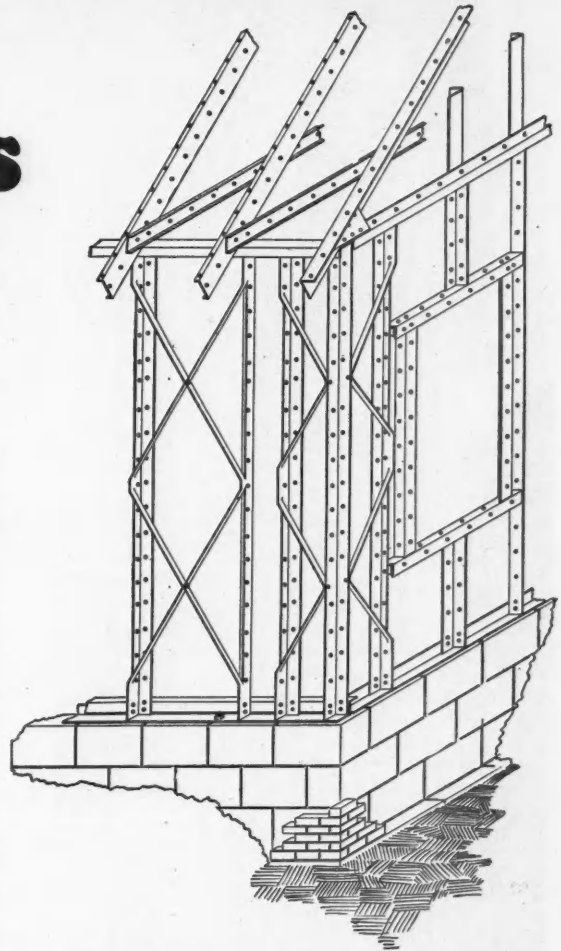
Steel House Frames

This fire-proof, lightning-proof and permanent type of steel home construction is rapidly growing in the favor of the home-buying public.

Simplified Erection—The construction of Walter Bates Steel House Frames is now simplified and perfected. Complete sets of steel erection drawings (these are furnished with each steel frame) show the steel studs by numbers with which the steel itself is marked, therefore making for very simple erection. The steel is shipped completely measured, cut, punched and painted. With the supervision of some one familiar with building construction, any laborer can bolt the steel members of the frame together. The application of other building materials is in keeping with standard lines of construction.

Catalog—Our 24-page catalog "Walter Bates Steel House Frames" shows stock designs for four, five, six, seven and eight room houses. Also construction details are shown in this catalog.

Be the first one in your community to erect and sell a Walter Bates Steel Frame House. Get started, a new industry is here!

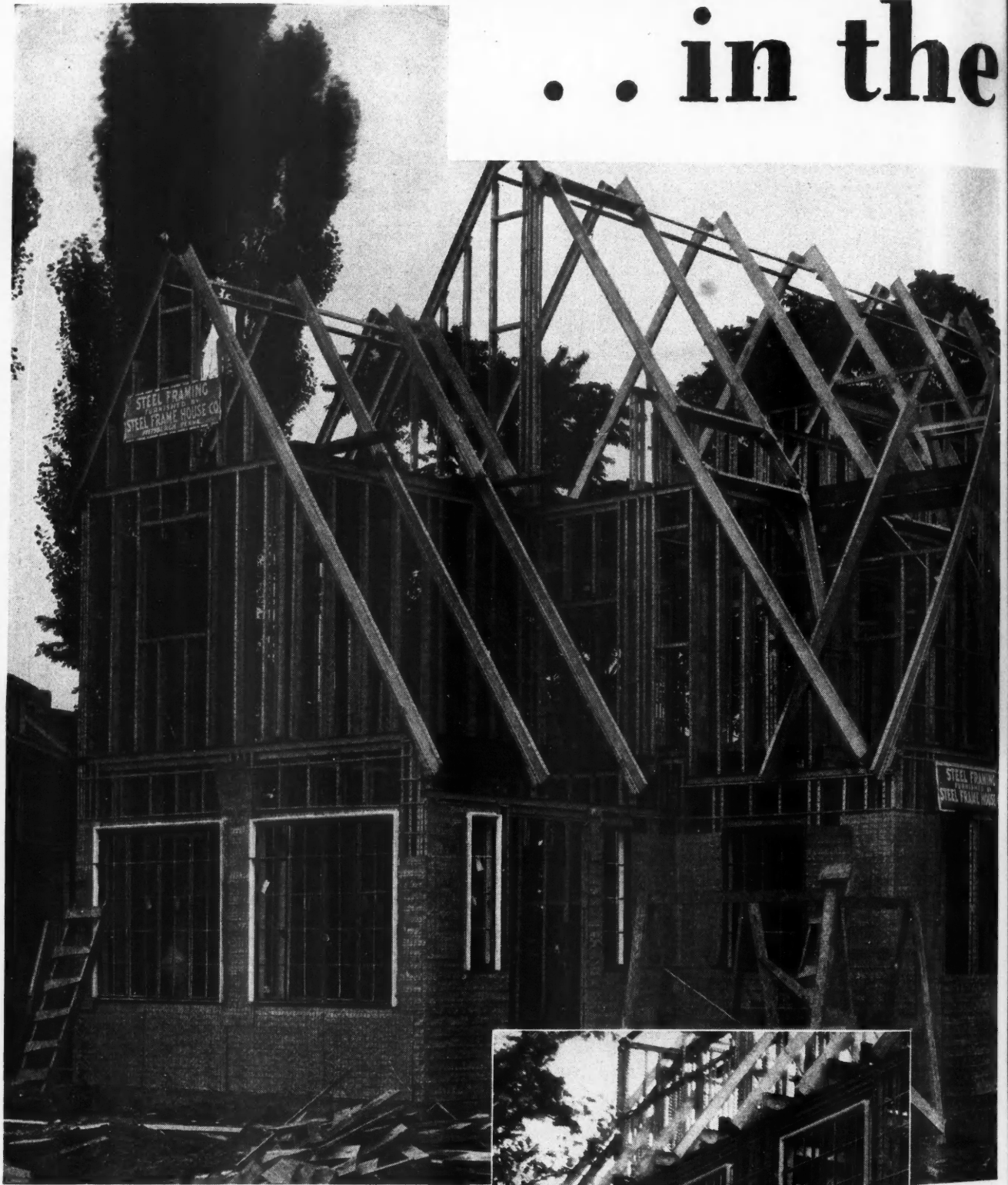


TYPICAL CONSTRUCTION DETAIL—
Showing the simple method of assembling the steel members.

Write us for a copy of our catalog.

WALTER BATES STEEL CORPORATION
GARY INDIANA

. . in the s



Showing Fenestra Steel Casements in the Steel Frame House Company's demonstration house now under construction at Mission Hills, Mt. Lebanon, Pittsburgh. Architects: Lyon & Taylor, New York City. Housing Engineer: Louis Brandt, Pittsburgh, Pa. Contractor: L. O. Maines Construction Company, Pittsburgh, Pa. Owner: W. H. Shaffer, Jr., Pittsburgh, Pa.



FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

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the steel frame house

Fenestra of course!

"I find Fenestra Casements were installed in this steel frame house at a lower labor cost than that required for installing any other kind or type of residence window that I have ever seen."

LOUIS BRANDT,
Housing Engineer.



Pittsburgh's new all-steel house as it will look when completed. This view made from a model.

Nothing else but a *steel* window could be used in a *steel* frame house—and naturally the builders of this Pittsburgh demonstration home, the Steel Frame House Company, a subsidiary of the McClintic-Marshall Corporation, chose *Fenestra* because—

—they wanted a nationally known steel casement window that had country-wide distribution.

—they wanted a steel casement that would fully meet the requirements of steel frame construction.

—they wanted a steel casement that could be easily installed—delivered complete, frame and sash

assembled — with hardware ready to attach—little work on the job.

—they wanted a steel casement that would add architectural beauty—help sell the house.

—and because they wanted windows that would appeal to home buyers—flood the house with daylight and fresh air—open easily without sticking—close tight against storms—wash easily from the inside and lend themselves to practical screening.

Builders everywhere are choosing *Fenestra* Casements for these same reasons. Try them on the next houses you build. Consult the local *Fenestra* dealer today.

DETROIT STEEL PRODUCTS COMPANY
2304 EAST GRAND BOULEVARD, DETROIT, MICHIGAN
Factories: Detroit, Michigan and Oakland, California
Convenient Warehouse Stocks

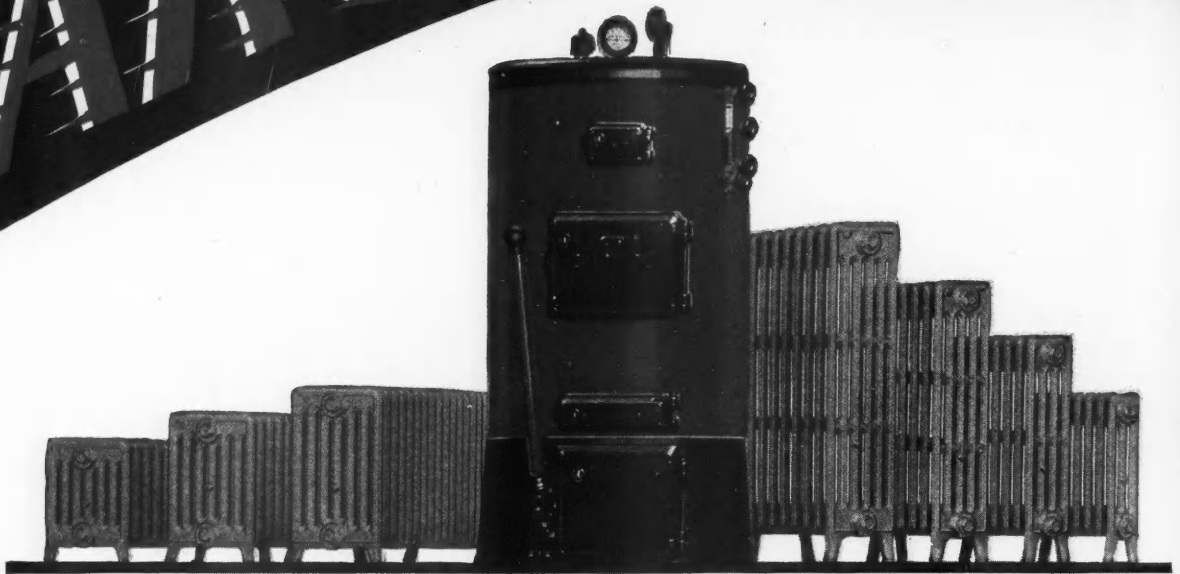
Fenestra

Casement Windows

A New Creation

ARCOFLASH

— for the 5 to 8 room home



ARCOFLASH is the new creation in heating; a Boiler-Radiator Heating Unit. It consists of a new Arcoflash Boiler with "American" Corto Radiators in any size or height as desired to suit the requirements of the 5 to 8 room home.

The announcement of this Heating Unit represents another forward step in the fulfillment of the American Radiator Company's promise to bring the health, comfort, the cleanliness and the economy of radiator heat within the reach of every home in America.

Unparalleled Low Prices

Arcoflash is the result of the combined efforts of America's finest engineers to embody in a home-heating system efficiency, operating economy and beauty of appearance. And because of our enormous volume production and per-

fecting manufacturing methods, we are enabled to offer it at unparalleled low prices.

The boiler is fully equipped with automatic regulation (steam or water boilers) and all accessories.

Its beautiful red enameled jacket is lined with one inch improved asbestocel to prevent radiation heat loss.

Designed with large grate, large fuel carrying capacity, and ample heating surfaces, it insures to the owner quick heating and a minimum of attention with an excellent degree of fuel economy.

"American" Corto Radiators In All Heights and Sizes

The world famous "American" Corto Radiators are supplied with the Arcoflash Unit, from

AMERICAN RADIATOR

HEATING UNIT

the 5 to 8 Room Home

the 20 inch 3 tube to the 38 inch 6 tube, as well as Corto Window Radiators 5, 6 or 7 tube, in any height you specify.

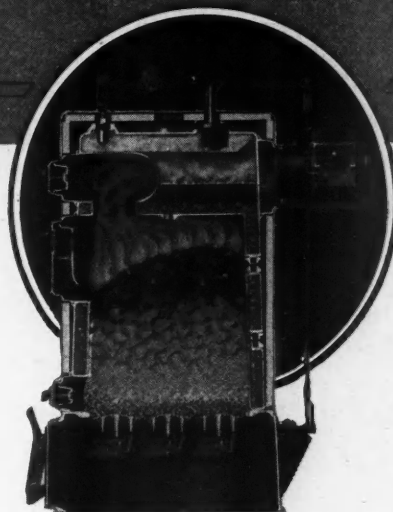
Arcoflash Will Help Sell the Houses You Build

As a complete heating unit—made and guaranteed by the world's largest manufacturers of heating equipment—Arcoflash will prove a tremendous factor in selling the house in which it is installed. Your prospects will appreciate that you are offering them the best that can be made—and they will have added confidence in the house throughout.

Undivided Responsibility

The reason for this confidence is clear. When a man is about to buy an automobile he does not think of selecting each component part. He wants a car whose parts are designed by specialists to function as an efficient unit. So it is with the heating plant. "Arcoflash" enables you to show your prospects a heating system backed by Manufacturer's Undivided Responsibility. We manufacture the Arcoflash in its entirety—a fact that is certain to create a favorable impression on the prospective home buyer.

Beginning in December, we will tell more than 30,000,000 people about the new Arcoflash Heating Unit through four color advertisements in the Saturday Evening Post and many other leading national magazines. This great advertising program, together with a heating plant that will materially increase the permanent asset value of the house, affords you an unprecedented opportunity to increase home ownership in your community. Let us tell you more about the Arcoflash. Mail the coupon for details.



SPECIAL FEATURES

- 1 Completely equipped—Water and Steam Boilers—with automatic regulation and all accessories.
- 2 Metal Jacket finished in beautiful red enamel and lined with one inch improved asbestos.
- 3 Large grate area and fuel carrying capacity insure long firing periods and ease of attention.
- 4 Ample heating surface and reverse flue travel, especially designed for household boiler, insure quick heating responses and an excellent degree of fuel economy.
- 5 Large steam dome and disengaging area insure dry steam generation.
- 6 Two way smokehood.

TAPPED FOR EXCELSO HEATER

COMPANY

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

Amer. Bldr., 11-28

I would like to receive complete information about the new Arcoflash Heating Unit and what it can mean in helping me to increase my present business.

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

Effective New Door Holder

THIS new door holder consists of a highly tempered, semi-circular steel spring, combined with a cold-rolled steel leg with a pure rubber shoe or foot attached to the lower end. This shoe is reinforced with a steel member, which also serves as a means of attachment to the leg. The spring is provided with a rubber bumper at the extreme end, which prevents the holder or the door knob coming in contact with the wall.

The leg and spring are assembled by means of a single steel rivet and the shoe is attached by means of a single machine screw, so that replacements are readily and easily made, if necessary. The end of the spring, which is attached to the door, is provided with a 1/2 inch slot, permitting of vertical adjustment. All metal surfaces are ground, polished and bronze plated.



This Door Holder Provides a Satisfactory Means of Holding the Door in Any Desired Position.

When this door holder is once placed in contact with the floor it will hold the door in any desired position and function automatically. This door holder offers no resistance to the opening of the door, but immediately holds the door as soon as the desired position is reached. To close the door again it is

only necessary to exert sufficient pressure on the knob to overcome the action of the spring of the door holder.

Without touching the door holder the door may again be opened and the holder will check it at any desired position. In fact, the holder will continue to function continuously without adjustment until the leg has been disengaged from the floor, which is done by tipping it up with the foot.



Bench Type Electric Shaper

THIS electric spindle shaper is a new machine designed to meet the demand for a convenient bench type shaper suitable for use in cabinet shops and woodworking plants. It is a sturdily built and efficient unit which can be used for making screen mouldings, quarter round, half round, picture moulding and for forming the edges of table tops, bases, doors and many other jobs.

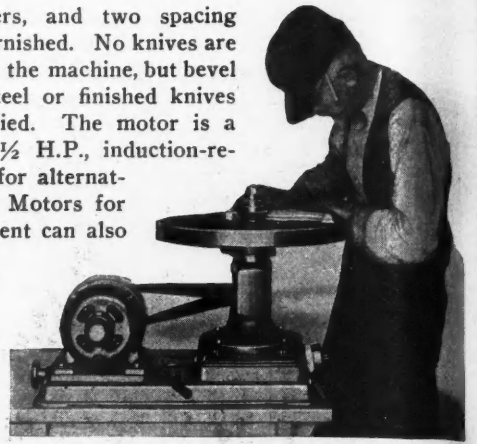
A distinctive feature of this new shaper permits the removal of the entire ball bearing spindle assembly. This allows easy oiling and adjustment and, on work requiring different knife set-ups, two or more spindles can be used on one machine. The changing of spindles requires but a few seconds.

This machine will take knives up to 2 1/4 inches wide in the regular collars supplied with the machine. The cast iron table is 18 inches in diameter and is finished smooth and level. It can be raised and lowered 1 1/4 inches and locks in position. The spindle is 3/4 inch diameter through the bearings and 5/8 inch diameter above the collar. High grade ball bearings are mounted in a one-piece housing with large oil chamber and the bearings are easily replaced.

Two sets of knife collars are furnished, 1 3/4 inch and 2 3/8

inch diameters, and two spacing collars are furnished. No knives are included with the machine, but bevel edge knife steel or finished knives can be supplied. The motor is a heavy duty, 1/2 H.P., induction-repulsion type for alternating current. Motors for ordinary current can also be supplied.

The motor is controlled by a snap switch on the base. The height of the machine is 19 inches over all. The base measures 16 by 25 inches and the weight, complete, is 160 pounds.



A New, Convenient, Bench Type Spindle Shaper Powered with an Electric Motor for Woodworking Shops.



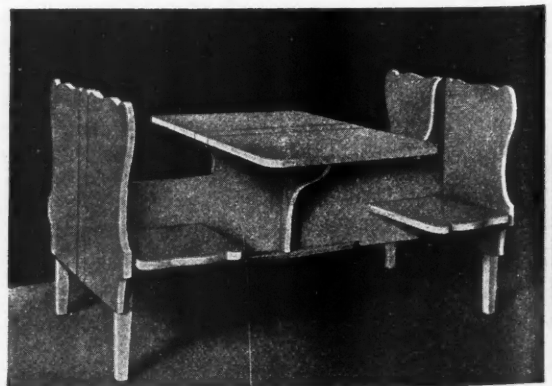
Breakfast Nook Equipment

EVEN the small house or apartment may have the benefit of the breakfast nook which of late years has become so deservedly popular because of its convenience. Where space is too limited to permanently devote any portion of it to a breakfast nook it is now only necessary to install one of the units shown in the accompanying illustration. This unit is remarkably compact and, when not in actual use can be folded and pushed out of the way.

The manufacturers emphasize the fact that this equipment, seating four people quite comfortably, has only four legs in place of the 20 legs which would be necessary for a table and four chairs. Sixteen surplus legs are done away with. The unit is, however, very strongly built so that the four legs offer ample support and the seats are comfortably large.

Four models are offered, two seating four persons and two seating two persons. The "commercial" model is the largest, measuring, when open, 48 inches wide, 66 inches long and 37 inches high. Folded, it measures but 6 1/2 inches wide by 66 by 37 inches. It is available in either mahogany, walnut or enamel finish, as are all the other models.

Besides their use as breakfast nooks these units have been found very desirable for many other home purposes, such as card tables. In restaurants, cafes and ice cream parlors they have won an acceptance which has already made them widely used. For such purposes they greatly increase the capacity of the available space, making it possible to handle a much larger volume of business.



For the Breakfast Nook, Tea Room, Ice Cream Parlor or Any Such Purpose, This Table and Chair Unit Is Convenient and Economical of Space.

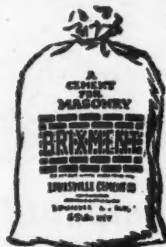
simple as A B C

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".

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301 Rose Building, Cleveland



BRIXMENT

for Masonry and Stucco

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

NEWS of the FIELD



National Gypsum Buys Lime Plant

FOR the purpose of providing the building industry with a complete line of building materials under its Gold Bond name and guarantee, the National Gypsum Company of Buffalo, N. Y., has purchased the entire plant and quarries of the Luckey Lime & Supply Company, near Woodville, Ohio. This company's holdings were selected to round out the National line because of the high grade deposits in the Luckey holdings, said to assay 99.24 per cent pure gypsum rock.

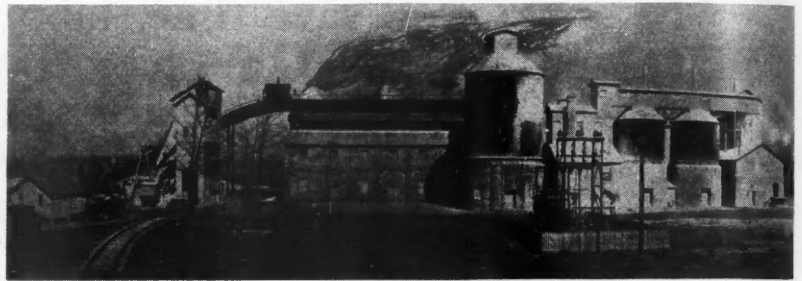
The Gold Bond line, protected by the company's regular guarantee, will be produced in the newly purchased plant, which with its equipment, is valued at more than half a million dollars. This plant is equipped with the most modern machinery

and is ready to produce in large volume under exacting scientific control. Obtaining these properties has enabled the National Gypsum Company to enter the lime market on the same basis as if its plant had been in operation for years.



Black & Decker Absorbs Domestic Electric

AN announcement has been made of the merging of the Domestic Electric Company, located at 7223 St. Clair Ave., Cleveland, Ohio, with the Black & Decker Mfg. Co., of Towson, Md. The Domestic Electric Company is, financially, a strong organization and has during the past 15 years built up a substantial business in the manufacture of fractional horsepower motors, for all types of electrical tools and appliances. Through the acquisition of this company the Black & Decker Mfg. Co. becomes a self-contained unit, manufacturing, within its own plants, practically all parts and materials entering into the construction of its line of portable electric tools.



The Plant of the Luckey Lime & Supply Company Which, Together with the Company's Quarries, Has Been Purchased by the National Gypsum Company.

*only the BEST would do
...so they selected*

New MIAMI CABINETS

in the "Steel Frame and Brick Demonstration Home"



NATURALLY, a demonstration home such as this one erected in Pittsburgh, Pa., must exhibit the leading equipment in every line. Tens of thousands of people see it . . . thousands are influenced . . . the results are always far-reaching.

NEW MIAMI CABINETS were selected as the **BEST** and **MOST ECONOMICAL** . . . four beautiful styles are being shown. We'll be glad to send you full details and tell you the profit-story which you can turn to advantage for yourself

*Write today for details and
the new Miami Catalog*

The MIAMI CABINET Co.
Middletown, Ohio

THE MIAMI CABINET CO.
Middletown, Ohio

Date.....

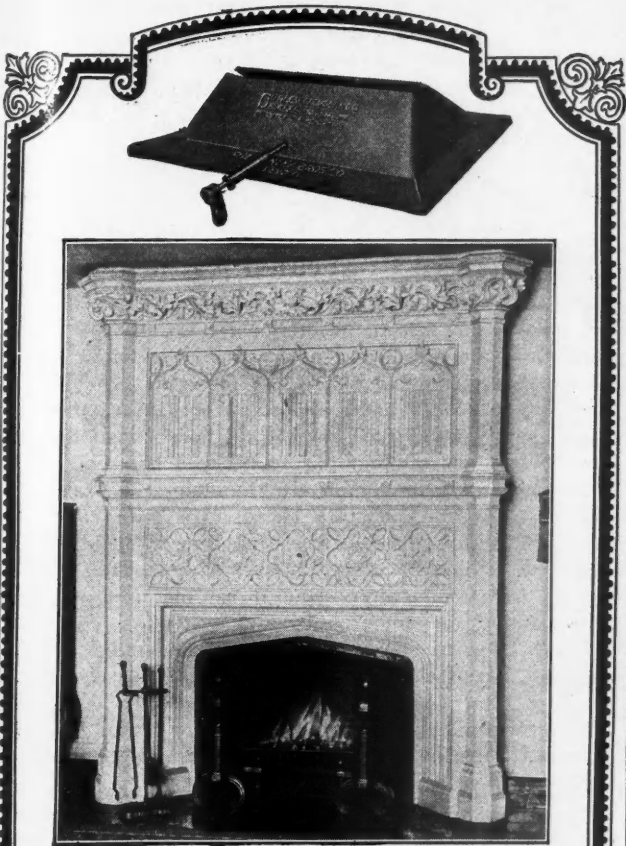
Gentlemen: Please send me, without obligation, copy of your new 1928 Catalog.

Name.....

Address.....

City.....

Owner Architect Contractor Dealer



**\$100 for a
Smoke-proof Fireplace**

AN OWNER of a magnificent home recently said, "I'd give \$100 if the hand-carved, marble fireplace of mine were smoke-proof. As it is, we cannot use it at all."

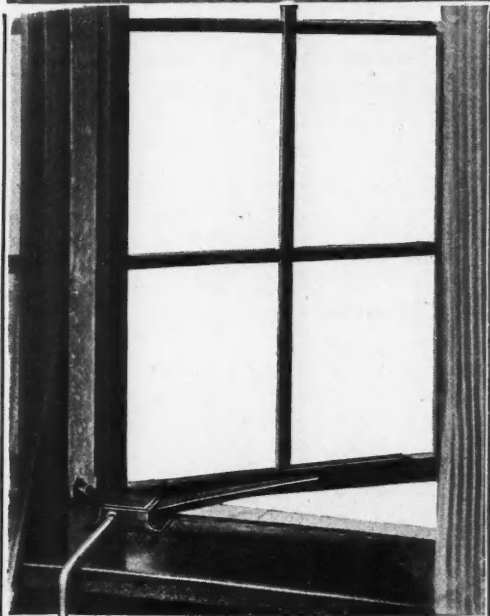
We examined the gentleman's fireplace and found many fireplace construction rules violated. It will probably cost more than \$100 to make it smoke-proof. Yet it could have been built right in the beginning without extra cost. It was a matter of proper construction and equipment.

To prevent troubles such as those given above, we publish "The Donley Book of Successful Fireplaces"—a volume that tells how to prevent fireplace ills. This book also shows 59 designs in many materials and describes Donley Fireplace Equipment. Every builder should have this book. Send 25c to cover cost of mailing your copy.

The Donley Brothers Co.
13910 Miles Avenue • • Cleveland, Ohio



**IN THE HOUSE
ON THE COVER**



SERIES 25 Win-Dor geared operator for steel or wood casements. Non-friction and positive locking

WIN-DOR Hardware promptly takes its place in the development of the "steel-frame" house. The steel casements in this interesting demonstration home in Pittsburgh will be perfectly and conveniently controlled by Win-Dor Operators which work through the screen. Provide those you build for with trouble-free casements. Install Win-Dor Hardware. Win-Dor equipment affords very definite practical and sales advantages. You can buy it at surprisingly little cost from the better hardware merchants or steel casement dealers. Write for interesting booklet on casement windows.

Win-Dor
CASEMENT HARDWARE

402a N. Wood St. • Chicago
Casement Hardware Headquarters



A Marble-Like Wall Finish

THE quiet dignity of marble, its durability, its wonderful variety of color and beauty have always been an ideal in luxurious decoration. The cost of marble has, however, been its one serious drawback and has prevented its more extensive use as a wall finish and decoration.



These Walls Are Covered with a Material Very Closely Resembling Marble but Available at a Much Lower Cost.

Now, however, there has been produced a new material which, in appearance, closely resembles marble and rivals it in beauty and durability. Its cost is not an obstacle to its use, comparing favorably with other wall finishes. Its application is simple and inexpensive.

This new material is an asbestos wallboard with a finish that is a remarkable reproduction of marble in its various forms. This board is produced in sheets either 32 by 48 inches or 48 by 48 inches and $\frac{3}{16}$ inch thick. It is packed in crates 10 sheets to the crate. Trim 48 inches long and $\frac{3}{8}$ inch thick, with grooved profiles, is also supplied. Three colors are available, black and gold, verde antique (green), and light Italian.

This material is fireproof and waterproof, it will not crack or warp, it is entirely sanitary and cleans easily. It is admirably adapted for walls of bathrooms, hallways, foyers, kitchens, theaters, clubs, restaurants, churches, lodges, offices, salesrooms and storefronts. It is quickly installed with ordinary carpenters' tools, either directly

on the studs, or with furring over old walls. It is attached to studs or furring by means of screws which are furnished with the board. It may also be installed attached to concrete or brick walls with furring strips or with a plastic compound which is spotted onto the surface and holds the sheet in a firm grasp, yet sufficiently elastic to give with the settling or shrinking of the building and prevent cracks.



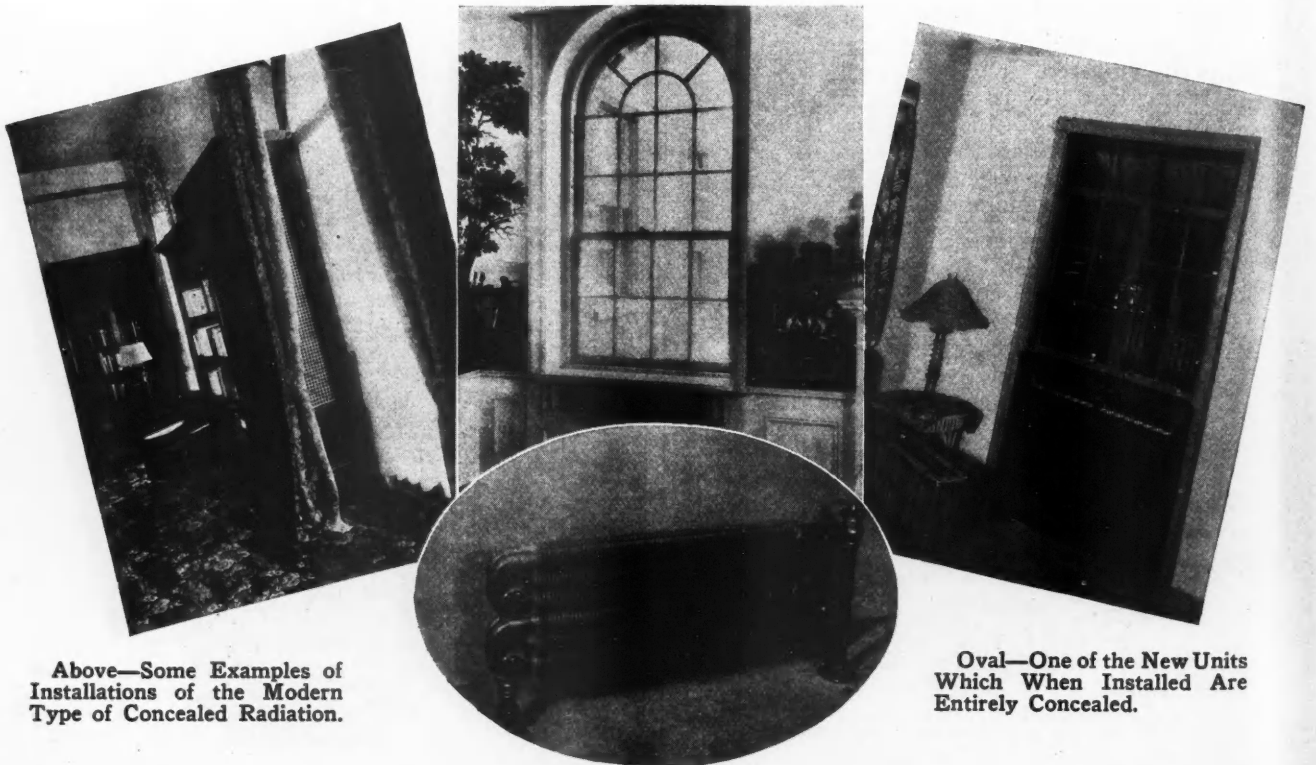
Modern Concealed Radiation

ON the theory that the old fashioned radiator has no place in any scheme of interior decoration, several companies are now producing new types of radiators which, when installed, are completely out of sight. They can be placed in the walls, under the stairs or beneath the floor. One radiator of this type and the method of installing it is illustrated in the photographs reproduced here.

This new radiator completely eliminates the problem of how to cover the radiators because they are completely out of the way. This radiator is only one-fifth the size and weight of an equally rated, old fashioned radiator, according to the manufacturers, and it can be used with any steam, vapor, vacuum or hot water system.

The heating unit is made of brass and, unlike ordinary radiators, never needs painting or attention because it cannot rust. Not even freezing can harm it, it is claimed, as it is too solidly constructed to burst or leak. This solid rustproof construction is dependable insurance against damage to interior decorations.

These radiators are assembled on the sectional plan in one or two horizontal tiers. Each section is made up of two stamped brass side plates, electrically welded together in pairs. They are welded around the edges and twice down the length to form three separate steam or water ways. Thin brass radiating plates, or fins, are mounted at right angles on the sides of the sections thus formed. These fins control and accelerate the passage of air over the heated surfaces. The velocity of the heat flow given off causes positive circulation of the heated air in the room. Because of its design, this radiator gives off practically no lateral, radiant heat to be lost through the adjacent walls.



Above—Some Examples of Installations of the Modern Type of Concealed Radiation.

Oval—One of the New Units Which When Installed Are Entirely Concealed.



The LEADERSHIP *that* CONTINUES *to show the way*

DEVILBISS leadership served at the introduction of spray-painting and spray-finishing into every industry and group now using this new and better method of applying protective and decorative coatings. And today the most recent new economies and efficiencies in all such operations have their source in DeVilbiss leadership.

The present comprehensive magnitude of the DeVilbiss organization, its vast manufacturing capacity, its unequalled engineering experience, and its firmly established responsibility to the purchaser of its products, are all the results of a continuous progression of DeVilbiss leadership in service to all users of spray-painting and spray-finishing equipment.

The individual painting or finishing problems of each class of users are specifically studied and served by specialized DeVilbiss installations, methods and devices. The best practice known today in the field in which you operate, and the most efficient and modern equipment for your particular use, are DeVilbiss methods and equipment. This experience and knowledge will save you money and time, and earn the good-will of your customer. Use it freely. We will esteem it a privilege to put it at your disposal.

THE DEVILBISS COMPANY

238 PHILLIPS AVENUE

TOLEDO, OHIO

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DeVilbiss

Spray-PAINTING System

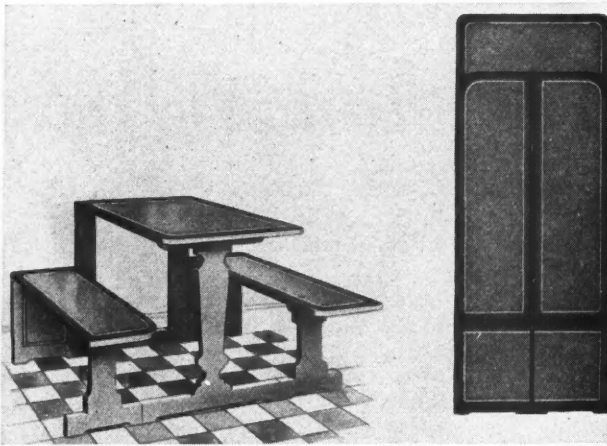
FINISHING

DOES THE WORK OF FIVE MEN

Built-in Folding Breakfast Nook

THIS folding breakfast nook equipment has recently been taken over and is now being marketed by one of the leading manufacturers of built-in equipment. The patented design of this nook makes for easy operation and provides, in the single unit, a roomy, rigid dining table which comfortably seats four people. When not in use it occupies no floor space, the table and seats folding up in a single operation as a complete unit on a wall or door, or in a wall recess or cabinet.

When lowered both the table and seats are completely rigid. Each joint is permanently secured by $\frac{1}{2}$ by 3-inch spiral grooved dowels, such as are used in fine furniture. Extra heavy gauge piano hinges are solidly rabbeted into the table and seat supports. Two powerful, concealed wire



Here Is a Breakfast Nook Set Which Can Be Folded Entirely Out of the Way When Not in Use, But Is Rigid and Strong When Lowered.

coil springs, of 280 pounds tension, make raising and lowering easy and hold the unit in a rigid vertical position when not in use.

All hardware is heavily nickel plated. The table and seat tops are five-ply hardwood, $\frac{3}{16}$ inch finished thickness (poplar core with maple cross banding and birch or maple veneer surfaces). The standards and stretchers are solid hardwood.

The unit is smoothly lacquered in olive green or mandarin red, with gold striping and antique shading, five coats, producing a charming and enduring color harmony. It is also finished in early American maple, antique shading, with green trimming, or is furnished unfinished for any special lacquer or paint application.



Improved Type Electric Cable

SEVERAL years ago one of the leading manufacturers of electric cable was faced with the demand for a new type of cable. A well known utility engineer had felt the public clamor that many lines go underground and had experienced the wrecking, by storm, of many miles of overhead lines. He asked for a new cable which would meet the following requirements:

1. It must, like parkway cable, be designed for installation in shallow trenches but must be lighter to ship, easier to handle and easier to splice.

2. The protective sheathing must be tough enough to withstand the rough handling of installation, resist penetration of stones, tools and the like, but—

3. These sheaths must be wholly non-metallic, to overcome typical weaknesses of metal sheathed cables, such as rust, crystallization, induced sheath losses, trouble from stray currents, etc.

4. Protection against moisture, acids and earth alkalines must be present throughout the structure and not dependent upon a single, easily punctured sheath, as in lead covered cables.

5. Finally, the new cable must be less expensive than available forms, both to buy and install.



This New Type of Underground Cable Has a Number of Features Which Are a Marked Improvement Over Former Types.

This represented a difficult problem and it was not until wholly new materials had been developed that a cable was finally designed that would comply with the requirements. The new cable illustrated here does comply, however, it is claimed, and the claim is backed by three years of careful check tests and adoption by many leading utility engineers.

This new cable is manufactured in two types, a power type and a control type. The same principles of construction are followed in the two types and these principles are fully described in an illustrated booklet published by the manufacturer. This booklet both describes and illustrates each layer and material combined to form the completed cable.



Versatile Floor Machine

THIS machine is a new scrubber, waxer and polisher which has been perfected to such a high degree that, in addition to its scrubbing and waxing services, it is also highly applicable to sanding and surfacing work and is used by many contractors for refinishing and touching up old floors. It will remove the varnish and stain and prepare the floor, in every way, for presentation to the owner in 100 per cent spick and span condition, it is stated.

This machine, which is the most popular of this company's models, is driven by a $\frac{1}{2}$ H.P. electric motor and is equipped with five brushes of kinds to meet every floor maintenance requirement, as well as attachments for sanding, grinding or resurfacing and wax polishing. The brush ring, which is driven at a speed of 175 R.P.M., has approximately 35 pounds of pressure directly over the ring. The drive is of the worm type, gears are precision cut and the machine is Timken roller bearing equipped throughout.

There is a water can attachment which may be used for distributing paste or liquid wax or for scrubbing solutions. Fifty feet of rubber-covered cable enable the machine to be plugged into any lighting circuit and it operates on approximately the same amount of current as a 100-watt light.



For Scrubbing, Waxing, Polishing, Removing Varnish and Fully Preparing Floors for Refinishing This Machine Has Proved Efficient.

It is claimed that this machine is equally efficient for scrubbing, waxing or polishing and will do the work of three to ten operators. For grinding it may be equipped with carborundum discs or aloxite paper and do the work of three to five men, depending on the character of the floor material upon which it is used.

"You can't paint a house with APPLESAUCE!"



... gains more recognition every day

Here is more strong backing for builders and contractors who like to build their reputations on "quality" jobs.

The powerful Fall drive of Sherwin-Williams "SWP vs. 'cheap' paint" campaign lists "cheap" painter with "cheap" paint. *Down they go together.* Business gets worse for these wasteful "Applesauce Twins" every day.

Now in four brilliant colors—more picturesque, too—this powerful advertising is making millions of home owners *think*. And when they *think* they know that fine old SWP, the "quality" house paint, and a master painter gives *the most economical job in the world.*

That is why home buyers approve of SWP on the houses you build for them. They *know* the quality of SWP—it gives them confidence in the *quality throughout the home.* Makes selling it easier.

All through the house, whether it is paint, lacquer, varnish or enamels you will find that a Sherwin-Williams finish wins the average buyer's appreciation.

Call on our technical staff to help you plan your painting specifications. They are glad to help you. Address—

THE SHERWIN-WILLIAMS CO.

601 Canal Road, N. W.

Dept. 450

Cleveland, Ohio



SHERWIN-WILLIAMS SWP HOUSE PAINT

PAINTS • VARNISHES • LACQUERS • ENAMELS

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



Comfort for Customers



House in Wilmette, Illinois, Contractor, Aitken Company, Hubbard Woods, Illinois. Insulated with Cabot's Quilt.

Comfort is just about the main thing all home buyers want. Of course they want beauty too.

But nobody wants beautiful uncomfortable homes.

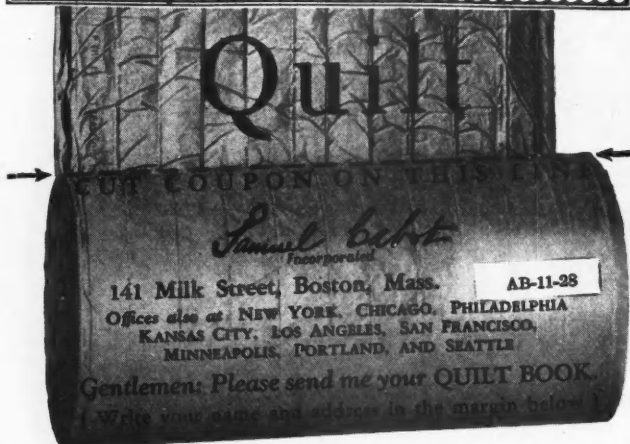
Cabot's Quilt built into the walls insures summer and winter comfort, and at no extra first cost to you.

We can prove this—

Just send in the coupon (Roll of Quilt) for full Quilt information. No obligation.

Cabot's Quilt

Resists the Passage of Heat In and Out



Stoddard Is Honored

A HIGH compliment has been paid to the Common Brick Manufacturers' Association of America by the election of its secretary-manager, Ralph P. Stoddard, to the presidency of the American Trade Association Executives, at its recent annual meeting, at Montauk Point, Long Island. Mr. Stoddard has served as secretary of the Trade Association Executives during the last two years. This association is an organization of secretaries of the leading associations of the country.



Ralph P. Stoddard, Who Has Been Elected President of the American Trade Association Executives.

Atlas Builds Plant in Texas

THE Atlas Portland Cement Company, 25 Broadway, New York City, has announced the incorporation of the Atlas Portland Cement Company of Texas, and has commenced construction of its first plant in that state, to be located at Waco. This plant will be of the most modern type and will produce the same standard quality of cement as is now being produced by the company's other plants. While the new Texas plant is being built the trade of that district will be supplied by the company's Kansas City mill, as in the past.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,

Of AMERICAN BUILDER, published monthly at Chicago, Ill., for October, 1928.

State of Illinois)
County of Cook) ss.

Before me, a notary public in and for the state and county aforesaid, personally appeared E. L. Hatfield, who, having been duly sworn according to law, deposes and says that he is the general manager of the AMERICAN BUILDER and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are:

Publisher—American Carpenter & Builder Co., Chicago, Ill.

Editor—Wm. A. Radford, Chicago, Ill.

Managing Editor—B. L. Johnson, Chicago, Ill.

Business Manager—E. L. Hatfield, Chicago, Ill.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

Wm. A. Radford, Chicago, Ill. B. L. Johnson, Chicago, Ill.

H. M. Radford, Chicago, Ill. E. L. Hatfield, Chicago, Ill.

R. D. Radford, Chicago, Ill. G. W. Ashby, Berwyn, Ill.

Wm. A. Radford, Jr., Chicago, Ill.

3. That the known bondholders, mortgagees, and other security holders owning or holding one per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is. (This information is required from daily publications only.)

E. L. HATFIELD,
Business Manager.

Sworn to and subscribed before me this 21st day of September, 1928.

ANDREW JOHN NAUMANN.

(My commission expires October 25, 1929.)



Hod Carrier Becomes President
 "My first job with a construction company was as a hod carrier. Then decided to learn a trade and took up bricklaying. I saw your ad and enrolled. Am now president of my own company. I owe it all to your training."—T. A. Cironi, New Haven, Conn.

Carpente Becomes General Manager
 "I only went through 5th grade in school. Was a carpenter when I started your course. In 9 months became Foreman, then Superintendent. Am now President and General Manager of the Kasper Construction Co."—J. L. Kasper, Manitowoc, Wis.

\$35,000 in a Year
 "Your training has enabled me to rise from a wage of \$30 a week to an income of \$35,000 a year. Any person could make good in building with your training to help them."—C. L. Stewart, Canton, Ohio.

Amazing New "Blue Print Way" Led Them Quickly To \$4,800 to \$12,000 A YEAR

These men--- and hundreds more like them--- have unmasked one secret of quickly making money. But there is nothing mysterious or uncanny about their unusual success. They are just ordinary men like yourself --- except for one thing. They sent for these income-raising Blue Prints! That was the turning point of their careers.

NOW FREE TO YOU!

YES, without one penny of cost or obligation; you can now take the same easy step that has led others to the top in the "head work" side of the gigantic business of Building. At once, a tremendous new field will open to you. An uncrowded field where opportunities are unlimited—amazing. Where there is a constant call for trained men, and still more men, to fill the jobs now open. And these thousands of big-pay jobs are open only to men with practical Blue Print training—the very training that is now offered you right here.

Mastered in a Few Short Weeks

Nowhere else can you get training like this. Nowhere else are so many openings paying \$4,800 a year and up as with Contractors, Builders, Real Estate Firms, Banks, etc., or in business for yourself. Nowhere else are so many big-pay jobs begging for trained men to fill them as in the "head work" side of building. Yet see how easily you can master this training by the practical Blue Print Method. See how quickly you can learn to run even the biggest building jobs, read plans, estimate costs, and supervise the entire construction of a building.

Learn at Home—Quickly

We teach you at home in spare time with real Blue Prints and lessons as easy to read and understand as your newspaper. Everything is explained and worked out for you by practical building experts. No complicated text books. No grinding study. It's like playing a fascinating new kind of game—almost as easy as A-B-C.

Chicago Technical School for Builders
 Dept. P-121, 118 E. 26th St. CHICAGO, ILL.

Building tradesmen everywhere, all kinds of types of men—have finished this training in as little as 12 short weeks. Yet this is the very training that leads to all of the \$4,800 to \$12,000 jobs both indoor and outdoor—in the 9 big fields of building.

If the opportunities in your present occupation are limited—if you have ever wanted the good things of life that an income of \$4,800 to \$12,000 a year will bring—then choose a "head work" job in building. For now, like hundreds of others have done, you can get into the "head work" end of the building game quickly and easily. You, too, can master this Blue Print training that spells success, a big-pay job or a business of your own, if you act right now.

Simply mail the coupon below for a complete set of real prize-winning Blue Prints and big book, "How to Read Blue Prints." Now sent to you absolutely FREE. Get these facts before you. Then see what fascinating fun it is to learn Building the practical way. See what amazing opportunities open up for you in the seven billion dollar Building Field. Don't wait or delay. Act now. Simply mail the coupon.

If You Live Nearby

Visit our big day or evening school attended by over 1,000 Builders. You get the same training at home by mail—same plans, lessons, and instructions.

CHICAGO TECHNICAL SCHOOL FOR BUILDERS
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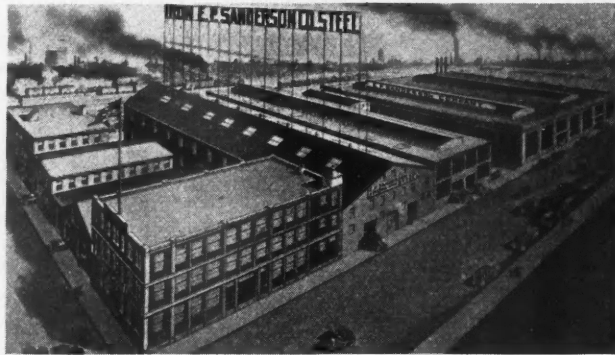
Send me FREE, without obligation, your complete set of real architect's Blue Prints, and your FREE Book, "How to Read Blue Prints." Also full details of the course and opportunities in the building field. It is understood that no salesman will call on me.

Name.....
 Address.....
 Town.....State.....



Ryerson Buys Business

JOSEPH T. RYERSON & SON, Inc., of Boston, New York and Chicago, has acquired the plant, merchandise and good will of the E. P. Sanderson Company, at Third, Binney and Monroe streets, Kendall Square, Cambridge, Mass. The Ryerson company has been operating on leased property at 675 Concord Ave., Cambridge, since May 1, 1926. This move will give the company a large increase



Plant of the E. P. Sanderson Company, Cambridge, Mass., Which Has Been Purchased by Joseph T. Ryerson & Son, Inc.

in plant facilities and tonnage. By the combination of the Ryerson and Sanderson organizations and the addition of new lines, the Ryerson company will be in a much better position to give a broad line of service. The Sanderson plant is said to be the largest and most complete of its kind in the New England territory.



Van Dorn Personnel Changes

THE following changes in its sales organization have been announced by the Van Dorn Electric Tool Company, of Cleveland, Ohio; E. J. Phillips, who has been selling Van Dorn products in Detroit, has gone to San Francisco to take over that territory for the company. His place in Michigan will be filled by his brother, George Phillips. J. F. Spaulding has been transferred to the Bal-

timore territory to fill the vacancy resulting from the transfer of Jack Beggs from Baltimore to the headquarters office in Cleveland.



"Farm Buildings," by W. A. Foster and Deane G. Carter, published by John Wiley & Sons, Inc., New York City, has been revised to conform with the latest knowledge in the field of farm structures and a second edition published. The book treats of the location, planning, construction and repair of farm buildings in a

manner to serve as a text book for schools and information for the farmer. Price, \$3.00.

"Steel Framing—The Modern Method of House Construction" is the title of a new bulletin, No. 11, published by the Steel Frame House Co., a subsidiary of McClintic-Marshall Corporation, Pittsburgh, Pa. It is a "Steel Framing Manual for Architects and Builders—Containing Complete Instructions and Tables for the Construction and Application of Steel Framing." It has been gotten up in form for filing under A. I. A. filing system and will make a valuable addition to the files of all architects and builders.

The Michigan Retail Lumber Dealers' Association, Mutual Building, Lansing, Mich., has prepared a complete blue print of a model log cabin which it is distributing to its members at the cost price of \$1.00, and which it now offers to anyone interested in the building of log cabins.

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.



It costs no more to use this superior cedar closet lining

SUPERCEDAR, 90% or more red heartwood, with 100% oil content, accurately manufactured with tongue-and-grooved sides and ends, costs no more to use than unknown brands, and women prefer it.

Sold by all dealers in boxes like this. No loss or damage, no waste on the job.



Brown's SUPERCEDAR CLOSET LINING
Made Only By
GEORGE C. BROWN & CO.
World's Largest Manufacturers of Tennessee Aromatic Red Cedar Lumber
MEMPHIS, TENN.

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Holt Bid

*Figures Costs
Easily*

Spend Less Time —Estimating—

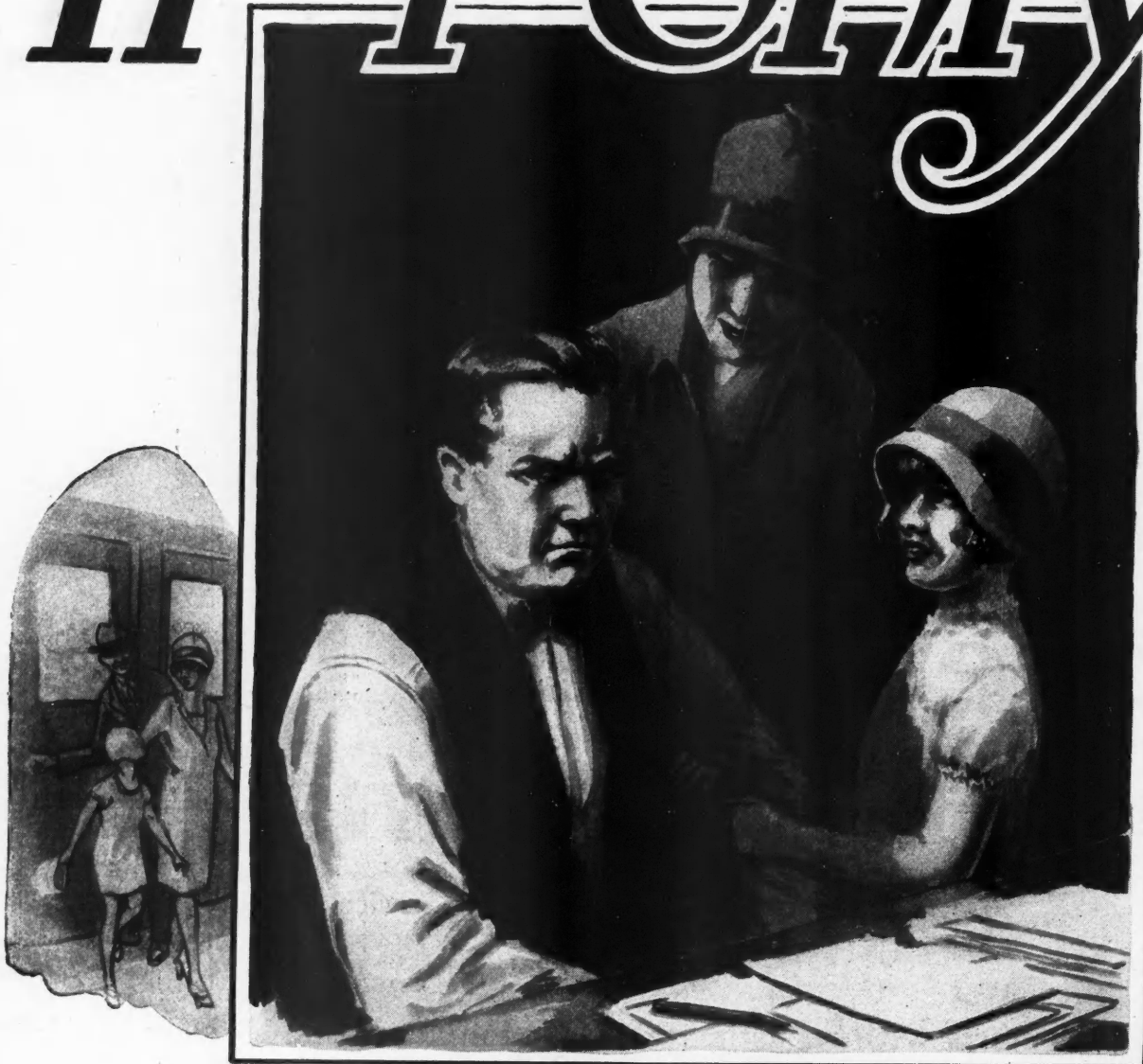
Use the Modern Up-to-Date HoltBid Service Method

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.

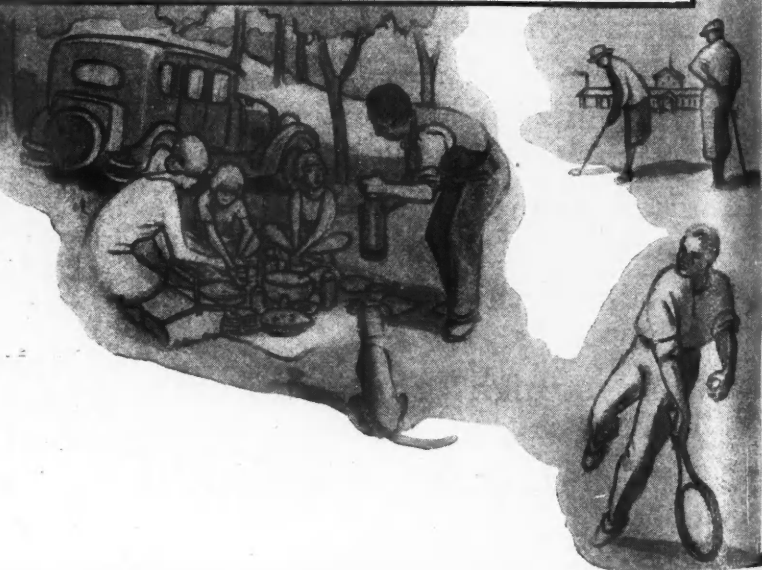
"If I Only



HOLT BID
solves
estimating
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in a hurry

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

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had time" That's a Poor Excuse

When **HOLTBID** will take care of your estimating and leave time for recreation

There is time for enjoyment when you use the HoltBid method for figuring your costs. You can add extra hours to your day.

Think of it! One third of your time to spend as you like without injury to your business. Only 30 to 50 minutes are required to estimate ordinary buildings.

There is no need to spend your leisure hours getting out estimates for "hurry-up" prospects. With HoltBid you can save from three to five hours on every job you figure.

You owe it to yourself to use HoltBid. The tiresome evenings spent over material lists and specifications are wasted. These could be your "playtime" hours and still you could make more money—do more business—if you were a HoltBidder.

HoltBid enables you to make a detailed accurate

bid in a fraction of the time it requires to figure the same total by the old methods of estimating.

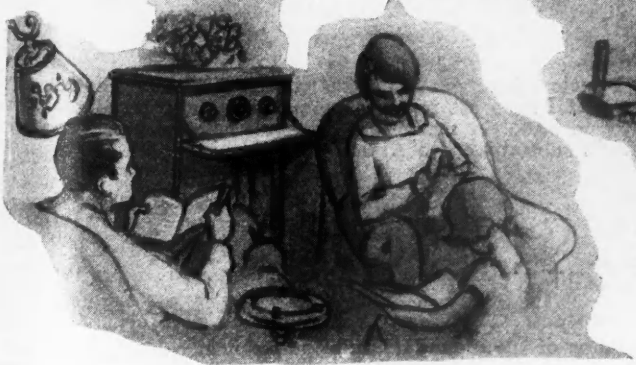
It also enables you to change your bid in a few minutes if the customer wants to alter the original plans or selects an entirely new plan.

HoltBid will give you unsurmountable advantage over competitors—it will save your time—it will save your money—and it will banish the uncertainty that goes hand in hand with every bid.

HoltBid will enable you to get the bigger—and more profitable job. HoltBid will increase your ability to discuss building problems—clients will come to you more and more for consultation.

The successful builder knows how to figure costs. The low bidder loses the profit—the high bidder loses the job. It's the man who is competent that lands the job every Builder wanted.

HoltBid is for the man who is ambitious to be an authority on construction costs in his community—for the man who conducts his business systematically—for the man who wants to divert his tedious hours to pleasure.



HoltBid

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.

WILLIAM A. RADFORD, President
The HoltBid Service Company

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.

FOR 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.-11-28

(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.)

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.

"Real Estate Questions and Answers," by Israel Flapan, LL.B., published by Prentice-Hall, Inc., 70 Fifth Ave., New York City, is a new and valuable book prepared to help the layman to understand real estate problems, to serve as a ready reference for the real estate broker, and to aid those who desire to pass an oral or written examination, where such examinations are required to procure a real estate broker's or salesman's license. The question and answer form is used because of the fact that "specific questions and answers stand out indelibly and graphically in the mind of a layman and are more readily digested and understood than the subject matter usually found in textbooks." Price \$5.00.

"White Lead and Oil Plastic Finishes" is the title of a new booklet, published by the National Lead Company, 111 Broadway, New York City, describing and illustrating the method of handling this type of wall treatment and illustrating in colors the results obtainable.

James B. Clow & Sons, 201-299 N. Talman Ave., Chicago, offer a new booklet under the title, "Economical Gas Heating—For the Smallest Room or the Largest Building."

"New Achievements in Lighting" is the title of a booklet issued by the O. C. White Company, 17 Hermon St., Worcester, Mass., presenting its system of daylight lighting units.

"A House or a Home" is the title of an interesting booklet just published by the Penn Metal Company, presenting the advantages of the use of this company's products in home construction.

The Weatherbest Stained Shingle Co., Inc., 141 Main St., North Tonawanda, N. Y., has published a folder containing a group of colored prints of homes finished with its stained shingles and including floor plans.

The Sedgwick Machine Works, 154 W. 15th St., New York City, has published a booklet under the title, "The Sedgwick Automatic Brake Invalid Elevator," covering the subject of the special equipment this company manufactures for this purpose.

The Eller Mfg. Co., Canton, Ohio, offers a complete new catalog, No. 28, covering its line of steel ceilings and related products.

"Practical Color Simplified" by William J. Miskella, M. E., published by the Finishing Research Laboratories, Inc., 1164 W. 22nd St., Chicago, is described on the title page as "A Handbook on Lacquering, Enameling, Coloring and Painting with special attention to Mixing, Choosing, Harmonizing, Matching, Lighting, Testing and Designation." Price \$3.50.

"Concrete Plain and Reinforced" by Frederick W. Taylor, Sanford E. Thompson, S. B., and Edward Smulski, C.E., is published by John Wiley & Sons, Inc., New York City. A fourth edition of Volume II has just been published. It treats of the "Theory and Design of Continuous Beams, Frames, Building Frames and Arches." Price \$7.50.

The United States Radiator Corporation, Detroit, Mich., offers two new booklets on its "Capitol Radiators" and "The Capitol Red Cap—Masterpiece of Round Boilers."

The MacAndrews & Forbes Company, 200 Fifth Ave., New York City, has prepared a series of six booklets on its insulating material, Maftex, under the titles: "Maftex—What It Is and What It Does; Maftex—Data on Uses and Installation; Maftex—Roof and Wall Sheathing; Maftex—Plaster Base and Lathing Material; Maftex—Sound Deadening; and Maftex—Decorative Effects.

THIS IS PATTERN No. 621 HANGS LIKE WALL PAPER



Oil-Texd
New -

Reg. U. S. Pat. Off.

Permanent -

Textured -

Wall Covering

Most Serviceable

Decoration Obtainable

Washable—Decorative—Easily Applied—Inexpensive—Built up in Linseed Oil—No Surface Cracks—Easily Repaired—Can be removed, permitting any other type of decoration.

The wall is finished in one operation without smudging the woodwork and a uniform texture is assured. Applied to any smooth surface like wall paper.

Made in any color and in a variety of designs suitable for any room in the home, public hall, stores, etc.

FREE SAMPLES and literature sent upon request.

Width of Roll 19 1/2 Inches Trimmed

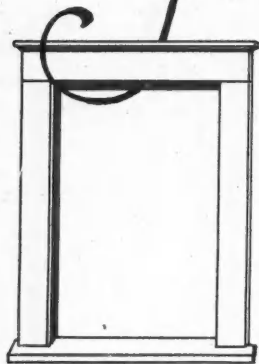
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Lincrusta-Walton Co.

Hackensack

New Jersey

BRADLEY MILLER



GENUINE
White
Pine
FRAMES

Frames that Make Satisfied Customers

THE Builder who uses Bradley-Miller Frames is certain of lasting satisfaction. The quality of material and workmanship assures unusual long life. Home seekers realize the importance of these essential items of construction.

Bradley-Miller Frames are made of genuine Michigan White Pine—the wood that is free from splitting, warping and rotting.

Use Bradley-Millers on the next job and note the difference.

*Free information on request
Write today*

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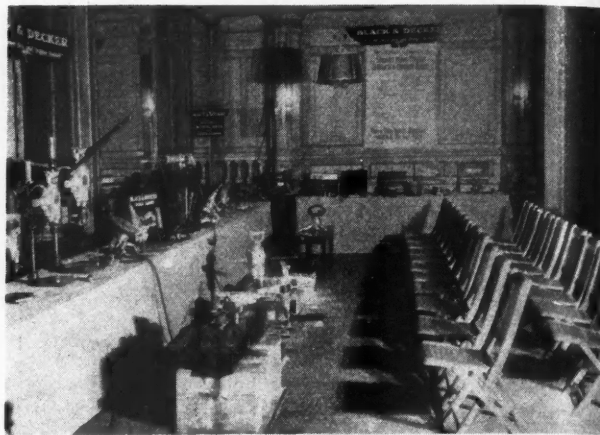
Marquette Street

BAY CITY, MICHIGAN

Bradley-Miller
Michigan White Pine
Frames

Demonstrate Electric Tools

TO further acquaint their distributors with the many applications and uses for Portable Electric Tools, Black & Decker have held working demonstrations in practically every one of the larger cities in the country. As these clinics were demonstrated their complete line of portable electric tools and attachments. As a rule these clinics lasted for ten days or more and as many as 146 jobbers'



This Demonstration Layout Is Typical of the "Clinics" Which Black & Decker Has Been Conducting in All the Large Cities of the Country.

salesmen and executives were in attendance at one time. In addition, a good many consumers were brought in by jobbers' men and quite a few interested individuals dropped in to learn more about portable electric tools.



Straub Patent Held Valid

THE United States Circuit Court of Appeals has recently decided three cases which involve the validity of the Straub Cinder Block Patent, all sustaining the validity of this patent. This decision is one of considerable importance to the cinder block industry, an industry which now comprises close to 100 plants and produces, probably, close to 50,000,000 cinder blocks each year.

The patent was issued to Francis J. Straub, of New Kensington, Pa., and is now owned by Crozier-Straub, Inc., a subsidiary of the National Building Units Corporation, 1600 Arch St., Philadelphia, Pa. In these suits Crozier-Straub, Inc., was the plaintiff, pleading infringement of its patent. The Circuit Court of Appeals holds that the Straub Patent is valid and that the defendants have infringed. It is believed that this decision of the court effectually settles the status of the cinder building unit industry as far as the Straub patent is concerned.



To Lecture on Welded Buildings

A LECTURE tour covering a large part of the United States is to be made by Professor Frank P. McKibben, well-known consulting and bridge engineer, in response to invitations from various societies throughout the country. The lectures will be on the application of electric arc welding to the noiseless construction of buildings, based on the experience of the General Electric Company and other pioneers in this field. The General Electric Company has already erected one large building and a few smaller ones by this method and a number of other structures are now being welded by other companies. Professor McKibben's talk, "Electric Welding of Steel Buildings and Bridges" takes about an hour for delivery and a discussion of from one to two hours usually follows. The lecture is illustrated with the stereopticon and with blackboard sketches.

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 Badger Wire & Iron Works, 1100 Cleveland Ave., Milwaukee, Wis., has published a new catalog, No. 8, on the ornamental iron and wire work which it manufactures. It is very fully illustrated with both photographs and drawings.

The Stone & Tar Products Co., 97 S. Sixth St., Brooklyn, N. Y., offers two booklets, "House Owner's Repair Catalog," listing various patented materials for general repairs, and "Made to Order' Ready Mixed Paints," also circulars describing its Mural-Coat wall finish and damp-resisting cement paint.

The Lawton-Stephens Co., Inc., 427 Marcy Ave., Brooklyn, N. Y., offers a pamphlet listing its products which include hollow metal doors, drawn steel mouldings and sheet steel specialties.

"The Saw Kerf," the periodical publication of E. C. Atkins & Co., Inc., Indianapolis, Ind., contains, in the Summer Number, a number of interesting and useful articles on the subject of saws and their use.

The Long-Bell Lumber Company, Kansas City, Mo., has issued a pamphlet on its doors showing their construction with solid or veneered stiles.

The Wheeling Corrugating Company, Wheeling, W. Va., offers a new booklet on its "Metal Lath and Allied Building Materials" containing descriptive matter, illustrations and specifications.

The Exchange Sawmills Sales Co., Kansas City, Mo., has published a booklet under the title, "Essco Cal Pine (Common Grades) for Interior Finish," containing a number of fine illustrations of this material and its application.

"Fenestra Airplane Hangar Doors" is a new booklet from the Detroit Steel Products Company, 2304 East Grand Blvd., Detroit, Mich., illustrating the application of this company's equipment and including specifications.

"Water Systems Sales Bulletin" is a periodical published by the Delco-Light Company, Dept. R-118, Dayton, Ohio, covering subjects of interest to those concerned in the sale of water systems.

The Armstrong Cork & Insulation Company 24th St. and Allegheny River, Pittsburgh, Pa., has issued two pamphlets, "Summer Heat—A Suggestion of a Practical Means for Increasing Comfort and Efficiency During Summer Months" and "Condensation—Its Cause, Effect and Prevention."

The Clarke Sanding Machine Co., Dept. A-29, 3815 Cortland St., Chicago, has issued a large circular under the title, "Pointing the Way to Greater Earnings, Big Savings, Real Profits with FlorKraft."

The J. Roemer Heating Company, Cleveland, Ohio, offers a new booklet containing very complete information on the subject of its Humidair system of automatic humidity control.

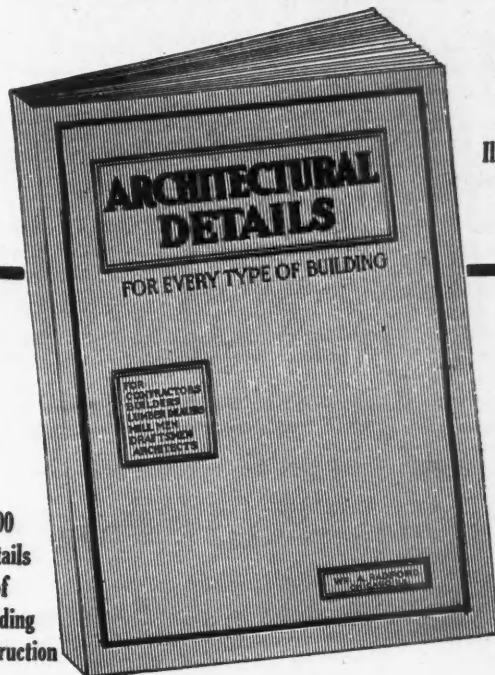
"Distinctive Garage Door Hardware" is a new catalog, No. 55, published by the Richards-Wilcox Mfg. Co., Aurora, Ill., giving full information and illustrations of the extensive line of garage door hardware which it manufactures.

The David Lupton's Sons Company, 2203 E. Allegheny Ave., Philadelphia, Pa., has published a new catalog, No. P-50, covering 50 sizes of its standard steel windows, each made in four types.

The Crouse-Hinds Co., Syracuse, N. Y., has published, under the title "Jewels in the Sky," a bulletin, No. 2118, which contains a series of color illustrations of buildings of the skyscraper type showing the lighting effect at night.

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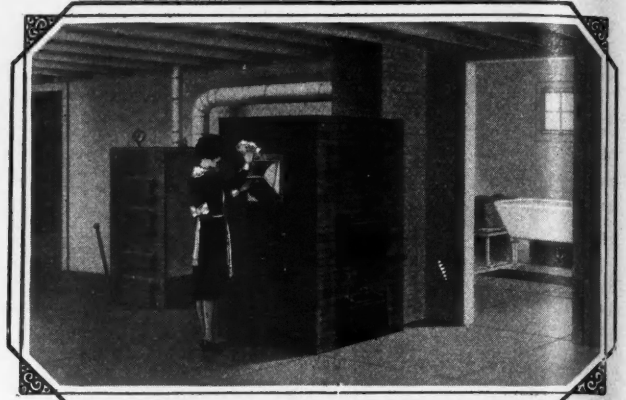
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A Typical Basement Installation Utilizing the Regular Chimney.
Can also be located at distance from chimney and piped to it.

**Garbage and Waste Disposal
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FOR years, the convenience and advantages of the Kernerator have generally been limited to *new* homes.

Now we announce *two* types—the well known *Chimney-Fed* and the new *Basement-Fed*. *New* buildings should still have the *Chimney-Fed* Kernerator, and should provide for a flue of suitable size.

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Less Attention — The large ashpit requires cleaning out only 3 or 4 times a year.

Larger Capacity — The combustion chamber of the smallest model for 5 or 6 room residences holds 6 bushels and accommodates not only garbage and combustible waste but all rubbish and non-combustibles

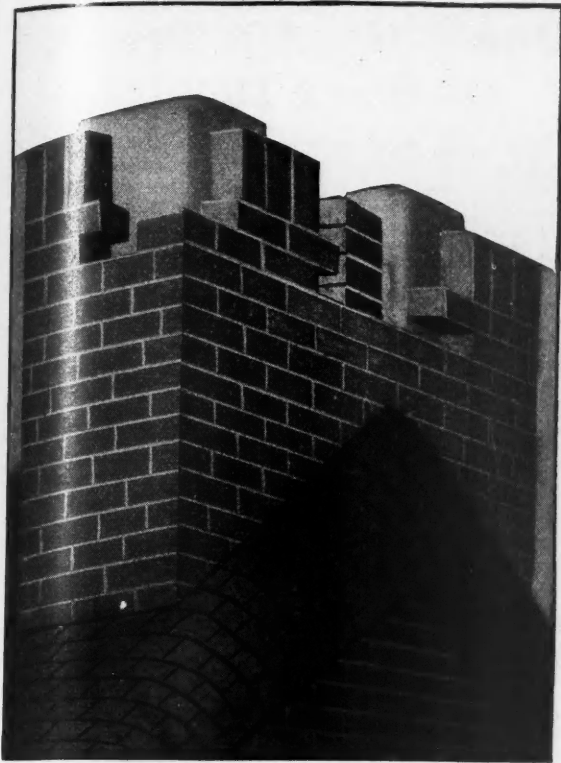
like tin cans, bottles, etc., as well. Broken up wooden boxes, fibre cartons, etc., are deposited through the *large* fire door.

Less Expensive—The first cost is about equal to the portable gas-fired incinerator of about half the capacity. The savings in gas alone pay back the first cost of a Kernerator in a few years time, and from then on pay dividends that mount up to a surprising total.

Write for complete information and prices. Or phone your local Kernerator representative. Offices in 89 cities.

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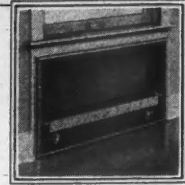




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CLAY PRODUCTS ASSOCIATION
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Immediate Access to the "Works"

This final step makes concealed heating the universal style of tomorrow

Almost every builder is enthusiastic over the modern heating methods which do away with radiators entirely by placing a copper heating element between the walls. Saving in space, more beautiful rooms, greater freedom in arrangement—these advantages have a universal appeal.

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Here is a high speed floor sander that does fast smooth work, yet is not too heavy for one man to carry. With motor removed the machine weighs only 75 pounds, but for short moves one man can carry it without removing the motor. This combination of **LARGE PRODUCTIVE CAPACITY** and **LIGHT WEIGHT** is found only in the

Speedmatic "8"

Smooth finish is assured by static and dynamic balance of the high speed "floating" drum (surface speed 2300 feet per minute) which sands a strip eight inches wide.

The small drum operating at high speed has less friction surface between the drum and floor. This eliminates clogging, dragging and excessive wear on the abrasive and results in clean, fast cutting with low abrasive cost. Dustless operation—runs off wall plug.

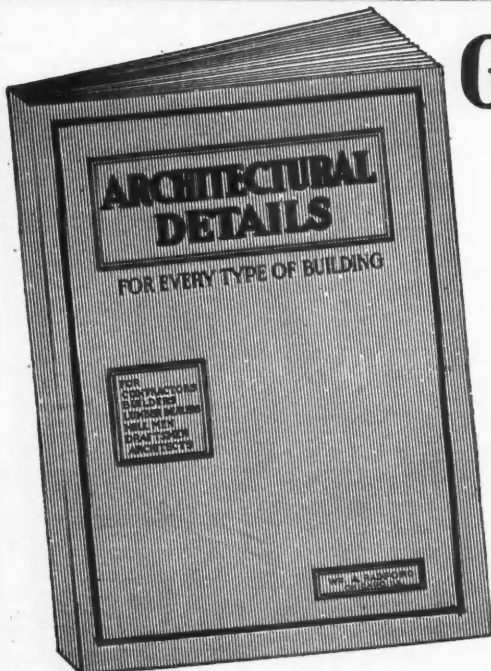
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The Speedmatic "8" will sand within $\frac{1}{4}$ " of the base board. For sanding butt ends with the grain, the **SUPER-TAKE-ABOUT** Sander with Edging Attachment will sand right up to the quarter round, giving a smooth, ripple-less finish.



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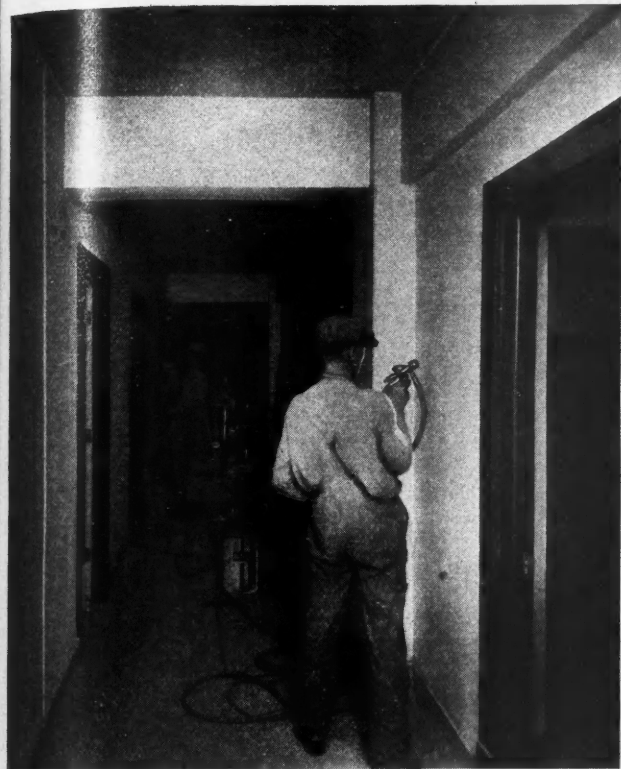
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The cost of a Binks Portable Spray Painting Outfit will prove the best investment in equipment you can possibly make today. The Binks Spray Gun is easy to operate, even for a beginner.

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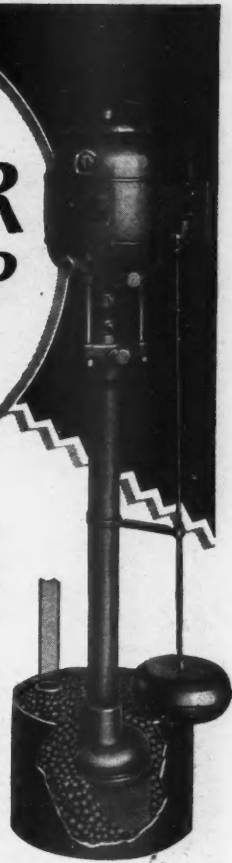
MOST GALLONS PER DOLLAR

a New and BETTER SUMP PUMP for Builders

The design, construction and materials of the new Duro Cellar Drainer embody important and advanced improvements in Sump Pump engineering.

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PEOPLE NOWADAYS WORRY ONLY ABOUT THE "DOWN" PAYMENT—THE BALANCE IS IMMATERIAL SO LONG AS THE HOME IS CONSTRUCTED OF SUBSTANTIAL MATERIALS.

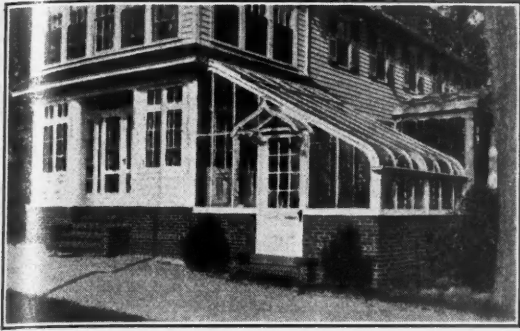
GAY, ARTIFICIAL COLORS ALONE, NO LONGER ATTRACT. *IT'S THE CALIBRE OF MATERIAL* THAT CLOSES THE SALE. AND WHERE IS A ROOFING MATERIAL SO WIDELY KNOWN FOR DURABILITY AS NATURAL SLATE?

LITERATURE on our Special "Quarry Cleft" Slate as well as standard varieties will be mailed upon request.

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There was a time when a glassed-in sun porch was a novelty and a sales maker. That time is largely past, as you know.

But a small attached greenhouse or conservatory is another story. The Garden Club idea has taken hold with a bang. You don't have to "sell" a greenhouse as part of your layout. It sells itself and helps you sell the house. Sell it at an increased valuation more than twice what the greenhouse costs you. Try it and see.

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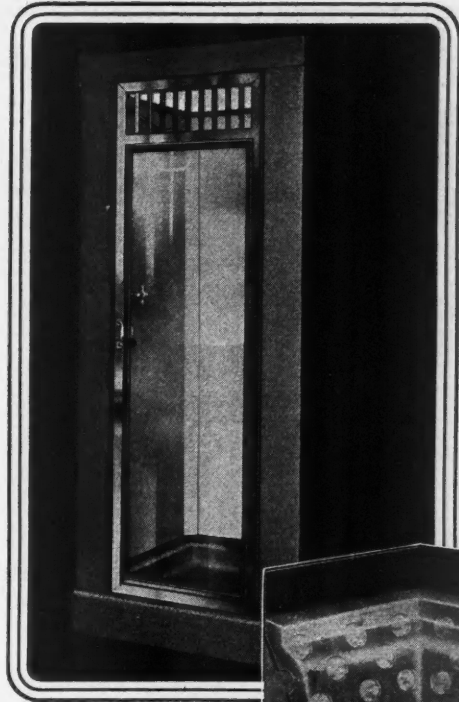
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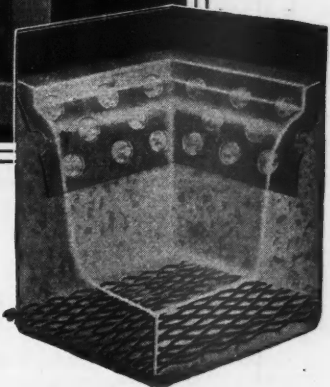
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The "Admiral", with Vitreous Enamel Finish, Terrazzo Receptor and "Nautilus" Glass Door.

Corner Section, FIAT Receptor. Integral with Compartment. (Patent applied for.)



A COMPLETE SHOWER IN ONE UNIT

Installed in Corner or Closet Space

The Fiat Shower Bath Compartment greatly simplifies the problems of installation and cost. A complete unit shipped ready for installation. Only corner or closet space required—complete installation by plumber. The most wonderful improvement ever offered—the last word in shower inclosures. Permanent leakproof construction under all conditions—positively unaffected by expansion, contraction or settling of building.

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Thousands in use. Rigidly built—distinctive appearance—strictly sanitary—seven models—doors or curtains optional. Reasonably priced.

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KIMBALL ELEVATORS in the Home

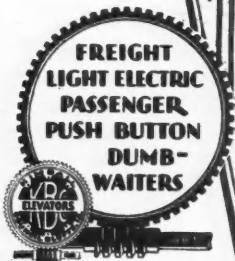
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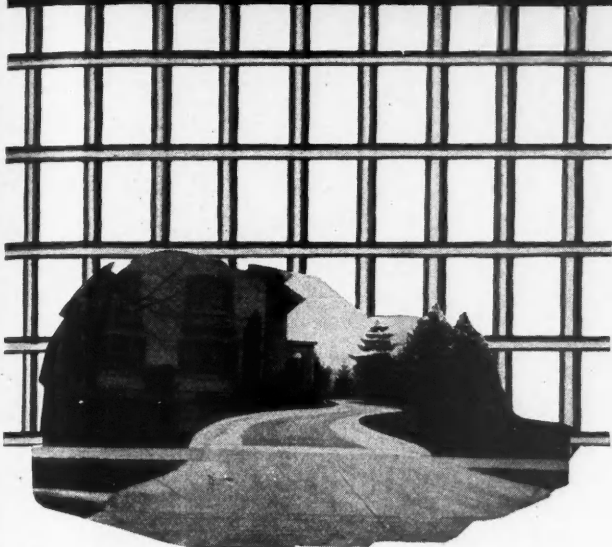
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[The new Ideal Batch Mixer is positively the fastest, most thorough and longest lived products plant mixer on the market. There's no wear-out to it. Send for Mixer Catalog.]

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REINFORCING
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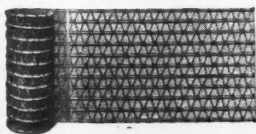
"The Steel Backbone for Concrete"



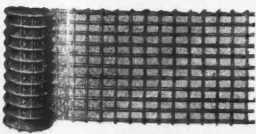
**Longer Life ~
 Better Appearance**

For the same good reasons that you reinforce concrete roads and street pavement, you also want steel reinforcement in the driveways and sidewalks you build. Lengthen the life of the concrete, reduce repair expense and protect the beauty of a clear surface free from cracks and patches.

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Triangle Mesh



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THRUSH SYSTEM
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FACTS:

Uncontrolled heating fluctuates wildly because the home owner cannot, or will not give the proper attention to firing.

Uncontrolled heating not only wastes fuel, but endangers health as well. Hot Air or Steam Heating is less desirable than Hot Water for homes, because extremes of temperature and dry air conditions are produced which are difficult to control and are unhealthy.

Hot Water Heating, Thrush Equipment is perfectly controlled, automatically, saving 20 to 40% of fuel.

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It is recognized as the best form of heating for residences because it provides all the mild, healthful qualities of hot water heating plus distinct economies of operation and increased comfort and convenience.

It maintains that mild summery warmth, without extreme fluctuations of temperature, regardless of weather conditions. It costs little to install it on old or new plants. Mail the coupon now for more information.

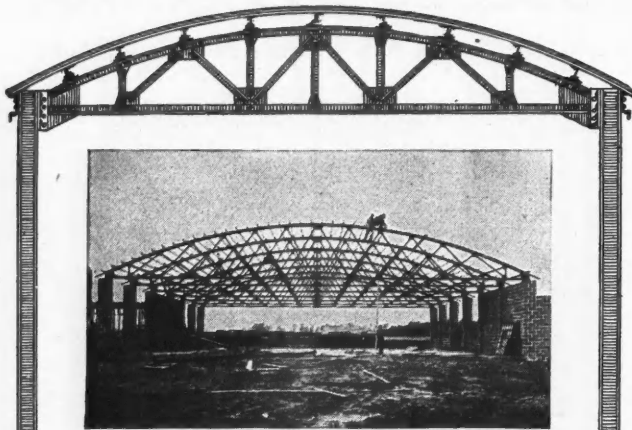


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In Your Naborhood~

SOMEONE, somewhere in your neighborhood, is planning on a new building, or the remodeling of an old building. Jobs like the one pictured above are desirable for you, and with the help of the International Plan Department, we can help you land such jobs.

International Bow String Trusses are preferred because of their: (1), maximum economy without sacrifice of strength; (2), graceful appearance; (3), saving of wall and roof material; (4), ease of erection; (5), superior lighting and ventilating possibilities; (6), minimum fire risk; (7), high quality and low ultimate cost.

International engineers will be glad to draw up plans and figure estimates, free of charge You get your building prospects in line, and we'll be glad to help you plan and sell. Write today for our new Steel and Garage Catalog. Free for the asking.

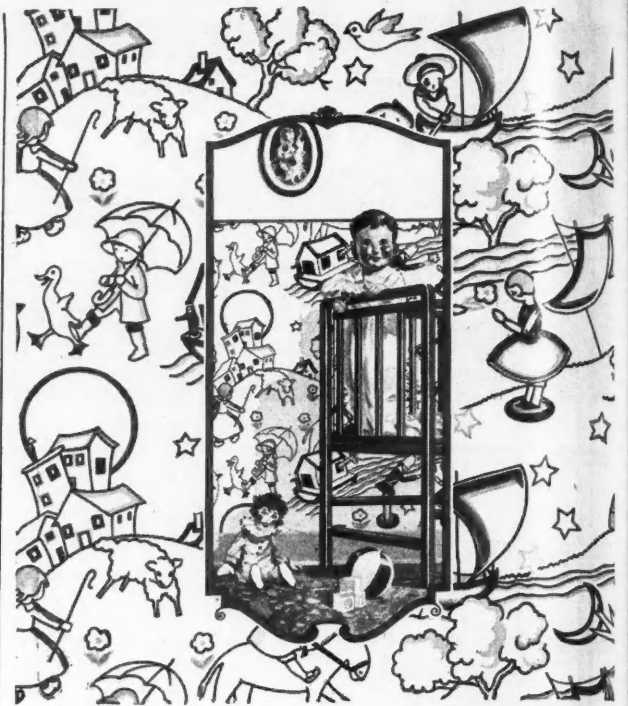
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Evansville Dept. 18 Indiana

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Store Fronts	Public Garages	Steel Trusses
Steel Columns	Steel Girders	Steel Windows
Steel Ceilings	Elevators	Skylights
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Our Complete Stocks Assure Prompt Delivery



Cleanable Wall-Tex in a pattern to fascinate children

FRESH, warm colors, the kind the children like. Familiar Mother Goose figures, Jack and Jill, Little Bo-Peep, the Grenadier. Drawn by a prominent artist as a modern child pictures them. And printed on Wall-Tex, as modern in its structure as in its design.

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The NEW 1929 Line is Ready

The nursery pattern illustrated is one of the many new Wall-Tex numbers that enlarge the line by nearly 75%. Made for dining-rooms, living-rooms, bedrooms, kitchens and baths. Both dull and glossy finishes. And in plain whites, for modern applied finishes. On every job, there are rooms where Wall-Tex will give greater satisfaction than any other wall-covering.

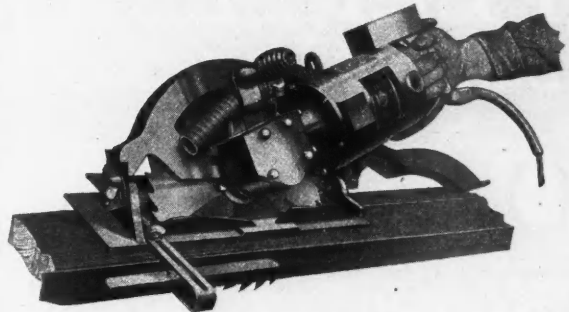
Decorators, builders, architects should write for full information on their particular requirements. Dealers: write for 1929 sample book. The Columbus-Union Oilcloth Co., Columbus, Ohio.

WALL-TEX

PERMANENT WALL-COVERING

Wodack Tools Pay Big Dividends

Wodack Saws have been on the market three years—long enough to establish them as the *best of their kind*. Model "C", the first Wodack Saw, is the cheapest and lightest electric hand saw on the market that cuts up to rough 4" lumber.



Model "B" for Bevel Cuts

Model "B" has tilting base for bevel cuts up to 60°. The 11" diameter blade cuts 4 1/8", giving ample capacity for deep bevel cuts on 2" and 3" lumber. Rip and depth gauges. 3/4 h. p. G. E. Universal Motor for A. C. and D. C. Perfect Safety Guard. Operates from neighbor's light socket.

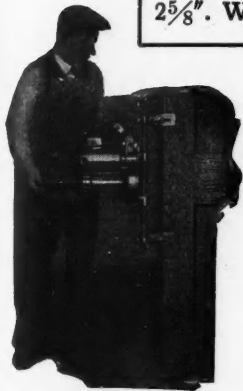
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F. L. Rogers & Company
23 South Jefferson St. Chicago, Ill.

Also New York

And Now!

We introduce the Junior Model "K" Wodack Saw. How it does cut! It's a one-hand saw and takes lumber up to 2 5/8". Weighs 15 lbs. The price is RIGHT.



2 Tools in 1

Combination Lock-Mortiser-and-Router

Cuts out both face-plate and barrel of a door lock in one operation without stopping. Will cut 60 doors in one hour. If desired Router sold separately. 1/2 h. p. G. E. Universal Motor.



Join the Crowd...

- Costs Less
- No More Weights
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Over 10,000
Contractors and
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of Window Costs
They Sent 50c for
a Sample pair of the
**THE AUSTRAL
SASH SUSTAINER**

Send 50c and this Coupon for Sample

AUSTRAL WINDOW CO., 101 Park Ave., New York

Gentlemen: Please send me a sample pair of AUSTRAL SASH SUSTAINERS, for which I am enclosing fifty cents (this covers actual production cost, postage and handling).

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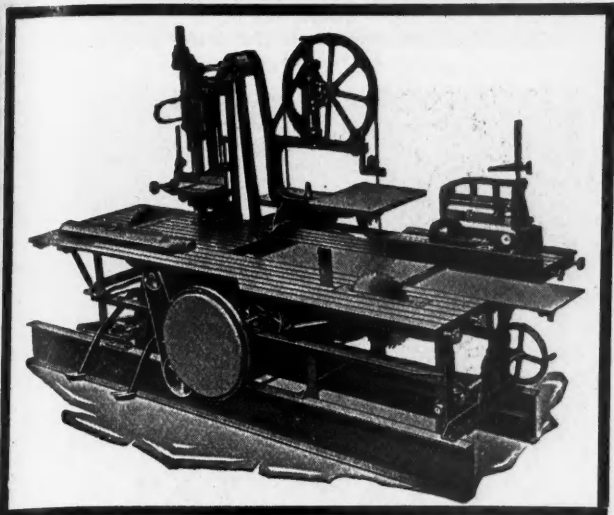
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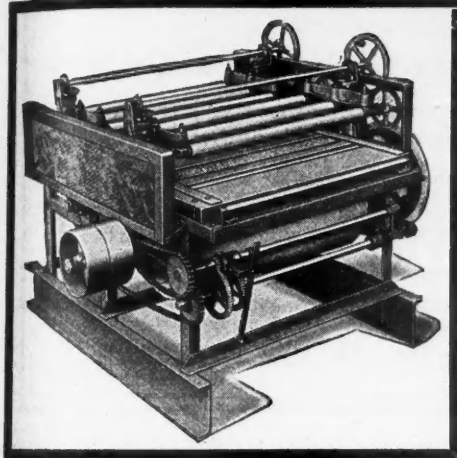
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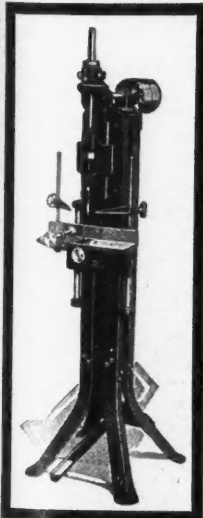
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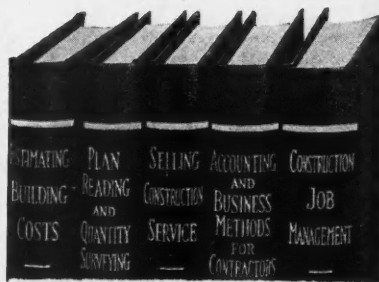
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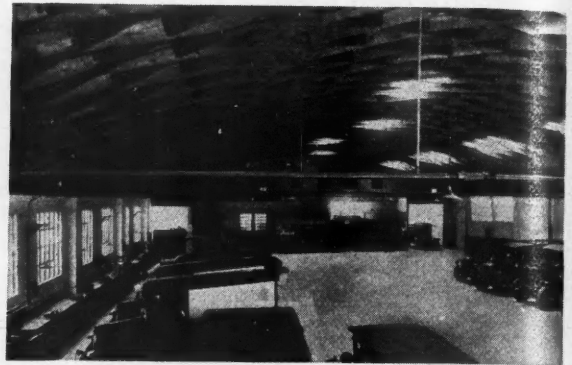
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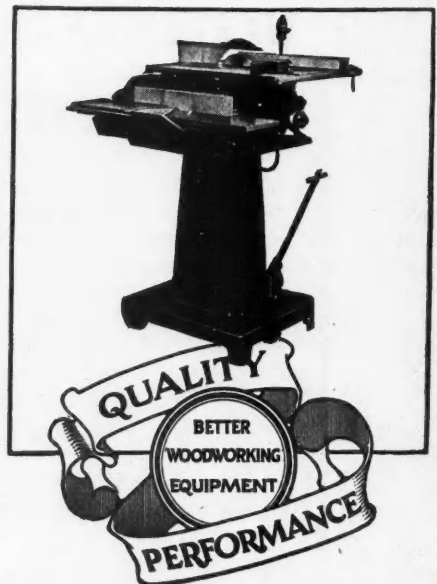
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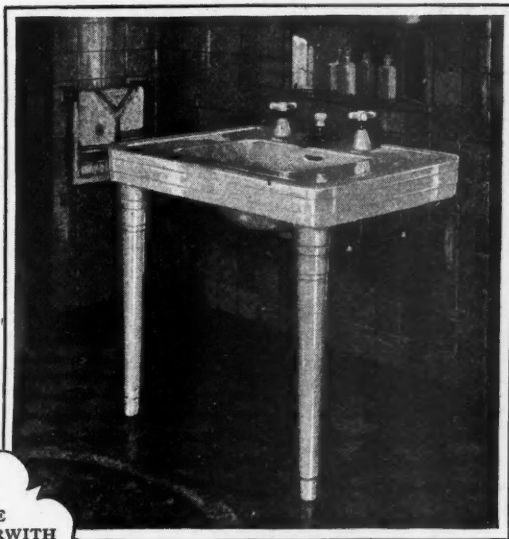
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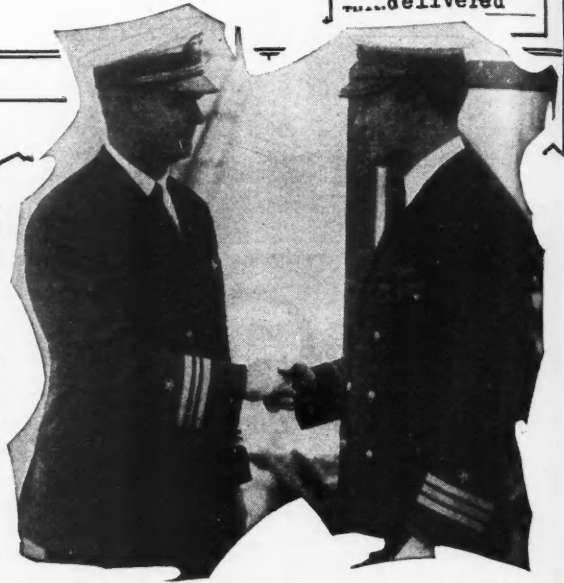
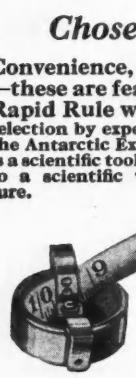
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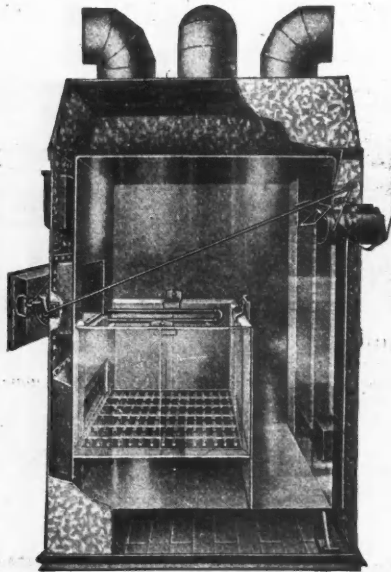
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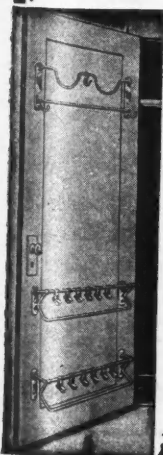
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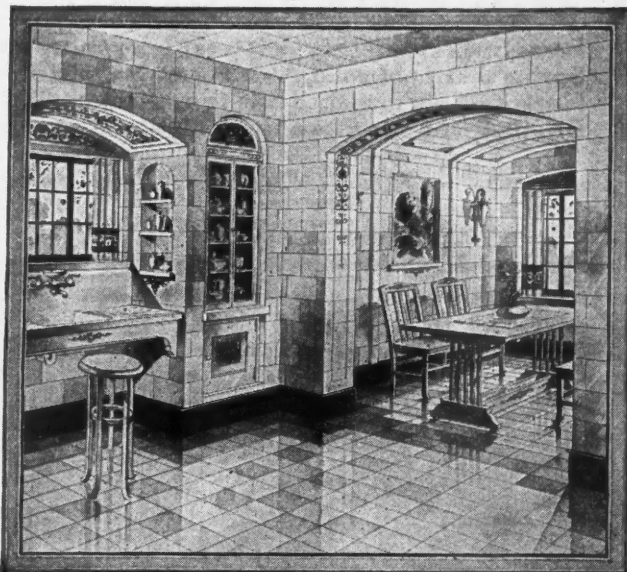
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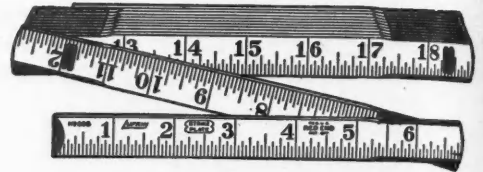


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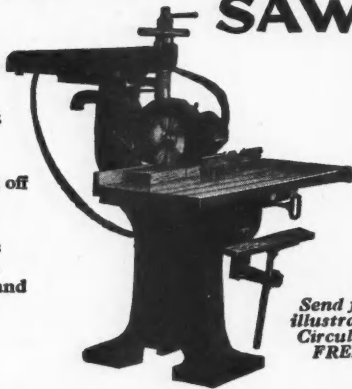
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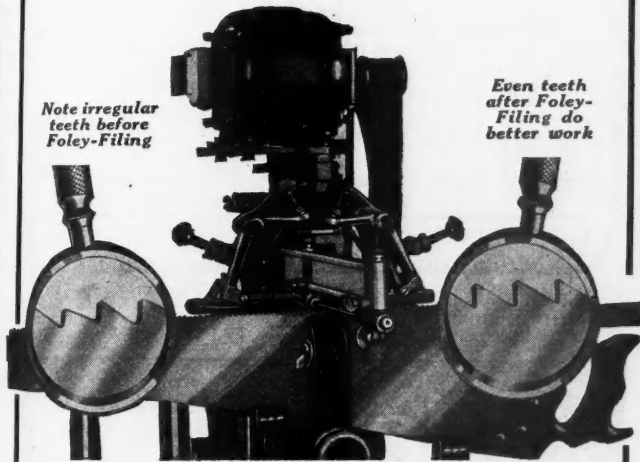
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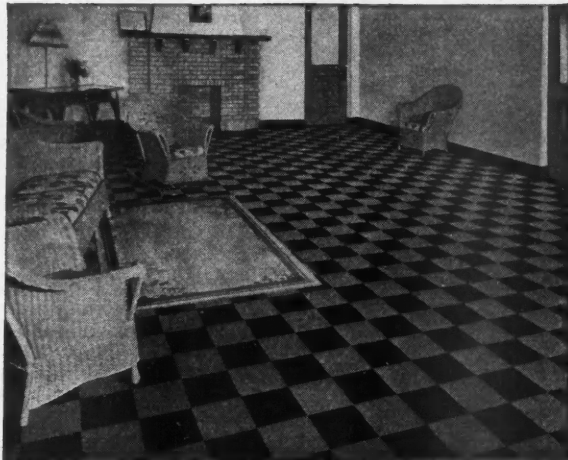
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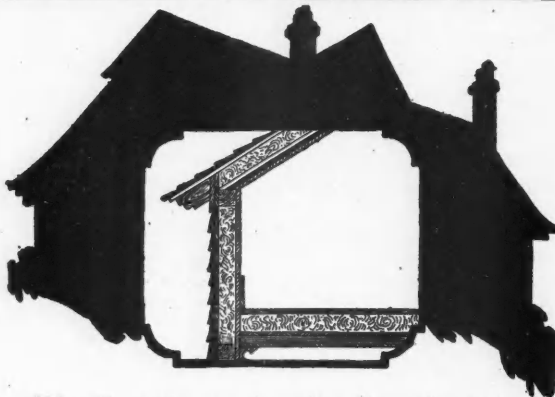


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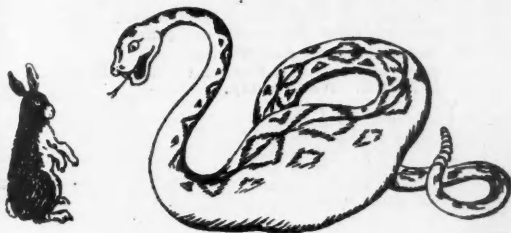
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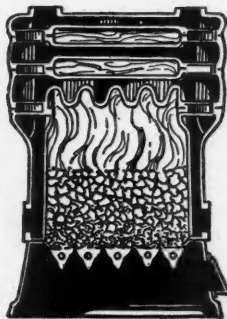


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THEIR Stomach is practically their full length.

They coal up with a rabbit or two and then go to sleep, and their yard or so of stomach does the rest.

Burnham's have the same kind of a stomach in their long fire travel. It's the big why of the Burnham's short coal bill.



That wavy line over the bridge of the fire is the cross section of the corrugated crown sheet. It has three times the heat absorbing area a flat one would.

Burnham Boiler Corporation

Irvington, New York

Representatives in all principal cities of the United States and Canada

Trouble Savers

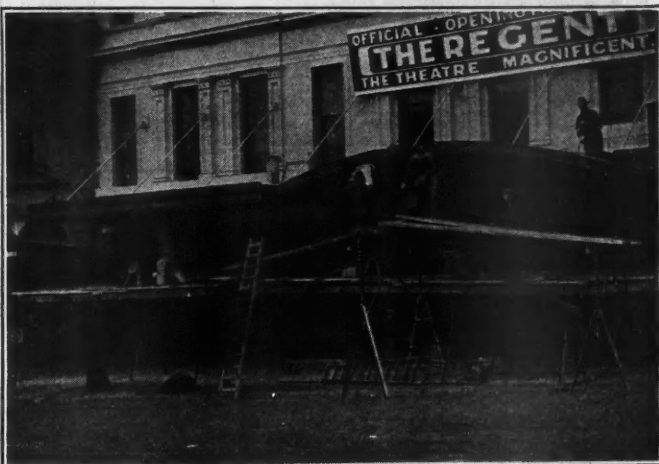


Photo showing how Trouble Saver Steel Trestles were used on New Zealand Theater Building

These Steel-Age Profit-Makers Are Used in Every State in the Union and in Foreign Countries

Wooden scaffolding is a profit-eating leftover from horse and buggy days, and has no place in the steel age, in the equipment of the progressive contractor.

Trouble Savers made of steel save their first cost on every job, and are everlasting money-makers. No repair or replacement expense. Up in a jiffy; down just as quick. Fold compactly for cartage or storage. The only economical, practical scaffolding for present day use. Investigate!



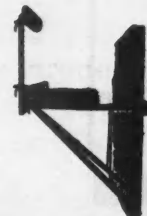
Trouble Saver Adjustable Steel Trestles (patented) are quickly adjusted to desired heights. 8 sizes. Each size adjustable from 5 to 15 different heights, giving a range from 16 inches to 12 feet by 3 inch lifts. Save countless sets of wooden horses.



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 Commission. Detachable rail standards. Held by 1/2" 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

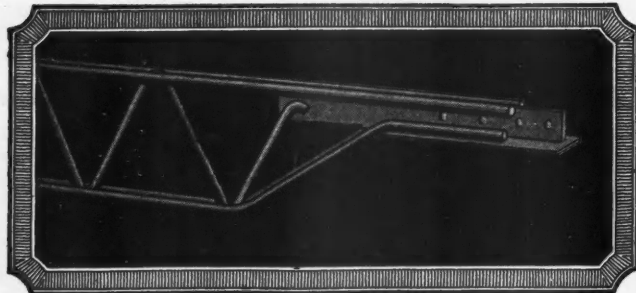
The Steel Scaffolding Company

1101 No. Governor St., Evansville, Ind.

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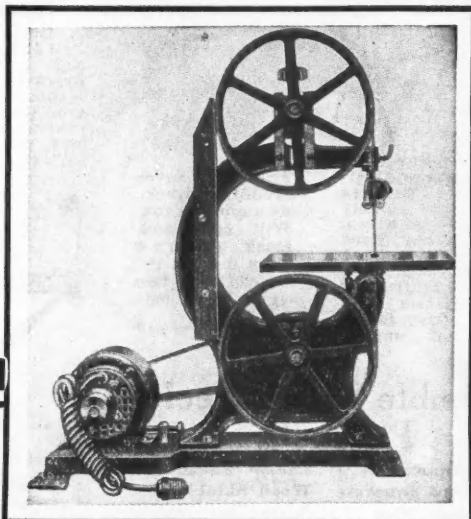
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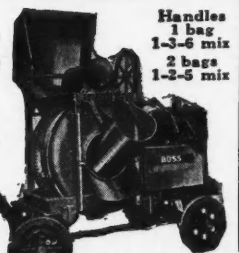
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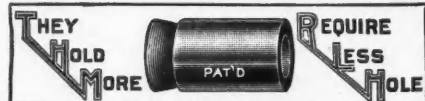
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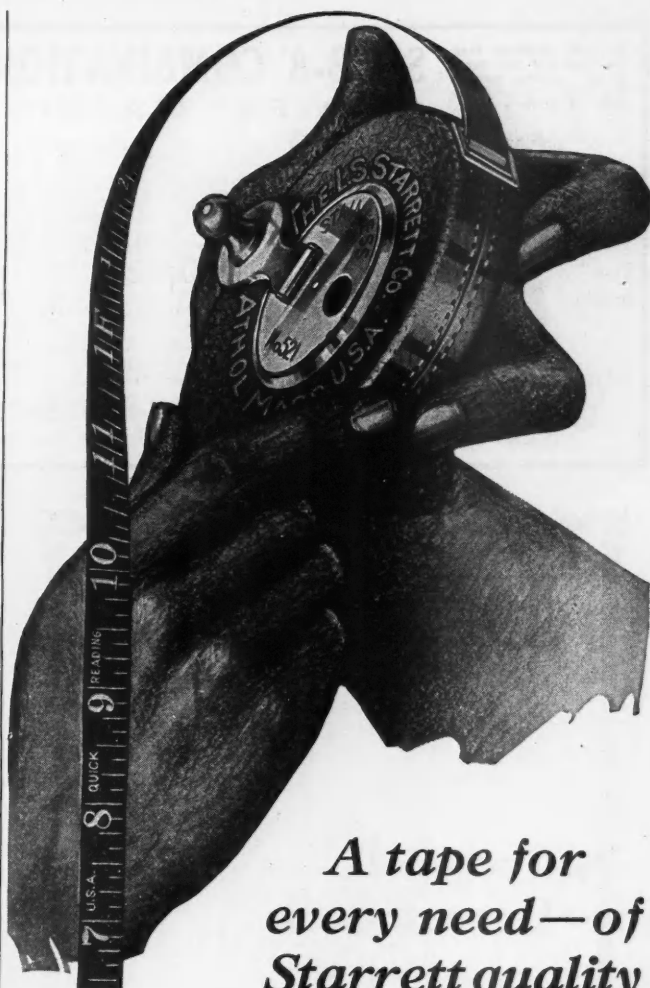
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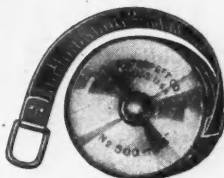
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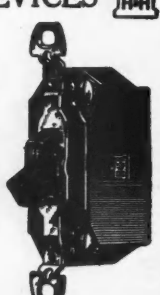
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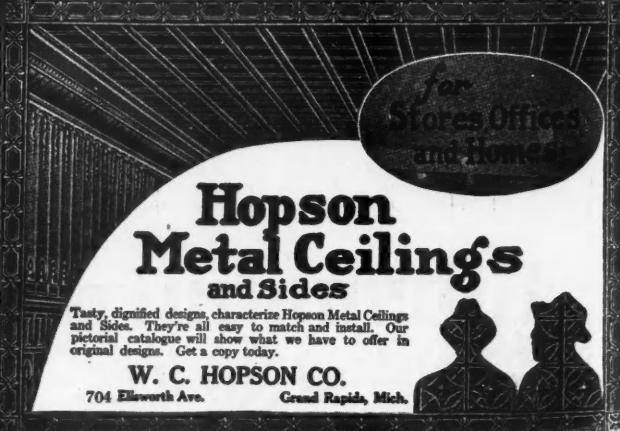


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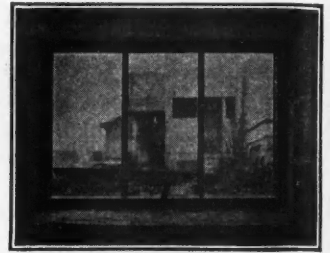


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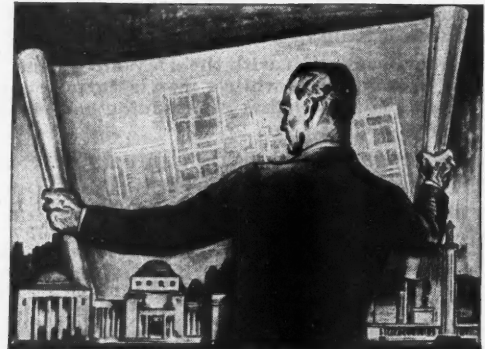
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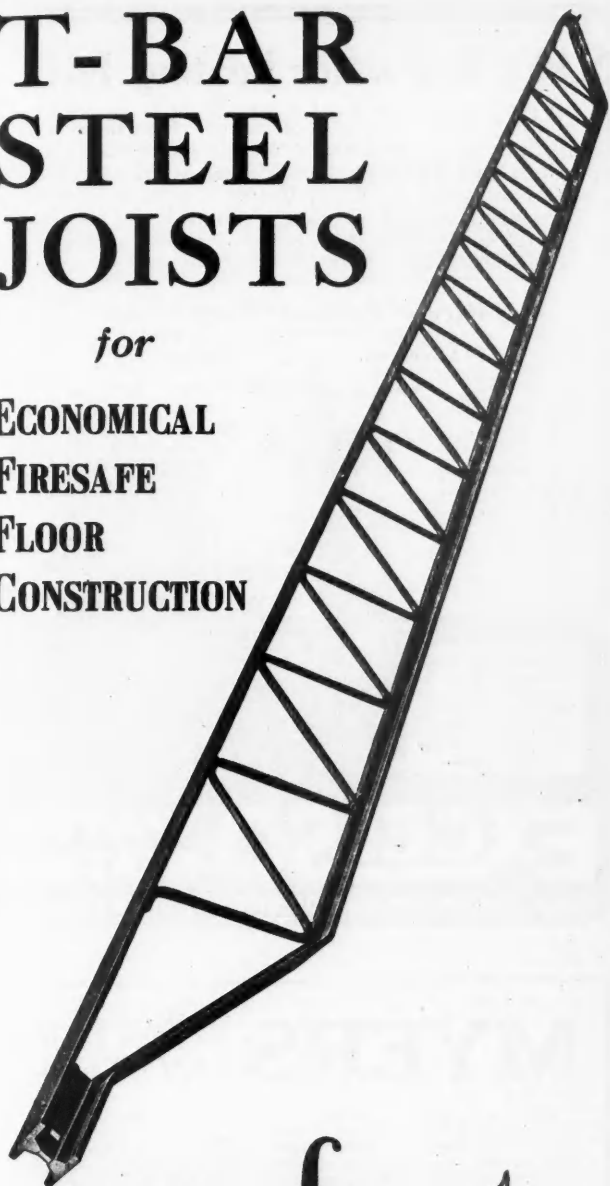
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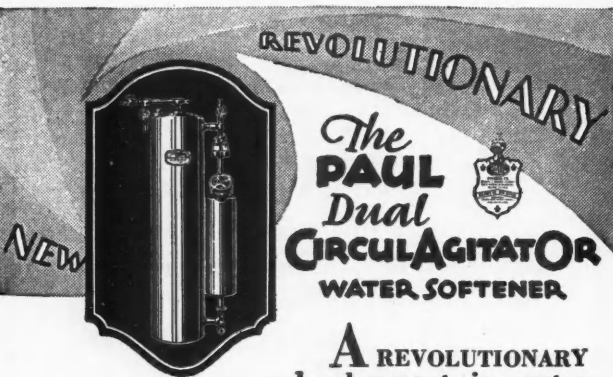
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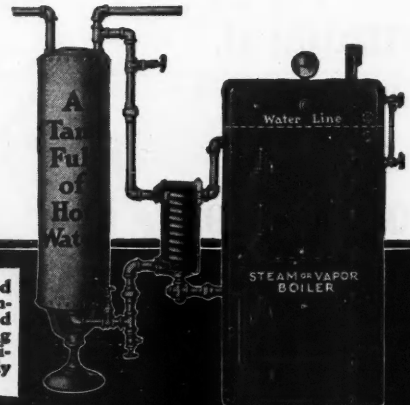
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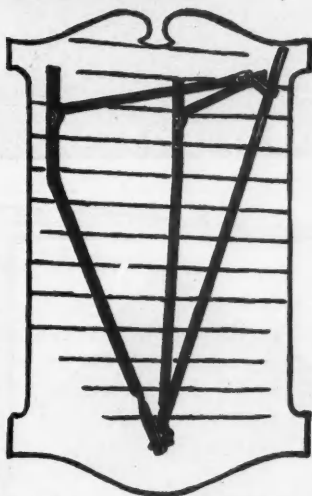
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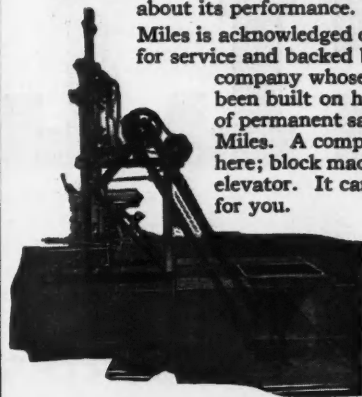
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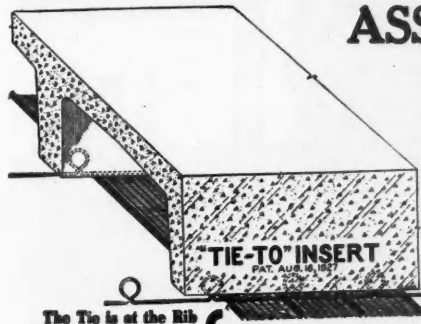
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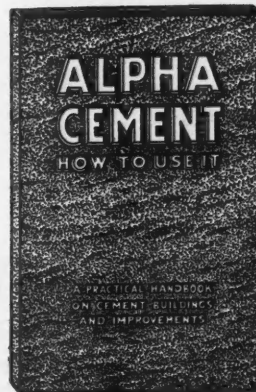
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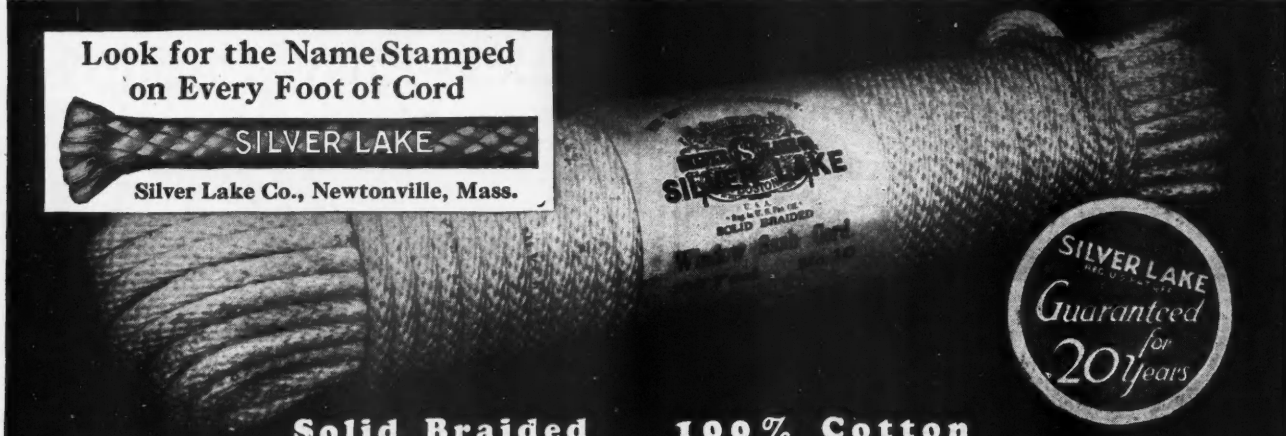
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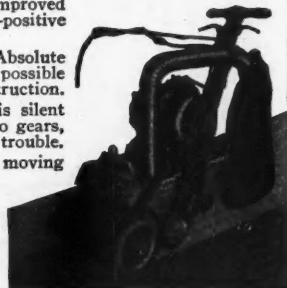
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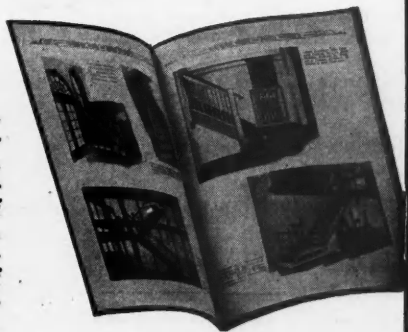


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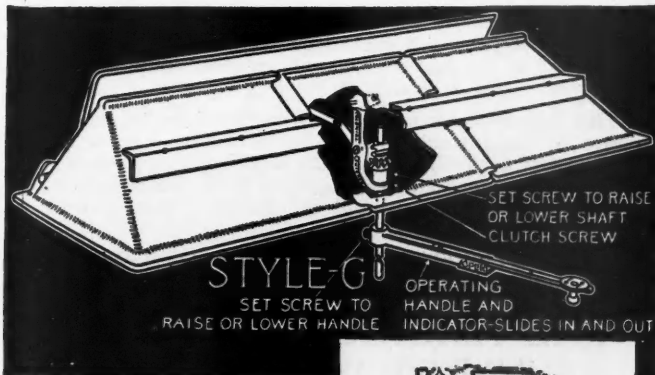
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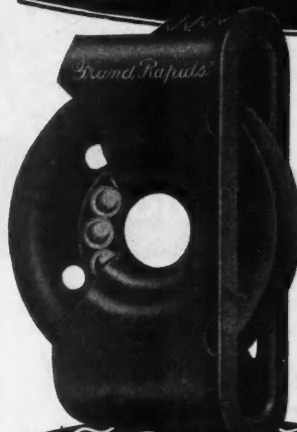
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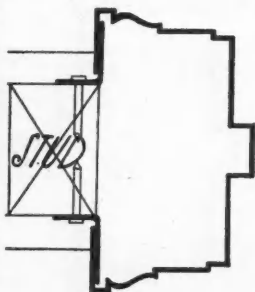
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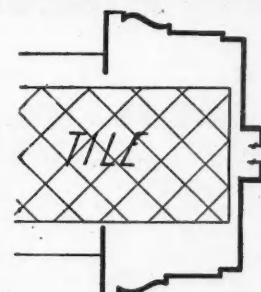
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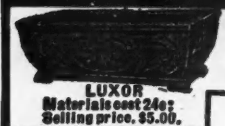
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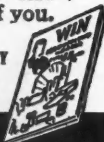
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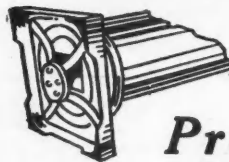
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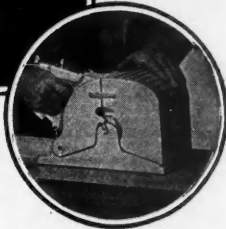
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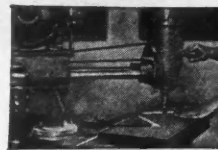
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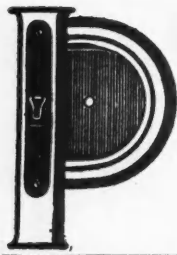
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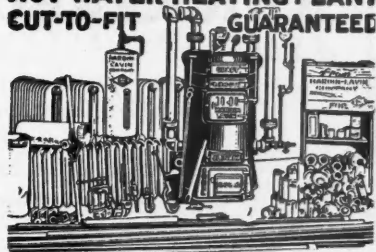
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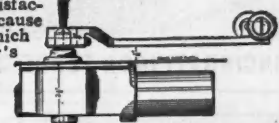
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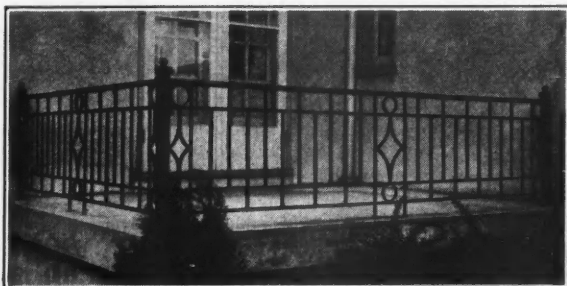
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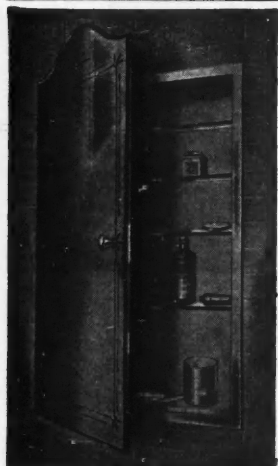
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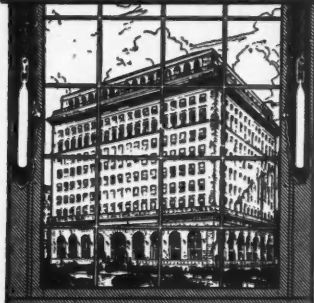
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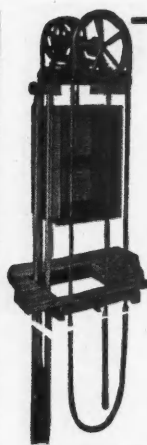
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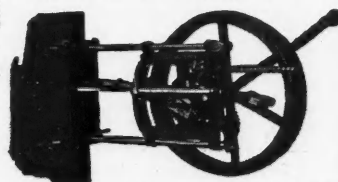
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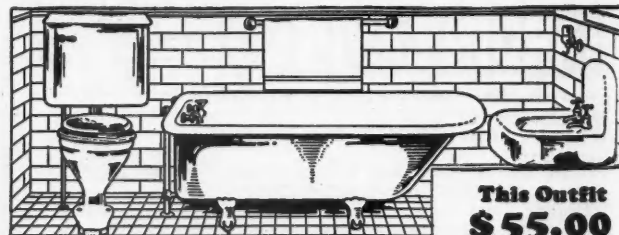
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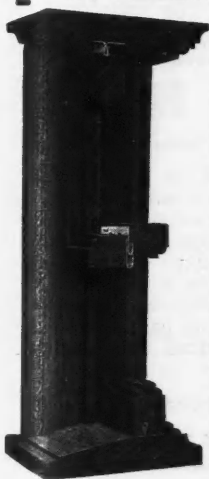
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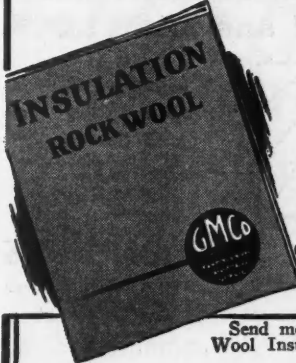
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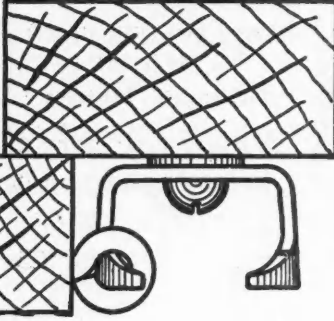


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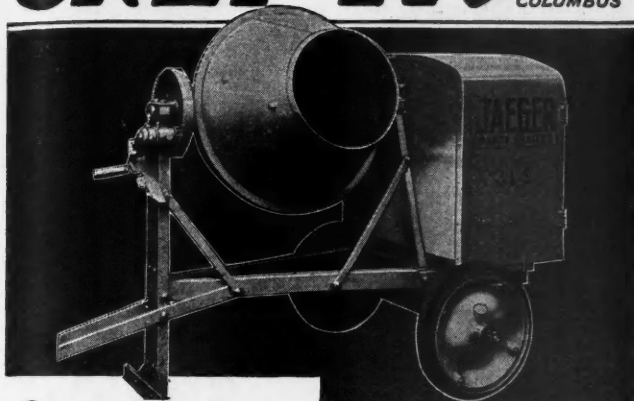
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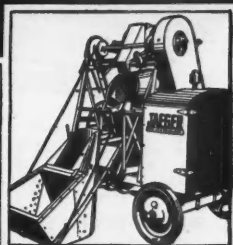
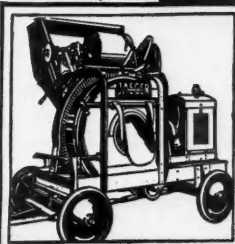


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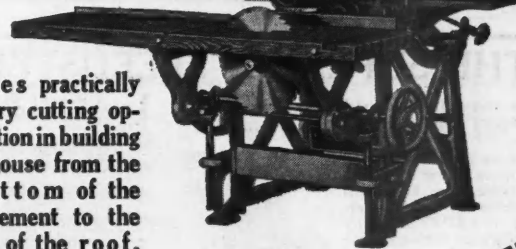
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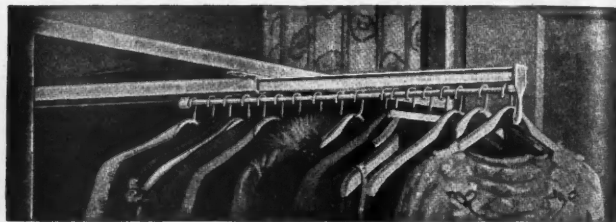
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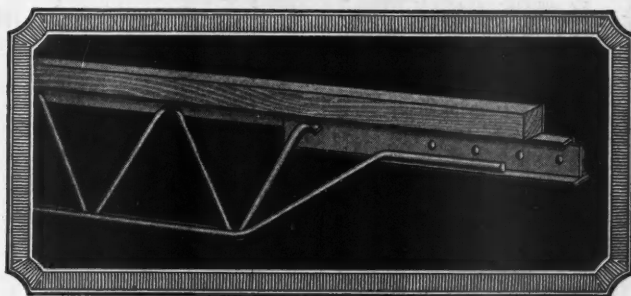
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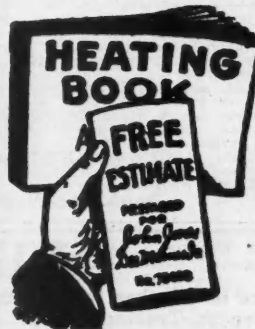
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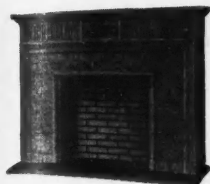
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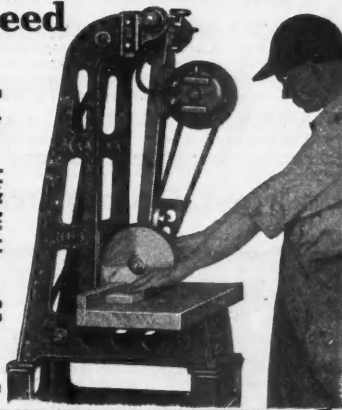
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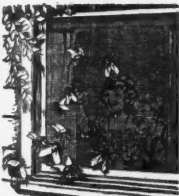
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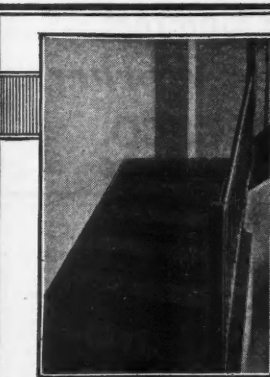
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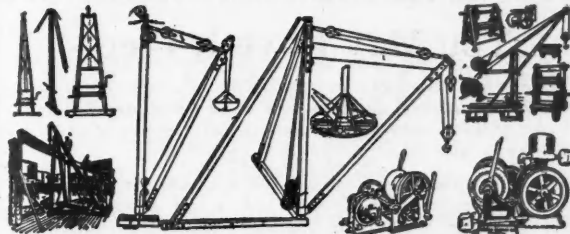
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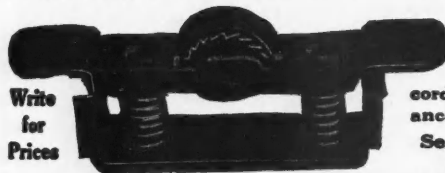
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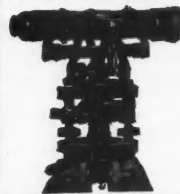
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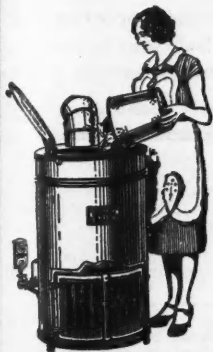
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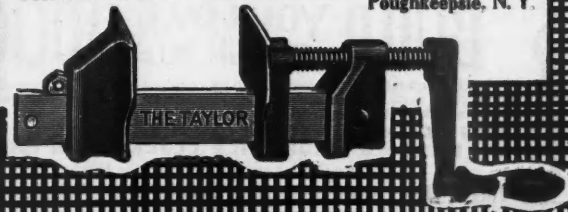
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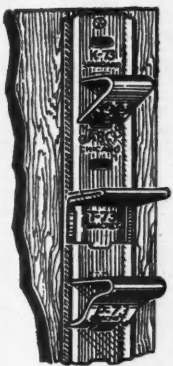
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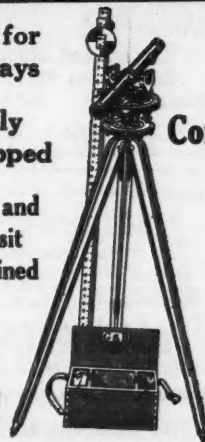
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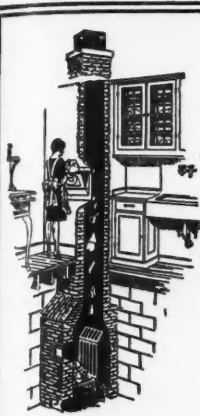
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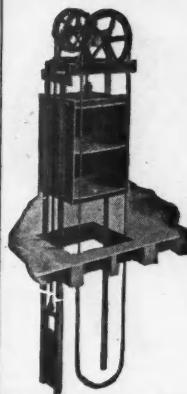
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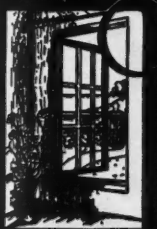
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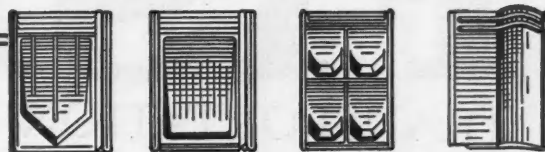
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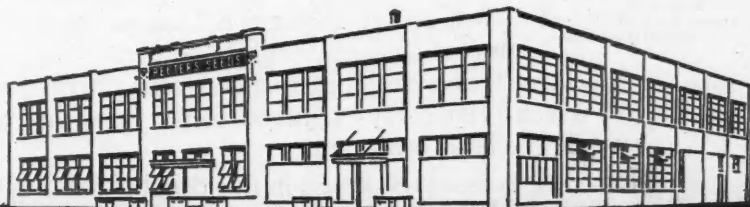
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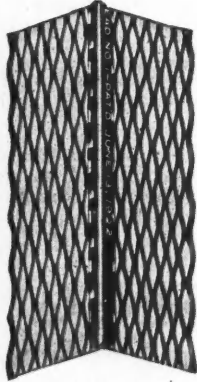


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HIGH GRADE PLASTERING IN RESIDENCES SHOULD HAVE THE PROTECTION OF STAY-RIB METAL LATH AND EXPANSION CORNER BEADS



Expansion Corner Bead No. 1 (outside)

A high grade plastering job is a work of art that should be preserved through generations.

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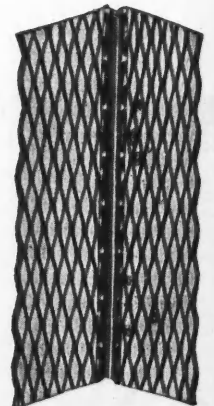
Just so are Expansion Corner Beads the best possible insurance against unsightly corners. The stiff bead makes a true corner and the expanded mesh provides a base through which plaster keys right up to the bead, holding it there while the bead protects it.

Notice the recessed bookcase in this delightful living-room.

Expansion Casing provides an interesting new touch to this room feature, protects the corners, does away with an ugly, wide, wood casing.



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gained from its use. He also will mention the guaran-
tee behind this unusual line of Builders' Hardware.

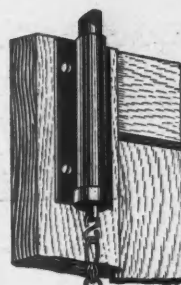
FRANTZ MANUFACTURING COMPANY

Dept. A-12

Sterling, Illinois

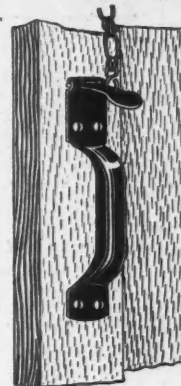
No. 625 Chain Bolt

The case of this bolt is
made of cold rolled steel.
Bolt itself is of galvanized
steel and is operated by a
galvanized coil spring. Can
be reversed easily. Made in
6 and 9 inch sizes. Packed
with necessary screws.



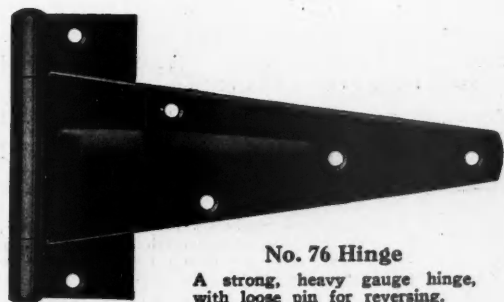
No. 630 Chain Pull

As the hand grasps the
pull to open the door a
slight pressure on the
thumb-piece releases the
chain bolt. This is an
original Frantz feature.
Made entirely of steel.
Packed with necessary
screws.

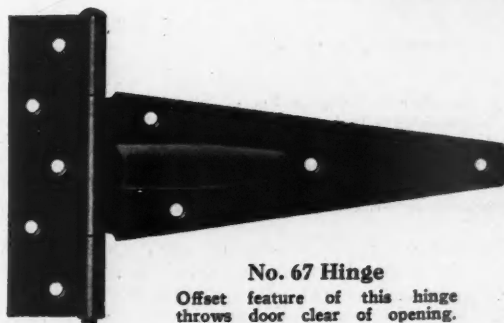


**No. 680
Cane Bolt**

Makes garage door
practically burglar-
proof. Turning the
handle from its
rest allows the
bolt to drop into
bushing in floor.
Also can be used
as door holder.
Easily installed.
All steel.



No. 76 Hinge
A strong, heavy gauge hinge,
with loose pin for reversing.



No. 67 Hinge
Offset feature of this hinge
throws door clear of opening.

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 Toe Hinges
Ornamental Hinges
Butts Hasps
Screen Door Sets
Cupboard Catches
Plated-Finish Hardware

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