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**ADVERTISING RATES**—Punished on application. Advertising forms close on the 10th of the month preceding date of publication.
The only company the world over, manufacturing a complete line of Steel Building Products

Truscon has long been and remains the pioneer and leader in the design and manufacture of firesafe building products. After more than 25 years of constant engineering research and practical co-operation with contractors and builders, Truscon presents to the building trade the only complete line of Firesafe Building Products manufactured entirely by one organization. Through Truscon, the builder is now able to secure economies which were hitherto impossible. Truscon warehouses form a network extending over the entire country and offering to the builder prompt delivery service on any one or all the products in the Truscon line. The Truscon method of manufacture, involving an extensive standardization, makes available lower prices than could have been achieved otherwise. When you deal with Truscon you get all of these advantages. Truscon willingly co-operates with contractors and builders anywhere, offering engineering advice on all problems of firesafe construction, giving aid in preparation of estimates, etc.

TRUSCON STEEL COMPANY, Youngstown, Ohio
Established 1903
Warehouses and Offices in all Principal Cities

PERMANENT BUILDING PRODUCTS
Where they are away from snow and ice

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 - Boston Philadelphia Cleveland Cincinnati Indianapolis St. Louis New Orleans Des Moines

Chicago: Minneapolis Kansas City Los Angeles San Francisco Omaha Seattle Detroit

Montreal - RICHARDS-WILCOX CANADIAN CO., LTD., LONDON, ONT. - Winnipeg

R-W Garage Door Hardware includes a type and style to meet every conceivable condition.
It Locks the Joints Together Permanently

The R-W LOCK JOINT
TROLLEY TRACK

Regardless of its length, your trolley track can now be made practically a one-piece track, by using the R-W Lock Joint. A perfected product of Richards-Wilcox, it locks the joints so tightly that hangers operate smoothly and trouble-free. The R-W Lock Joint can be obtained only with trolley track carrying the R-W trade mark. Ask for it by name.

Richards-Wilcox Mfg. Co.

AURORA, ILLINOIS, U.S.A.

New York 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

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Stone Houses
No Longer a Luxury

New dollar-saving methods of preparing, handling and using Indiana Limestone open up sales opportunity for the contractor.
Write for free plan book and full details

This is to tell you of a new opportunity in the building field. New production methods in the Indiana Limestone industry now make the use of stone for medium-cost residences just as practicable as the use of brick, wood, or stucco.

Free plan book
Write for booklet showing different types of houses built of Indiana Limestone and telling all about their construction. Stone offers you the opportunity to get away from dead level competition. To establish yourself as a builder of unique residences, different from those that everybody else is putting up.

Indiana Limestone is the same fine, light-colored natural stone of which big buildings all over the country are being constructed. For residences Random Ashlar facing is used. The stone is sawed into strips four inches thick at the quarry. The stone sawed on top, sides and bottom is then shipped directly to the job. The strips of stone are broken to length, jointed right on the job and laid up in the wall by a stone-mason or bricklayer. The only cut-stone required is the sills and steps.

New speed methods
An electric carborundum saw takes the place of the old-fashioned mallet and chisel for breaking, or an ordinary bucksaw may be used. With this new equipment one man can keep six stone-masons busy. Thus your stone-masons spend all their time on the wall laying up stone.

Indiana Limestone Random Ashlar is easy to handle. No carefully prepared drawings are re-
quired. The illustrations here show the way that this class of Indiana Limestone looks when laid up in the wall. Many interesting variations are possible.

Houses built of Indiana Limestone have proved they are moderate in cost and extremely easy to sell. Our figures show that for an additional expenditure of only 5% to 6% above the ordinary total cost, one can build of Indiana Limestone.

Who we are
The Indiana Limestone Company was formed in 1926. It is a consolidation of 24 of the principal properties in the Indiana Limestone district. With assets of over $46,000,000.00, with 19 branch offices and ample facilities, we are in a position to give you every possible assistance when starting to build Indiana Limestone houses. The residence field is a field we are now particularly interested in.

Get the facts now
Here is a great opportunity for a contractor in each locality to begin building houses of Indiana Limestone. Let that contractor be you. Write today for free plan book and full information on the use of this beautiful stone. Use the convenient coupon.

Fill in, Clip and Mail
Box 757, Service Department, Indiana Limestone Company, Bedford, Indiana
Send me full information on Indiana Limestone for Random Ashlar facing for residences.

Name: ..................................................
Address: ...............................................
City............................................. State.............
A real piece of news for builders and contractors

...sell and rent more quickly, more profitably. Save space; save labor and materials—this new simple way!

NEVER before have people demanded as much from the builder and contractor as they are demanding today. They not only insist upon apartments that are the last word in compactness and convenience, but they want good large living rooms—and at the price they are prepared to pay.

Fortunately, a way has been found to meet this situation, a sure simple way that will enable you to sell and rent more quickly, more profitably!

This is assured by the Seng Duofold Roller Bed. The Seng Duofold is not a cumbersome built-in makeshift but an attractive modern bed for two that folds up in a jiffy. It is so compact that it can be rolled out of sight during the day in a closet as small as 31" x 23" or 23" x 31". When wanted at night, it can be moved with one hand to any position desired, and without disturbing other furniture.

Because of its exclusive advantages, the Seng Duofold permits the use of narrower closet doors in the living room, or none at all if the closet is located in the hall. This makes certain a marked saving in space, labor and materials, and a considerably larger living room than would otherwise be possible.

Write today for the full story of the Seng Duofold Roller Bed and the remarkable new opportunity it offers you to sell and rent more quickly and more profitably!

THE SENG COMPANY
1452 Dayton Street · Chicago, Ill.
Manufacturers and Patentees

SENG Duofold ROLLER BED
FREE!

Your Proof of Performance is Ready

GET IT!

POINTING THE WAY gives the definite facts about Clarke construction—showing the actual features of superiority the reason why it is beyond compare in quality and quantity—in variety of work—in long life—in economy of operation.

Here in downright black and white, illustrated by pictures in glowing colors, are the facts you want to know about a Sanding Machine. In words and actual photographs we show what the Clarke will do. You see pictures of it on the job.

We show clearly and conclusively why the Clarke, and ONLY THE CLARKE, backs every statement with the definite, positive, written guarantee of performance.

Why the Clarke makes more profits for you in every way—every day.

Why the swing towards the Clarke has the irresistible force of a tidal wave, and why it has paid practical men to discard heavy, expensive, old type machines in favor of the up-to-date, light, powerful, fast cutting Clarke.

POINTING THE WAY is a mine of useful information for the practical man—the contractor—carpenter—woodworker. He can't know the utmost in sanding possibilities till he reads it.

It contains actual letters from users all over the country; letters containing not generalities but actual, SPECIFIC facts of what the Clarke is doing. Actual figures of quantity performance—actual facts of saving—actual facts of greater profits. There's the living testimony of men who made $20 an hour with the Clarke—of men who built a reputation by doing work others could not do with old fashioned Sanders—instance after instance from the living experience of individuals and great corporations, for whom the Clarke opened up new and greater money-making and money-saving opportunities.

Money Making Facts Never Before Printed Anywhere

Whether you need a Sander or not, you do need the facts contained in this wonderful testimony; for POINTING THE WAY shows so plainly anyone can understand—so simply anyone can follow it—the definite certain way, that surely leads to bigger earnings—greater profits. They are worth money to you, but you get them free.

USE THE COUPON

CLARKE SANDING MACHINE CO.
Dept. A-27, 3815 Cortland St., Chicago, Ill.

Please send me illustrated copy of "Pointing the Way to Greater Profits" which shows actual Proof of Performance, and money-making facts of the Clarke Vacuum Portable Sander.

Name: __________________________

Address: ________________________

City: ____________________________ State: ____________

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
acknowledged advancement in sheet metal

a heavy lead coated sheet obtainable in flat sheets and various formed products for sheet metal work on all types of buildings

DIVISION OF CONTINENTAL STEEL CORPORATION

FOR ADVERTISERS’ INDEX SEE NEXT TO LAST PAGE
We are closing out these "White" Kitchen Cabinets at a real Sacrifice!

Until August 30th Only!

"Challenge"
Kitchen Cabinets
(Regular Price $95.00)
Reduced To

$19.50

A REMARKABLE buy—one you will not duplicate! An attractive kitchen cabinet that includes pantry, refrigerator, worktable and storage cabinet in one. Built to set directly against the wall as top section has no back. Both ends are finished so they can be exposed if desired. Built of clear white wood, finished with protective priming coat of toned lacquer so cabinet can be painted to match any trim. Only a limited quantity available. Order now. Orders filled as received. Shipped from Chicago.

Send Your Order Now!

Refrigerator in lower section has 100 lb. capacity ice compartment and refrigerated food compartment with 2 wire shelves. Refrigerator section has 1 1/2 in. cork insulated walls; galvanized iron lined. Refrigerator may be had at either right or left, for either front, end or rear icing. Balance of lower section contains utensil storage compartment and 3 wood drawers. Top section contains flour bin with sifter, sugar bin and 4 storage compartments. Maple work top, 6 ft. 3 in. long and 1 ft. 8 in. deep. Cabinet is 5 ft. 9 in. wide; approximately 7 ft. high overall.

The "White" Door Bed Company
Executive Offices
5607-09 Grand Central Terminal, New York
Western Sales Office
130 N. Wells St., Chicago


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

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
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. “Laid and Used the Same Day” is only one of the ten outstanding advantages.

The Cromar method of driving the filler deep into all the 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. Nail-holes are punched. And the beveled tongue prevents damage in nailing.

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

Cromar arrives on the job CRATED—not merely bundled—in compact, easy-to-handle packages—one length to a package. You do the job all yourself—no subletting!

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

Completely finished at the factory—scraped, sanded, filled, varnished (2 coats), polished and TREATED to RESIST MOISTURE—that’s Cromar, the only FACTORY FINISHED oak flooring in the world.

Because Cromar, like furniture, is completely finished at the factory, all there is left for you to do is to nail it down!

That means that any two carpenters can lay an average-size room in a day. Think of it! No exaggeration about that either. And it makes no difference whether it’s a relaying job or a new building.

When you sell Cromar for relaying an old dining room floor in a residence, for instance, you can positively promise the owner that there’ll be none of the usual mess and turmoil in her house; that they can have breakfast in the room as usual and that the new floor will be all laid and ready for use by dinner-time in the evening.

That one Cromar advantage alone will get you many a relaying job where you wouldn’t have look-in with any hand-finished flooring. And you save a lot of time which you can use to take on other jobs!

THE CROMAR COMPANY
Williamsport, Pa.

CROMAR
OAK
FACTORY FINISHED
FLOORING

Write for free samples and complete literature concerning the manufacture, the selling and laying of the only FACTORY FINISHED hardwood flooring in the world.
The Widespread Demand for Outside Icing is Reflected in Plans for New Homes and Apartment Buildings

More and more, architects and builders are being called upon to include proper wall openings for servicing “Outside Icers,” the new type of refrigerators which are becoming increasingly popular with housewives.

Refrigerator manufacturers supply “Outside Icers” at only a slight advance over the price of regular models.

It is a very simple matter to provide for this added convenience when plans are in the blue print stage. A number of refrigerator manufacturers are glad to supply the necessary blue prints, which will insure correct construction and placement of wall opening and door. Your clients will appreciate your forethought in providing for Outside Icing. It is coming to be recognized as one of the essential features of a thoroughly modern house or apartment building.

The demand on the part of housewives for Outside Icing facilities is responsible for including this feature in a great many plans for remodeling old buildings.

NATIONAL ASSOCIATION OF ICE INDUSTRIES
163 West Washington Street, Chicago, Ill.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
"Rush
14 Carloads of Eternit Products to ‘Sportland’"

"Sportland," the new amusement project at Wildwood, famous New Jersey seashore resort, orders 100,000 sq. ft. of Eternit Asbestos Lumber, and 33,000 sq. ft. of Eternit “Big-Seven” Corrugated Roofing — to build 2600 dressing-rooms!

A SWIMMING pool at a seaside resort! There’s a venture for you! And in addition to the swimming facilities — handball, tennis, basketball courts, an outdoor gymnasium, boxing ring and track. All gathered together in one huge enclosure.

To care for the tremendous crowds, 2600 dressing-rooms must be built. And to build the 2600 dressing-rooms, a total of 133,000 square feet — 14 carloads — of Eternit Asbestos Cement products have been ordered. For the walls and partitions of bath-houses and lavatories — Eternit Asbestos Lumber. For the roofs — Eternit “Big-Seven” Corrugated Roofing.

Never need painting
Economy dictated the choice of Eternit products. Not first purchase economy, but permanent economy! No paint will be needed. Salt air cannot harm Eternit products. Vermin cannot get through the walls, for unlike wood, Eternit products will not rot. All the cleaning and washing out will be done with a hose.

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LET US TELL YOU MORE ABOUT THESE ETERNIT ASBESTOS PRODUCTS. MAIL THE COUPON FOR FURTHER INFORMATION. ADDRESS ETERNIT, INC., PHILADELPHIA, BOSTON, HOUSTON, NEW ORLEANS, JACKSONVILLE, ST. LOUIS. FACTORY AT ST. LOUIS.

The bath-houses will be absolutely fire-proof, of course. No seashore fires here! Eternit Asbestos products can’t burn. The hard, tough surface is scientifically formed by even distribution of asbestos fiber through Portland cement.

ETERNIT
Asbestos Shingles too
In addition to the Lumber and the Corrugated, Eternit Asbestos Shingles are also famous at seaside resorts. They have gained a wide use—not only for roofing, but for siding on homes. Made of exactly the same materials as the other two products, Eternits are fire-proof, rot-proof, durable — and colorfast. The five colors — Emerald Green, Indian Red, Autumn Bronze, Quarry Blue, Colonial Gray, and a combination of five special colors, Heatherblends — by an exclusive Eternit process, will never fade or bloom. Three methods of application: American, Hexagonal and the exclusive Eternit Horizontal.

Let us tell you more about these Eternit Asbestos products. Mail the coupon for further information. Address Eternit, Inc., Philadelphia, Boston, Houston, New Orleans, Jacksonville, St. Louis. Factory at St. Louis.

Please send me full information on:
☐ Eternit Asbestos Shingles
☐ Eternit Asbestos Lumber
☐ Eternit “Big-Seven” Corrugated Roofing and Siding

Name ____________________________
Street ___________________________
City and State _________________
Dealer’s Name _______________________

FOR ADVERTISERS’ INDEX SEE NEXT TO LAST PAGE
Rust-Proofing is Good Business

Selling Experiences of Prominent Home Builders Show Buyers Willing to Pay for Copper, Brass and Bronze

By BERNARD L. JOHNSON,
Editor, American Builder

THE day that the home owner peers into his morning tub and sees a brown-red stain pollute the water is a bad day for the builder of that structure, for the offensive color means that this house has not been rust-proofed, and the unfortunate owner will complain long and loudly, according to L. Porter Moore, President of the Home Owners' Institute. The Institute is engaged in raising housing standards throughout the country by constructing model demonstration dwellings in carefully selected population centers.

Rust, says Mr. Moore, is a red-eyed monster that ravages the house in which the use of copper, brass and bronze has been omitted, and runs up a bill of $575,000,000.00 a year against American home owners, who are beginning to look to their builders for explanations.

And, as the builder's best future prospects are the friends, neighbors, and relatives of people for whom he has built houses in the past, the time has come when he must do his share to cut down on this tremendous loss, says the Institute president.

"The builder who uses rust-proof materials not only insures his houses against costly repairs that make enemies of buyers, but provides himself with sales arguments more sentimental than a description of the view from the dining-room windows.

"Talk to a woman prospect about the health of her babies and you have a sales argument that cannot be equaled. Tell her that the house she is inspecting has been equipped with brass pipe and that, therefore, the water her children drink will not be polluted with rust, and you have told her something that will interest her.

"Rust-proofing includes the use of copper gutters, downspouts, and flashings for the roof, brass pipe for the plumbing, brass or bronze hardware, brass-plated plumbing fittings, and bronze screens and electrical equipment, including the wiring system which is always of copper.

"In discussing the value of using rust-proof materials, let us consider first the roof, taking the house from the outside and progressing to the interior.

"The flashings, downspouts, and gutters are vital installations in the roofing scheme and are required to stand harder service than any other part of the roof. They are subject to greater corrosive influences and service strain at vital points, than the main expanse of the roof. The failure of the flashings, downspouts, and gutters to stand up under service conditions means the failure of the entire roof or the roof drainage system.

"There is no more frequent cause of roof failure than rusty flashings. Usually unnoticed, flashings of non-rust-proof material rust and wear away. The resulting leakage into the house interior causes costly damage. The non-corrosive properties of copper prevent copper flashings from rusting and save the home owner great trouble and expense."
This Interior of a Master Model Home Sponsored by the San Francisco Chronicle Indicates to What Great Lengths Local Furniture Stores and Their Interior Decoration Departments Will Go Toward Cooperating with Realtor-Builders to Stress Good Construction with Good Furnishings to Promote Profitable Sales.
Brass Door Hardware After Long Service; House Built in 1813.

Then the walls and floors of the unfortunate house have to be torn away and the pipe replaced. Moreover, it is

HOME OWNERS INSTITUTE, Inc. 1927-28

Construction Progress

June 15, 1928.

Copper Pipe from Ancient Egypt, Actually 5,700 Years Old and Still Serviceable for Clean Flow of Water.

not uncommon for this to occur when a structure is a scant three years old.

"The agencies of corrosion contained in water include oxygen, carbonic acid, and chlorine, all of which exert their influence on the life of the pipe and shorten it, especially in hot water lines. Brass pipe is not subject to this attack on a comparable basis with iron or steel.

"It is for this reason that brass pipe does not have to be as large as iron pipe to carry the same flow of water. The rough surface of the iron pipe retards by friction the flow of a stream of water. Brass pipe is smooth inside and it stays smooth; for this reason a small brass pipe will do the work of a big iron pipe.

"There is a hotel in Boston that was completed in 1856 and equipped throughout with brass pipe. The chief engineer of this hotel is responsible for the statement that the only plumbing repair made in 67 years in this building was the replacement of a short section of pipe that was broken because one of the employees did gymnastics on it.

"Pipe and pipe fittings constitute barely 10 per cent of the cost of the entire plumbing installation. Yet upon them depends the useful life of the entire plumbing system. "Rust is the cause of most leaks. It eats its way through the walls and ceilings of damaged walls and ceilings.

"And as the rust clogs the iron pipe, the flow of water is diminished little by little until it is cut off entirely.

Brass Door Hardware After Long Service; House Built in 1813.

Then the walls and floors of the unfortunate house have to be torn away and the pipe replaced. Moreover, it is
Brass Piping in the Basement Laundry of the Master's Model House Built at West Englewood Hills, N. J.

or bronze.

"Non-rust-proof hardware when used on the outside of a house or garage will rust and streak the paint with ugly stains.

"Entirely aside from the practical reasons for using copper, brass and bronze is the fact that these materials add touches of real beauty to the house in which they are used. Dull bronze doorknobs and hinges enrich a mahogany door. Gleaming brass wall plates, doorknobs and handles give an expensive look to any interior.

"The builder of the future cannot go very far without copper, brass and bronze. Without copper wiring, there could be no homes electric and the public could not use the great array of appliances and labor-saving devices, the vital parts of so many of which are made of copper. The best electric lighting fixtures also are made of brass, bronze or copper.

"One of the latest pieces of house equipment to be placed on the market is the brass plumbing fittings with a chromard finish that will not tarnish or corrode even when exposed to unusually severe conditions, such as salt air, salt water and most acids.

"The manufacturers of these fittings realize that home owners of the future are less likely to put up with corroded and tarnished equipment than the home owners of the past. The public is learning about rust proofed homes and the public is seeking such homes.

"All of the Home Owners' Institute model demonstration houses are rust proofed homes, electric, equipped throughout with copper, brass and bronze (using flashings, gutters, downspouts of Anaconda 16 oz. copper, Anaconda brass pipe for hot and cold water system, and Anaconda bronze screens, the American Brass Company; brass or bronze hardware, McKinney Manufacturing Co.; and brass plated plumbing fittings, the Standard Sanitary Co. Copper is also used by the Institute on its demonstration homes for dormer window decks, side roof decks, and entrance vestibule decks).

"The builders of the Institute houses have found that rust proofed homes sell more readily than homes that are not rust proofed. Buyers lend a ready ear to a discussion of rust proof features. The American people are tired of bathing in rust-red water and they are tired of holding their fingers in the leak until the plumber comes. Most of all, they are tired of paying out thousands of dollars for the builders' lack of foresight.

"Builders should heed this and help themselves to glory by erecting rust proof homes."
If It Saved You Money!

The public has learned the extra value in the permanence and beauty of steel casement windows. As a builder you are now constantly meeting a demand for steel casements and we feel that in your own work you would favor the use of the Truscon Casement if we could show you that it saved you money.

Truscon Casements Model No. 5 are a new and distinctive type of steel casement available in factory-built single and combination units. They are delivered to you complete, ready to fill the opening, and can be set up in place for the glazier with a minimum of field labor. There is no question of the economy these windows represent to the builder.

TRUSCON STEEL COMPANY, Youngstown, Ohio
Established 1903
Warehouses and Offices in all Principal Cities.
Now, for the first time, opportunity is given for the complete planning of the artistic treatment of the home and apartment. By the individual grace of their forms, the new “Standard” Plumbing Fixtures and Fittings make it possible to have a bathroom in fine accord with the architectural style of the home and decorative treatment of the other rooms.

The bathroom may now be included in the plans for building or remodeling with the assurance that it will be in perfect harmony with the scheme entire. This is a feature which will appeal to every prospective tenant and home-buyer—and one that will prove instrumental in closing the sale or lease.

The illustration presents one of the many charming designs by distinguished artists inspired by “Standard” exclusive developments in bathroom appointments. Here the proper fixtures are composed before an old-world background—twisted columns of the later Romanesque—groined vault ceiling—old, jewel-like Venetian star lantern.

The walls are in soft golden brown with splashes of color bringing into effective relief the beautiful “Royalton” Bath, the “Templeton” dressing table lavatory and other fixtures. Contrast the living warmth of this ensemble with the monotonous austerity of the bathroom of yesterday.
The beautiful, one-piece, Acid-Resisting enameled “Royalton” Bath is a great advance in bath design. In both the corner and recess patterns, the “Royalton” will be instantly chosen for its artistic lines and unusual spaciousness. Its straight, paneled sides, its wide rim, its unusual breadth at the bottom, which is flat, all these features make the “Royalton” the most suitable fixture for bathrooms in distinguished homes and apartments.

The over-all width is 36⅞ inches—six inches wider than the average bath—a feature that will appeal to the majority of your customers. It is supplied in one length only—5⅜ feet. The flat rim is 4⅜ inches wide, except at fitting end, where it broadens to a width of 5⅛ inches.

Because of the unusual width of the “Royalton,” the through-the-rim fittings have a spread of 14 inches. Through-the-wall fittings, which can also be supplied, have a spread of 11 inches. These fittings are in the new and beautiful hexagonal Mastercraft design, hand wrought and with Chromard finish.

Today, when so many homes are bought or rented largely because of the beauty of the bathroom, the alert, broad-visioned builders and contractors are installing new styled “Standard” Plumbing Fixtures.

The new book “Standard” Plumbing Fixtures for the Home describes these new and distinctive fixtures and illustrates many original bathroom designs. Write for your copy.

PITTSBURGH
PROGRESS

A Miracle of Strength and Beauty

PAINE LUMBER COMPANY, Ltd.

OSHKOSH, WISCONSIN.
LOCKING and unlocking some garage doors has become as complicated as operating the doors of a Safe Deposit Vault in a National Bank... locks, bolts, padlocks, chains, catches, tracks, tripping devices and whatnot. McKinney Quicklock is as welcome as flowers in Spring to a garage-weary public—and the hardware trade, too.

Here is a latching bolt for garage doors that swing out which operates complete with a simple twist of the wrist. Cylinder Lock and Bolts operate on a single turn of the key. It is quick to open, quick to close and can be completely attached in a matter of minutes.

Locks automatically and securely—When the key is removed the Quicklock is in locking position—thus when the doors are closed again the garage is automatically locked.

Quicklock is placed on the active door which closes against two steel plates fastened to the inactive door and which act as an astragal or stop. Quicklock is operated by a five-pin-tumbler cylinder with a paracentric key. The lock can be furnished without the cylinder and is arranged so that any standard cylinder can be used.

With Quicklock the doors can be unlocked from the inside without the use of a key—merely lift the inside handle. The top and bottom gripper pawls are protected so that the lock cannot be released by any instrument from the outside.

No springs. Nothing to get out of order—The construction is strong and rugged. There is no weak spot.

No service door necessary—The opening and closing of the main door is as easy as the operation of a service door. For this reason the expense of a service door can be saved.

Send for literature on the Quicklock. It is the solution to the complete locking of a garage—all in one compact unit. Write

MCKINNEY MFG. COMPANY
Pittsburgh, Pa.

OFFICES IN PRINCIPAL CITIES

Makers of McKinney Hinges and Forged Iron Hardware

Don't miss this!
Have you seen the McKinney "Non-Mortise" Butt-Hinges which hang a door in ten minutes? Builders everywhere are flocking to it. Better send for the Data Sheet today. Same address.
Quality refrigeration can turn prospects into buyers
—this "years ahead" refrigerator has an unusual sales appeal

One of the strongest selling points you can give a house is the lasting comfort and economy of a General Electric Refrigerator. It is the one refrigerator that is radically different from all others in its construction, its operation . . . and its results. It is indeed "years ahead" in design.

Architects are specifying them

The better architects and the most progressive builders, after carefully considering all electric refrigerators, have chosen the General Electric. The prestige of the General Electric Company is one important factor in their choice. They know that any product which is the result of fifteen years of research in the General Electric laboratories must be most efficient in operation.

Send for Architects Handbook AB 7

To get an idea of the wide range of models—the various sizes and finishes—just send for Architects Handbook AB 7. It gives complete specifications of these refrigerators which are developed, made and guaranteed by General Electric.
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
IMPROVED ASBESTOCEL
There is an intrinsic value to a home finished with Tiger Lime that is unobtainable with just ordinary plaster. Because Tiger is universally accepted as a superior material, its use adds to the real value of a home without increasing its actual cost.

The illustrated Seattle Master Model Home, sponsored by the Seattle Times and built by the Long Building Company, was Tiger Finished. So will be all of the other 360 Model Homes constructed throughout the United States this year by the Home Owners Institute.

The Kelley Island Lime & Transport Company
"World's Largest Producers of Lime"
Cleveland, Ohio

And—Tiger Mason's Tiger Agricultural, Tiger Chemical, Tiger All-Purpose Hydrate in 10-pound Packages, and High Calcium and Magnesium Lime Limes. Also Quickshale (ground Quicklime) in paper-lined jute sacks.
Official Survey Proves Economy of Common Brick

Analysis of 14 comparable types of wall construction shows surprising results!

Once and for all the economy of the common brick wall has been definitely settled. Not by brick makers. But by The Architects’ Small House Service Bureau which sponsored the investigation.

In July, 1927, a committee representing the Lumber, Cement, and Brick interests in Denver selected a standard bungalow on which to submit competitive figures. Only exterior wall costs were studied, since the interior would be the same.

On the same specifications, a standard frame wall with lap siding, painted, cost $1,112. A solid brick wall of face brick backed with common brick cost $1,224. A solid wall of common brick alone would have cost only $1,094, cheaper than any of the 14 types considered!

This is the first recorded instance where three material interests agreed to such a survey. The absolute economy of Common Brick can no longer be questioned.

For full details of common brick structure and its economy write today for “The Advantages of Common Brick.” It is sent free.

COMMON BRICK MANUFACTURERS ASSOCIATION of AMERICA

Jul-2131 GUARANTEE TITLE BLDG., CLEVELAND, OHIO

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

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Hartford . . . . 226 Pearl Street
New York City, 1716 Grand Cen. Term.
New Orleans, La. 727 Canal Bank Building
Norfolk . . . . . 112 West Plume Street
Philadelphia . . 1420 Walnut Street
Pittsburgh . . . . 524 4th Ave.
Raleigh, N. C. 508 Commercial National Bank Bldg.
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Check coupon below—send cash or stamps to nearest office—

- Homes of Lasting Charm—25c
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Check above books wanted or send $1.00 for all of these books.
GARBAGE cans have no place in the modern home! So decided Mr. Adolph Dehner, Hollyhill, St. Louis, and his architect, Charles Thurston, in drawing the Kernerator into the plans of the attractive home illustrated above.

This decision, fast becoming definite and final with architects, builders and owners of modern homes, in all parts of the country, was also the decision of the Home Owners' Institute, building a series of 360 Model Homes in 30 principal cities throughout the country, in a nation-wide campaign for better homes.

These modern, model homes will be featured in leading local newspapers, visited by thousands upon thousands of people, will be read about and talked about. These thousands will discover for themselves what upwards of 3,000 architects and builders already know: that KERNERATOR is the time-tried, highly satisfactory and modern method of garbage and waste disposal.

Costs Nothing to Operate

The Kernerator is built into the base of the regular chimney, with a separate flue, having hopper doors located in or near the kitchen. All waste—not only garbage, but tin cans, bottles, papers, all discarded trash—is dropped through the handy hopper door and falls to the brick combustion chamber in the basement. An occasional lighting (a match does it) burns everything but metallic objects and such non-combustibles, which are flame-sterilized for removal with the ashes. No gas or commercial fuel of any kind is used—the waste itself is fuel for its own destruction.

The beautiful homes you build also deserve something better than the out-of-date garbage cans—a tiresome, unsanitary method of garbage disposal that should have disappeared with the outdoor pump. The convenience and satisfaction assured by the Kernerator will do much in creating good-will among your clients.

Write for complete information and prices or phone your local Kernerator representative. Offices in 80 cities. Data carried in Sweet's 22nd Edition.

KERNER INCINERATOR COMPANY
753 E. Water St. Milwaukee, Wis.

KERNERATOR
THE CHIMNEY-FED INCINERATOR
Garbage and Waste Disposal without Leaving the Kitchen.
They know you have built a Home for them when you use this material

When you offer home buyers more than they expect to find, they decide quickly—in your favor. Keramic tiles—real tiles—give to houses an extra homelike touch which wins buyers instantly.

Home buyers know that real tiles outwear all substitutes, that they never fade, that they clean easily. And they give to rooms the brightness and cheerfulness that captures a prospect’s fancy, makes selling easier and brings you price.

You can put tiles to work for you in many places . . . not only in the bathroom, but also in the kitchen, the breakfast room, the dining room, the sun porch, the stairs. There are countless opportunities to build the best of sales arguments into your houses with keramic tiles.

The cost of tiles more than comes back to you in the higher prices you get for your houses. In the end, tile costs you less than substitutes. Consult your local tiling contractor.

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

For Construction of THE DETROIT FREE PRESS PRIZE WINNING HOMES as Rust-Proofed Electric Houses

Managing Director of The Detroit Free Press, W. B. Lowe says: "To encourage good home building in any community is to add immeasurably to the wealth, the buying potentialities and the general well being of the citizens. The Detroit Free Press takes some pardonable measure of pride in fostering such a movement in Detroit through its Architectural Competition and in its association with the Home Owners Institute in the erection of good homes in the Detroit area."

The four Detroit Free Press prize-winning architectural designs as shown on this page are now being constructed by Detroit builders as Master Model Homes. Home Owners Institute specifications as used call for only those products with nationally known trademarks and established reputation, including:

** * * *

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

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

Common Brick
COMMON BRICK MANUFACTURERS ASSOCIATION OF AMERICA

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

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

Kernerator Chimney-Fed Incinerator
KERNER INCINERATOR COMPANY

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
Henry K. Holsman, F.A.I.A., prominent Chicago architect, Past President, Illinois Chapter, American Institute of Architects, says: "When a home is built with the use of non-corrodible metals — copper, brass, and bronze — it has been rust-proofed. The architect knows that the unsightliness of rusted metal not only spoils the appearance of a building, but also decreases the chance of an advantageous sale and lowers the loan value. The good architects, like those cooperating with Home Owners Institute, specify rust-proofing materials and equipment. They cost surprisingly little and better built homes always result. For seven years I have watched the work and the growth of Home Owners Institute. Its demonstration model homes have been an important factor in the development of the national campaign for better homes."

Every Master Model Home is a rust-proofed home electric. Insisting, as do Home Owners Institute's supervising architects, that all Realtor-Builders constructing Master Model Homes use copper, brass and bronze throughout, the expense of replacement in a few years of gutters, rain-pipes, screens, water pipes, hardware and the like is saved for all time. No water leaks to rot wood or repainting to cover rust streaks. It costs the builders a bit more for construction, but in consequence they are building and selling better homes.

Accompanying illustrations show how some of these rust-proofing economies are effected in Master Model Homes.

(1) Anaconda brass pipe which cannot rust is used for all hot and cold water lines, together with brass plumbing fittings plated with Chromard as specified. They cost surprisingly little and better built homes always result.

(2) All wires for the General Electric wiring system in Master Model Homes are of copper — from our Detroit Free Press model home, showing electrical conveniences in its breakfast nook.

(3) Doors throughout Master Model Homes are equipped with McKinney brass butts and hinges which are permanently rust-proof — shown in Buffalo Courier-Express model home.
THE combination apartment and business property illustrated here shows how Lupton Steel Casements serve the investment builder.

Lupton Steel Casements improve the architectural style of the entire structure, thereby adding to its resale value. In addition, they make the apartments above the stores more attractive to tenants because these steel casement windows are easy to operate at all times, afford excellent lighting and ventilation, and strike a distinctly decorative note in every room.

Learn at what low cost you can improve your properties with modern Lupton Windows. Write for Catalogue C-217 which gives full details.

DAVID LUPTON'S SONS CO.
2105 E. Allegheny Ave., Philadelphia
Belle Porte—A beautiful door, beautifully made

The Belle Porte Laminex Door, in either Philippine Hardwood or Douglas Fir, offers dignity, richness and simplicity appropriate for a luxurious home, yet priced within the means of a man who is building a modest dwelling.

Note the substantial construction of the Belle Porte door—this cross-section view shows how accurately the panel, sub-frame and stiles fit together. Belle Porte panels, stiles and cross-rails are of Laminex scientific, built-up construction.

BELLE Porte, or any other Laminex door in either Philippine Hardwood or Douglas Fir, will retain its beauty and justify its careful workmanship, because of its immunity to damage by moisture.

Laminex stiles and cross-rails are built up on laminated core blocks, welded to rigid edge braces. Flawless layers of wood are cemented securely to these core blocks with our secret waterproof cement. Laminex panels are built of three-ply, permanently united by the same powerful adhesive. This Laminex waterproof cement—one of our most valuable trade secrets—is responsible for the fact that a Laminex door can be soaked in water for days at a time without buckling, splitting or coming apart.

You can buy popular styles of Laminex doors at reasonable prices from the ample stocks of progressive lumber and millwork dealers. If you are unable to get Laminex doors from your local dealer, write us and we will give you the name of a dealer who will supply you. Look for the yellow replacement guarantee label and the word “LAMINEX” on the bottom of these doors. Mail the coupon for our new book that explains the scientific construction of Laminex doors, and for the booklet about Laminex Philippine Hardwood doors.

LAMINEX DOORS
WILL NOT SHRINK, SWELL OR WARP

The Wheeler, Osgood Company
Tacoma, Washington
Gentlemen:
Please send me your new Laminex door book and your booklet about Laminex Philippine Hardwood doors.

Name
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City...State...
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NOW! — Laminex Philippine Hardwood doors

(often called Philippine Mahogany)

Think of the added possibilities a Laminex Philippine Hardwood door offers to you. Beauty and richness, rivaling that of the finest mahogany, at a price that the average man can afford to pay. And, in addition, Laminex construction, that you know is trouble-proof—guaranteed—an advantage that no other custom-built door of any kind can offer.

LAMINEX Philippine Hardwood doors are now manufactured in all standard Laminex designs, in both the light red and dark red. The light red can be finished in brown or walnut, as well as in mahogany; the dark red, although it can also be finished in brown, is particularly adapted to be finished in a rich mahogany color.

You can obtain Laminex Philippine Hardwood doors with the quarter sawed panels, stiles and rails that show the beautiful narrow ribbon grain, so characteristic of mahogany. Or you can obtain them with the plain grain. Either figure of grain possesses that beauty which is so desired in fine homes, office buildings and apartments.

Laminex construction principles make doors trouble-proof; Laminex Philippine Hardwood doors are among the most beautiful doors on the market. Surely, such a moderate-priced combination of integrity and beauty in doors will make Laminex Philippine Hardwood doors extremely popular. It pays to install beautiful trouble-proof Laminex doors. Mail the coupon on the other side for full information.
Another Big Trane Achievement—

UNDER-WINDOW CONCEALED HEATER

The new under-window unit fits into this standard wall space. No work required of other trades — carpenters, lathers, plasterers, sheet metal men, etc.

The famous Trane copper-fin heating element is now part of a standard three-piece unit, ready to install under windows.

Heating element installed on lugs in wall box. Always level. No legs to adjust. Underslung fittings make piping connections easy and save space.

Another Big Step Forward in Room Heating

Here's what you asked for! A Trane Concealed Heater especially designed for installation under windows. A complete outfit to slip in the wall without fuss, bother, or extras to buy. A concealed heater with the entire front panel removable, so you will have no plastering problems and so you can easily and quickly inspect the heater, trap, or valves if you wish. An outfit with underslung piping connections, which will save you at least a foot in length for a given heater. A heater with universal fittings that are suitable for use on all types of heating systems.

This new Trane Under Window Concealed Heater is what you want. Convected heat. Instantaneous control. A lower installed cost than we could ever promise before. Simple, quick, handy, convenient, the last word in modern concealed heating.

Thousands of installations of the original Concealed Heaters in the past two years furnish the background for this perfected unit.

THE TRANE CO., 276 Cameron Ave., La Crosse, Wis.

HEAT CONCEALED CABINETS TRANE CONCEALED HEATERS

*PUMPS AND HEATING SPECIALTIES*

This is the first of three important announcements to be made by Trane during 1928. The next will appear in an early issue of this publication.

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THAT'S THE WAY TO SAW!

BECAUSE it's easy. It saves muscle. Electricity does all the work.

BECAUSE it's fast. It saves time. SKILSAW rips or cross-cuts ten times faster than a hand saw.

BECAUSE it's economical. It saves money. In saving labor and time it pays for itself on one job. And, it cuts with absolute accuracy the first time.

This 10 lb., 1/2 H. P. Skilsaw, the original electric hand saw, zips thru 2-inch dressed lumber in a matter of seconds.

The price is $60.00

We want you to try Skilsaw on your own work, WITHOUT COST. Send coupon.

Skilsaw is made in four sizes. There is one to do all your sawing. It will do it anywhere, because you can carry it about as easy as any tool you've got.

SKILSAW, Inc.
3822 Ravenswood Ave.
CHICAGO

Without obligation I will gladly watch a five minute demonstration.

Name__________________________

Address________________________

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The easiest, quickest way to hang windows

ACCO No. 8 Sash Chain comes packed in bags—100 feet to a bag, enough for seven average windows, with necessary attachments to fasten to weights and window frames. No knot tying—no waste.

ACCO No. 8 Sash Chain operates perfectly with any cord pulley

It is made of copper-bearing steel, which is a rust resistant—and to further protect against corrosion, it is coppered or galvanized.

Fill out the coupon below and we will send you a sample length of ACCO No. 8 Sash Chain for testing. If your lumber yard or hardware specialty dealer cannot supply you with ACCO Sash Chain, give us his name and we will see that you have a convenient source of supply.

ACCO No. 8 Sash Chain

AMERICAN CHAIN COMPANY, Inc., Dept. A-7, Bridgeport, Connecticut

Gentlemen: Please send me a sample length of ACCO No. 8 Sash Chain for testing.

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

I would buy ACCO Sash Chain through...........................................(Name of dealer)

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Residence of Archie B. Carson, Winnetka, Illinois. Designed by Fred R. Haviland; builder, Joseph Wolf. Insulated with Masonite, the thermostatic wood for structural insulation.

$4,000 profit offered before moving into this new Masonite home!

This happened just a few weeks ago in Winnetka, Illinois, one of Chicago's most beautiful North Shore suburbs.

Fred R. Haviland, designer of the home, wanted to make it an outstanding example of year 'round comfort. And that is why, after testing all leading insulating materials, he specified Masonite, the thermostatic wood.

As a direct result, the owner received an offer of $4,000 more for his home than it cost him—and before he had even moved in. While the offer was refused, it goes to prove, once again, that insulating a home with Masonite materially increases the resale value.

Write today for the full story of Masonite and how it helps builders and contractors make more money.

MASONITE CORPORATION
Dept. 178, 111 W. Washington St., Chicago, Ill.
Mills: Laurel, Mississippi
The illustrations above show how completely the Vento line covers the market for steel side wall windows. There is a Vento Puttyless Steel Window for every garage, factory, warehouse, oil station or other industrial building. And each incorporates the Vento features of superiority—features which enlarge the market and increase the dealer's profits.

For example—the Vento feature of opening in at top means that the window will shed rain even when open, gives free, indirect ventilation—no drafts, and allows the window to be fitted with outside Vento Screen—a real need on all manufacturing plants where insects and flies are a menace—Creameries, Bakeries, Candy Factories, etc. And there is a screen profit—a revelation in steel sash construction.

And the Vento Patented Puttyless Clips hold standard size glass against a weatherproof cushion of cork. No putty to bother with at any time— anyone can set a new pane of glass in a few moments' time and insure a neat, permanent job. Vento Windows are also stronger—every muntin and frame joint is electrically welded. Plumb and true—screen frames are steel electrically welded into solid frame.

You're sure to get more profitable sales with the Vento line. Many dealers who were "soured" on steel windows are now regular Vento Sash carload buyers. Write for our proposition and ask for descriptive literature.

Sample Model with Screen Gladly Furnished to Our Dealers for Salesmen—also Advertising Literature.

VENTO STEEL SASH COMPANY
MUSKEGON, MICHIGAN

When writing advertisers please mention the American Builder
Lift your houses out of cheap competition

No repair bills for decayed woodwork will confront Mr. Carroll Milam of Jacksonville, Florida, who used Tidewater Red Cypress in this charming house. Jefferson D. Powell was the architect and Neal D. Evans, the builder.

Use cypress for the exterior—and then use it as a powerful sales argument

When you build with Tidewater Red Cypress, you have a real sales argument to offer prospective home-buyers. You can tell them that the wood you have used should still be young in 2028. You can tell them that they should never have to spend a dollar on repair bills.

Home-buyers are being convinced more and more each year that Tidewater Red Cypress is in the long run the most economical lumber they can use. They are learning its economy from their own experience and from the magazine advertising of the Southern Cypress Manufacturers' Association.

Home-buyers are learning that Tidewater Red Cypress is the wood for weather. They are learning to demand this Wood Eternal for siding, shingles, cornices, porches, windows, doors, screens, steps, and at all other vital points where wind and rain might do their damage. They are being told, also, that great durability is found only in the coastal type of cypress—in "heart grade Tidewater Red Cypress". They are being told to accept no substitute.

Drop a note in today's mail, asking for "Money Saved for Builders", the booklet which tells how Tidewater Red Cypress is grown and milled...how it has endured for centuries in buildings that still stand...how it makes a house more saleable and boosts its resale value. It's yours for a postcard. Southern Cypress Manufacturers' Association, Dept. AB-7, Jacksonville, Florida.

Specify TIDEWATER RED CYPRESS

The Wood Eternal

For advertisers' index see next to last page.
An Additional Asset in Any Building
—these better washable window shades need not be replaced for years


A TONTINE-equipped building enjoys a definite advantage. Here is an added feature any buyer or renter appreciates at once.

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Du Pont Tontine, the washable window shade, can be kept clean as the windows; and through years of service without replacement it more than saves its original cost.

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TONTINE
THE WASHABLE WINDOW SHADE

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Extruded Bronze offers the most outstanding treatments of exterior decoration. It is priced on a basis that allows for free use.

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- International Store Front Company
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Sheetrock comes in standard sizes 3/8-inch thick, 32 or 48 inches wide, 6 to 10 feet long

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THE LIBBEY-OWENS SHEET GLASS COMPANY    TOLEDO, OHIO

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*Fairbanks-Morse Products “Every Line a Leader”*

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1. Completely enclosed. All parts fully protected.
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11. Fresh water connection with every pump at no extra charge.
12. Can be used with large storage tank when desired.
13. Genuine F-M unit throughout. Fully guaranteed—the biggest home water system value ever offered.

Also a 420 gallon per hour system with features listed above at $130. Both sizes for use where source of water is not more than 22 feet below the unit.
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5-7-10-S WONDER Mixer With Power Loader

This illustration shows the Wonder Mixer with power loader made in the 5-7 and 10-8 sizes, with—fast, thorough mixing action—simple pouring discharge—drum with guaranteed bearing—one man lever control—chain drive to overhead shaft—dependable LeRoi power plant—Wonder-quick water tank—Alemite lubrication.

Learn How This Skip Bumper Works

When writing advertisers please mention the American Builder
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—can you think of anything more appealing or convincing than good insulation talk—the kind you can use when the houses you build to sell are insulated with INSULITE?

It is decidedly the trend of modern home building—good insulation. House buyers demand it. And the strength, comfort and year-round service which INSULITE affords, whether used as Sheathing, Plaster Base, Wall Board, as attic lining, roof insulation, or in any other way, give ready assurance to the buyer that such a house will save money in fuel consumption and be a constant source of satisfaction in hottest weather or when the days are cold.

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Take advantage of this situation. Every merchant in your community is open to your solicitation.

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THE Kawneer COMPANY
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FEW KITCHEN CABINETS have all hardwood construction.
Fewer have such things as gained-in shelves and corner joints—
the hallmarks of master craftsmanship. Napanee Dutch Kitchens
have both—plus every other quality which makes certain long life
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COPPES BROS. & ZOOK, Napanee, Ind.

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The first real improvement in sash pulleys in 30 years

The Dillon Sash Pulley (made by Stanley) is jam-proof, dust-proof, and weather-proof. It is totally enclosed in a cold-rolled steel casing. The cord runs true on the wheel and can be "threaded" over the pulley without the aid of a "mouse."

Here is a pulley that fills a real need in building construction. It is the only fully enclosed pulley which will complete weather stripping and make it absolutely draft-proof. It eliminates wornout sash cords. It will not break. It is attractive in appearance and makes a finished piece of hardware in itself, or if desired, it can be painted over with no possibility of gumming up the wheel.

We want to send one of these pulleys to every builder for examination and tests. Write us for a sample.

THE STANLEY WORKS, NEW BRITAIN, CONN.

STANLEY HARDWARE
MADE OF STANLEY STEEL

The Stanley Works, New Britain, Conn.
Please send me a free sample of the Dillon Sash Pulley. Send also a copy of your hardware catalog, No. 41M.

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My hardware dealer is

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JUST off the press! Everyone interested in solving bathroom cabinet problems should immediately obtain a free copy of this helpful 24-page catalog. Beautifully printed in three colors, eleven models fully described and illustrated, including installation details. Actually a work of art yet practical from every standpoint. Easy to read and worth reading from cover to cover. Morton Steel Bathroom Cabinets are designed to conform with every bathroom cabinet requirement, practically and artistically. The line includes such exceptional models as the “Venetian,” “Vanite Venetian” and “Georgian,” with etched, all-mirror doors which conceal the cabinet. Built to remain attractive and serviceable indefinitely without upkeep. Installed with minimum labor—“Out of the carton into the wall.”

Morton Exclusive Features of Construction include rounded sanitary corners, special friction catch, sturdy hinges, crystal glass knob. Made of steel throughout, beautifully white enameled.

Send the Coupon for a New MORTON Catalog.

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Without obligation, please send me a catalog of the MORTON Line of Steel Bathroom Cabinets.

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When you're running against the clock to get the job done on time—then's when you'll be glad you bought cement and plaster in Bates Bags.

Protected by the 5 strong separate walls of Bates Bags, your material can be delivered any time, in any weather, and you know it's safe from moisture and rough handling. Bates Bags are handy to work with; they open quickly, empty out clean, and do not have to be returned.

Follow the lead of other successful contractors—buy cement and plaster in Bates Multi-Wall Paper Bags and avoid loss.

BATES VALVE BAG CORPORATION
35 East Wacker Drive Chicago, Ill.

—no loss
Kelvinator Electric Refrigerators 8, 10 and 12 years old are still rendering service at low cost

The idea of durability and trustworthiness is an all-important one in planning for electric refrigeration.

And where can you match Kelvinator's long record of economical service? The oldest domestic electric refrigerator in the world . . . the old Number One Kelvinator . . . is still running quietly and steadily along after twelve years of service!

You are carrying out your tradition of excellence in installing Kelvinator Electric Refrigerators . . . and you are insuring quick sale and quick rental as well. Write for our builders' book.

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THE Philip Carey Company recognizes no “short cuts” to quality.

For The Philip Carey Company knows, as you know, that your customers are willing to pay for honest value. People today are seldom intrigued by promises of “something for nothing.”

We never have manufactured “auction” products. And we never will. The best of materials, the best of equipment, the best of workmanship and the best of brains—your guarantee of Carey dependability.

True, we could cut prices, if you wanted us to, but only by cutting quality. The Carey Cork-Insulated Shingle, for example... We might cheapen the grade of the weather-insulating layer of cellular cork. We might use cheaper slate for the outer facing of weather-proofing slate. We might, perhaps, use only an ordinary grade of asphalt. Maybe we’d make a little more money that way... for the present!

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Home-owners and home-builders buy Carey Cork-Insulated Shingles as they do other Carey products, with confidence in you and confidence in us. Confidence which must not be abused—good-will, which honest quality alone can maintain.
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Send plan or pencil sketch of your building and our trained Engineers will design a Hot Water, Steam, Vapor, Warm Air or Plumbing Outfit to exactly meet your requirements. This service is FREE.

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With our simplified and correct installing plans and instructions, any handy man can do the work himself with the aid of our free service and planning department.

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We carry absolutely everything in Highest Grade New Easy Method Plumbing and Heating—BATHROOM OUTFITS, SINKS, LAUNDRY TUBS, WATER SOFTENERS, WATER HEATERS, SEPTIC TANKS, WATER SUPPLY SYSTEMS, PIPE, FITTINGS, VALVES, ETC. HOT WATER, STEAM, VAPOR, AND WARM AIR HEATING PLANTS with special builders wholesale prices on everything. WRITE FOR BUILDERS FREE CATALOG TODAY!

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Remember what drawing cards steam heat, electric lights, and hot and cold running water used to be. Would you like something as convincing to point to now? Here is their modern equal—SCHLAGE button LOCKS. What more logical attraction, what less expensive feature, than the most used equipment in the whole house, the door locks—these NEW door locks, as amazing and interesting in their way as telephones and electric lights once were. Locked without keys, unlocked from inside by merely turning the inner knob. Instant protection by merely pressing a handy button, instant exit without a single extra motion. No visible screws. No unsightly key holes. No interior keys to hunt. Instant action always.

Watch the look of eager interest on your prospect's face as you go through this convincing demonstration. Watch the house wife beam with enthusiasm when you point out these many step-saving, time-conserving features. Successful builders say SCHLAGE button LOCKS are a big attraction. Put them on your next job and see how much quicker it sells—how much more you get for it. No home completely modern without them. Over a million already in use. Over 2000 dealers in U.S.

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MAIL THIS COUPON NOW—
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for prices and complete information on
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TO LOCK: just press the button in the knob
TO UN-LOCK: just turn the knob
Every merchant builder knows that little refinements make selling easier. That's why so many of them now lay linoleum floors in their houses and apartments. A well-laid linoleum floor adds "prestige" value and, incidentally, saves you money in construction. If you insist on "Made by Sloane," it's much the better. That's just another way of saying quality linoleum with up-to-date patterns.

If you wish any information or assistance on linoleum floors write our Contractors Service Department, 577 Fifth Avenue, New York City. W. & J. Sloane Mfg. Co., Trenton, N. J.

W. & J. SLOANE LINOLEUM
Different as these two buildings appear, they have practically the same basic plan—a plan that would still be good were the building to be carried up a dozen stories on high-priced, big-city land.

With a Murphy In-a-Dor Bed installed in the living room, each of these four-room apartments has a big, airy guest room, furnished with a luxuriously comfortable, full-sized bed. Neither does this guest room have to be cared for nor does clubs. Their rooms have a two-room efficiency.

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.

There's a style of Murphy In-a-Dor Bed and a finish that will fit into any furnishing scheme of good taste. All styles and all finishes of this durable, comfortable, easily installed bed are shown in full color in our book—"More Home in Less Space." Send for it. You'll use it every time you talk to a home building prospect.
Not "lumber", not even "pine"—

but Pondosa Pine

Lumber, one of the most essential of all building materials, has always been the forlorn orphan of industry. A material on whose wise selection so much depends has gone to market, and into construction, uncertified and without identity.

This has been a disadvantage to the lumber industry and the consumer as well. The lumber manufacturer has produced his lumber with utmost care and sent it to the market carefully milled, rigidly graded, and thoroughly seasoned. The lumber dealer has exercised caution in choosing mills from which to buy his stock. The architect has specified the best woods available for each given job. The builder has bought with both eyes open. But there has been no way to establish the identity of all this quality so carefully developed.

That condition, however, has been changed. A machine recently perfected and installed in Pondosa mills will now stamp the pine tree trade-mark on the end grain of Pondosa Pine. The builder, home owner or architect can now order Pondosa Pine with the same certainty that he orders hardware, electric fixtures, plumbing or heating appliances carrying the certification of the maker's name.

Pondosa Pine is no longer an orphan. The trade-mark carries with it the assurance that the Western Pine Manufacturers Association stands back of every piece of Pondosa Pine, certifying to its excellence for any soft wood requirement. Buy by the mark. Western Pine Manufacturers Association of Portland, Oregon.

Pondosa Pine
The Pick o' the Pines
Now, grade marked Douglas Fir doors

The letters WDMA on Douglas Fir doors, made by member mills of this Association, will provide architects, dealers, builders and users with an always-available guarantee of quality. It means that the official inspectors of the Western Door Manufacturers' Association have inspected the manufacture and grading of the product bearing this trade mark, and that such doors conform to the standard grades established by the Association.

No step in the marketing of Douglas Fir doors offers more definite assistance to the builder than grade marking.

The group of manufacturers listed below recognize this and now grade the Douglas Fir doors they make and identify them by the trade mark “WDMA.”

“WDMA” grade marking means a definite grade for No. 1, 2 and 3 doors, guaranteed by rigid inspection. It stabilizes buying . . . eliminates unfair competition . . . and for the builder and contractor, particularly, fixes a definite standard.

Douglas Fir Doors

WESTERN DOOR MANUFACTURERS' ASSOCIATION - TACOMA, WASHINGTON

Clear Fir Lumber Co. - Tacoma, Wash. Central Door & Lumber Co. - Portland, Ore.
Albany Door Company - - Albany, Oregon

Large and selective stocks carried by distributors in all sections of the country

FOR ADVERTISERS’ INDEX SEE NEXT TO LAST PAGE
INTRODUCTION of the Holland Vaporaire Deluxe System offers the up-and-coming builder an exceptional chance to increase the desirability and sales value of his finer homes without extra investment. Advantages heretofore offered only by expensive heating-cooling installations used in modern theaters, schools and hospitals are now provided by a simple, compact Holland plant of reasonable cost and exceptionally low operating expense. It cools the home in summer, warms it uniformly in winter and maintains perfect circulation of clean, filtered air at all times. Forced distribution of measured warmth makes every room comfortable regardless of location or severity of weather. Proper humidity is maintained automatically and thermostatic control permits temperature to be held within two degrees of absolute uniformity throughout the entire house.

The Holland Super-Squirrelator gives quick heating response, eliminates forced firing and for cooling purposes is equal to an electric fan in every room. From 20% to 35% less fuel is required and any type or grade, including oil, may be used. Each installation is engineered under factory supervision to meet the individual requirements of the home it serves. Responsibility is undivided. You deal with only one organization. Absolute satisfaction is guaranteed by an ironclad written bond, transferable from builder to buyer and backed by our entire resources. Everywhere today demand is for the superior advantages of comfort, convenience and health that Holland alone guarantees. The Holland Vaporaire Deluxe is one of the greatest single sales inducements a builder can incorporate in a home. Get the facts without obligation. Mail the coupon.

For address of nearest branch look in your telephone book

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525 direct factory branches and service stations

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Reclaimed brick and Winthrop Shingles
MAKE AN UNCOMMON HOUSE

This is a picture of the home of Mr. H. W. Severance, at 10026 S. Wincheste Ave., in Beverly Hills, Illinois, an exclusive residential suburb of Chicago. We have reproduced it to show—as well as we can in black and white—the excellence that has been achieved with simple materials through co-operation between Mr. Severance, his contractor and his architect, Mr. Morris Hobbs, of Toledo, Ohio.

Reclaimed brick was laid up, in dark mortar, irregularly and partly skintled for the walls and the color contrast in the house comes from the use of our Greenfield Blend for the roof.

Greenfield Blend is a blend of two greens—sea and mist—and two blues—mist and silver. It is blended at the factory and comes ready to lay. It is, like all other twenty colors of Winthrops, natural slate—crushed and anchored into the everlasting asphalt that covers the extra heavy felt core.

The many Winthrop colors—solid or blended—enable one to select the proper color for any type house in any surroundings. The many ways in which you may lay Winthrops make it possible for you to lay a number of roofs in the same colors and yet have no two look alike.

Winthrops are the only tapered asphalt shingles with thick butts to lie close, to cast attractive shadow lines, to double the wearing thickness. Winthrops bear the Class C Label of Underwriters' Laboratories. They are unequalled over old roofs.

Samples Free

Winthrops are sold by most good lumber dealers but we believe you could make good use of a set of the Greenfield Blend. They should help you get new and re-roofing jobs. Will you use them? Send today for a set, free. Ask for a sample also of Argotex Building Felt, noted for its insulating qualities.

BECKMAN-DAWSON ROOFING COMPANY
1032 Brooks Building, 223 W. Jackson Boulevard, Chicago, Illinois
Factories at Chicago, Ill., Detroit, Mich. and Lockport, N. Y.
Sargent Hardware of solid time-defying brass or bronze is manufactured to a high standard of quality. It is made to last for years... for generations of users... for as long as the building in which it is placed shall stand. All moving parts are machined and exactly fitted to insure a minimum of wear and a certainty of quiet, smooth operation. The home owner is assured that, once bought, Sargent Hardware in his house can be forgotten. It is rarely that any piece calls for repair or replacement.

Sargent Hardware is the kind you would use in your own home... and in homes that require the best that can be bought. Its efficient, certain operation is equalled by beauty in design. For any style of home, hardware of correct appearance can be chosen from the long list of designs in the Sargent catalog. We are stressing this in our consumer national advertising by advertisements like that from which the illustrations on this page have been taken. Spanish... English... Colonial... French... and many other styles are standard in the Sargent line.

This hardware is fairly priced. And, so, it is the best hardware the operation builder can use. In three ways it more than makes up for its slight extra cost over cheap, plated goods. First is the aid it gives in selling. There is a real talking point in Sargent Hardware. The builder can point to it as visible evidence of the excellence of his houses. The national advertising and the consistent, year-in-and-year-out worth of Sargent Hardware have given it a universal reputation that will influence prospects.

They feel that all details of the house are sound and true when they find the hardware so. Secondly, you will never have complaining home owners, or the expense of repairing or replacing hardware shortly after you have made a sale. And, thirdly, important to every builder, it will help you establish a reputation of inestimable value to you in your business.

There are Sargent representatives in all cities who will help you make selections and will furnish estimates. Write for our book of designs, “Hardware for Utility and Ornamentation.” Sargent & Company, Hardware Manufacturers, 51 Water Street, New Haven, Conn.
Today you may offer the home builder fire-safe walls and ceilings at no greater cost than for inflammable construction! Arch Lath—the fire-safe plaster base—makes this possible.

Arch Lath is a plaster saver! Due to a distinctive arch design, only the correct amount of plaster is permitted to squeeze through the openings for perfect “key”. There is no piling up of plaster between walls, the hidden waste that runs up the plastering bill.

Arch Lath is a time saver! Immediately after application, the first coat of plaster may be scratched and made ready for the second coat. There is no delay, waiting for plaster to dry. There is no need to remove and re-erect scaffolding. The sheet of Arch Lath is so rigid that it takes the force of the trowel without “giving” at any point thereby assisting rapid, efficient workmanship.

Arch Lath is a labor saver! Because it is nearly a solid sheet of steel, Arch Lath is very rigid and therefore easy to handle and erect. One man can place the sheets and nail them up. Nail hole starters facilitate application. Arch Lath—the ideal plaster base! A firm scratch coat is possible on Arch Lath because the arches “grip” the plaster at many angles. This security is best demonstrated by the fact that one sheet of Arch Lath (27’x96’) grips the plaster at 80,640 points. It is because of this perfect anchoring that the new plaster texture effects are properly executed on Arch Lath at low cost.

Let us send you additional information and a sample of Arch Lath for close-up inspection.

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

Have You Seen the New Spanish Metal Tile?
 Beautify your home with a roof suggestive of picturesque old Spain. Specify Wheeling Spanish Metal Tile. It is proof against lightning, rust and leaks. Lowers rates of insurance and is practical and permanent, artistic and beautiful. Write for full information.

Copyright 1928, Wheeling Corrugating Company
Building Materials Backed by a Generation of Experience

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Big Money For You

Knowledge Brings SUCCESS and PROSPERITY

RADFORD'S CYCLOPEDIA of Building Construction

SEE OUR BIG SPECIAL OFFER ON FOLLOWING PAGES
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THE MAN WHO STOOD STILL. He is one of the tragic figures of life. Day after day he follows in the same groove. In good health and in bad he has to work. Growing older and older he sees ahead no relief from the ceaseless toil that he has known all through life. There is no opportunity for him to cease a single day the everlasting "humdrum" that he has known for so long. When he had the chance there was no Cyclopedia such as this, at so low a cost, and so easy to get. He allowed other men—the men who had studied and knew how—to pass him by. They left him standing on the threshold of success. But they left him behind. He heeded not the beckonings of opportunity. He is THE MAN WHO STOOD STILL.

SPECIAL FREE PREMIUMS IF YOU ORDER AT ONCE

If we receive your order at once, we will send with this Cyclopedia one year's subscription (12 numbers) to the American Builder, the world's greatest building paper. We will send free of all extra cost, one complete set of blue printed working plans and typewritten specifications of any of the houses illustrated in three Books of Plans, which we also send to you free of cost, so that you may make your selection. These plans and specifications are as complete as those charged $50.00 to $75.00 for by many architects. These plans will be very valuable to contractors, builders and draughtsmen. The only reason we can offer to do this is because we have the largest architectural establishment of its kind in the world, and are able to produce these complete blue printed working plans and specifications at the very lowest possible price, and to the purchasers of this big Cyclopedia we are willing to give the benefit. Without American Builder $1.00 less.

We make this liberal offer because we want you to have our Cyclopedia, and we believe by having it in your hands we will have a greater opportunity of disposing of others in your locality, and it is with the distinct understanding that if it is entirely satisfactory, you will write us a letter and make use in making other sales.

Our special price to you for advertising purposes is only $37.50, and our liberal terms are only One Dollar down and $1.00 per month until the amount is paid. We give you five days to look the books over and see if they are entirely satisfactory. If you conclude not to keep them, we will refund your money and pay the express charges both ways. Order today. Fit yourself at once to increase your earning power.

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NO-RISK GUARANTEE COUPON

RADFORD ARCHITECTURAL COMPANY,
1827 Prairie Ave., Chicago.

Please send me, express prepaid, your 12-volume Cyclopedia of Construction, for five days' free examination, with privilege of return at your expense. I enclose $1.00 deposit which you agree to return if I decide not to keep the books after examination. If I keep the books, I will pay $1.00 a month until the special price, $37.50, is paid, otherwise I will notify you within five days after receipt of books.

Your offer also includes Three Big Plan Books (over 300 designs) and one full year's subscription to the American Builder. You also agree to furnish set of Blue Prints and Specifications, if ordered within 2 months after acceptance of books.

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State................................................  

West of Rocky Mountains and Canada, $3.00 with this order. 
Full amount must accompany all Foreign orders. A.B. 7-28
Charging skips correctly shaped, and big enough to take materials without crowding and to shoot them into drum in one clean swift slide!

Mixing action that means uniform, easy-spouting concrete to the last shovelful of every batch!

High speed discharge with no time-wasting dribble at the end!

Dandies are high speed money-makers!

Compact, easily portable units that haul quickly from job to job, go down into excavations or up to the top stories, or wherever you want to take them, without a mess of trouble!

Built for High Speed, and built to stand it!

To know how the Dandie is built — to know its engineering and details, is to know it for the Remarkable Value!
"THEY ARE VERY GOOD LOOKING"

Tapered Ambler Asbestos Shingles

The Ideal, Fireproof, Weatherproof, Roofing were selected by the Lehigh Portland Cement Company for the roof of their Prize House. The enlarged insert of an actual close up photograph shows the definite charm and distinctive effect of this unique product, the "English Thatch" in random widths, irregular courses and rough texture that completely eliminated hard and fast lines and sets a new roofing standard giving a novel beauty to the modern home and an added degree of serviceability to a roof.

First of all, Tapered Ambler Asbestos Shingles have the taper of the old wooden shingles. They come in random widths 6 in. to 14 in., ⅛ in. thick at the top and ⅝ in. at butt and 20 inches long. They are strong, rigid shingles, not paper or rag felt, never curl or warp, not affected by the 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.

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

FIREPROOF

Tapered Ambler Asbestos Shingles are absolutely fireproof, not merely "fire-resistant." Ask your fire insurance agent what the difference is. He will tell you the difference 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.

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

ASBESTOS SHINGLE, SLATE & SHEATHING CO. AMBLER, PENNA.

or Branch Offices in large Cities

"ASBESTOS CANNOT BURN"

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
American Face Brick Association,
130 North Wells Street,
Chicago, Ill.

Gentlemen:

For $8,500.00 or less, we are building to order in Des Moines attractive and substantial Face Brick houses of six or seven rooms.

Ninety-five per cent of the houses we build are of Face Brick. The excellence of the houses we have sold during the last few years and our easy financing plan -- made practical by the way Face Brick dwellings hold their value -- keeps our crews busy building to order. Our 1928 program promises to reach forty houses.

Many prospective buyers refuse to look at any but Face Brick homes. The advantages of this type have been so well established through advertising and person-to-person recommendation that the Face Brick house is by far the easiest to sell.

Yours very truly,

J. C. Ferguson Realty Company, Inc.

T HE added salability of Face Brick houses has become so pronounced that many builders now find it good business to specialize in homes built of Face Brick. Four years ago J. C. Ferguson Realty Company, Inc., Des Moines, began building Face Brick houses to sell. Quick and profitable sales were the result. And today their crews are kept busy building only to order. Their experience, as told in their letter above, is typical of the thriving, substantial business which is the result of using Face Brick. Builders tell us that our literature and house plans are a real aid in building and selling. May we send you information concerning them? Send your letterhead or card to

THE AMERICAN FACE BRICK ASSOCIATION
2163 City State Bank Building, Chicago, Illinois

FACE BRICK

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Today's home-builder welcomes the advent of steel...long the basis of much industrial and commercial building construction...into the realm of residence building.

The All-Steel residence is no longer a mythical thing to be dreamed about and hoped for. It is here in reality.

In all parts of the country, there is a trend toward a broader and broader utilization of Sheet Steel in the construction of residences. Pressed and fabricated into the form of beams, studding and rafters, members which can be delivered to the scene of operation ready for erection, are being utilized for framing by builders, who claim that the greatly reduced labor expense and the saving of time practically offset the increased material cost.

As a reinforcement for floors, as a base for plastered walls and ceilings, as doors, sash and trim, as stairs, and as roofing, Sheet Steel very efficiently supplements the frame, in the construction of what may be justly termed the “all-steel” house.

Interested builders will be placed in touch with responsible manufacturers of various types of units for the fabrication of steel residences if they will write to the Sheet Steel Trade Extension Committee.

Terminal Tower Building, Cleveland, Ohio.

**SHEET STEEL**

for Strength Safety Beauty and Economy
"One Thousand and One"

Monarch

TRADE MARK

CONTRACTORS' PORTABLE TREADLE SAW

"One Thousand and One" - Well named for it has One Thousand and One Uses, and incorporates One Thousand and One Advantages.

Some of them are:

Portability—
as convenient to use on the job as in the shop.

Lightness—
weight with engine ONLY 420 lbs.

Strength—
built for hard steady service day in and day out.

Power—
more than enough for a 3" cut.

Adaptability—
tables—of finished steel—may be moved away from saw and locked in any position allowing free access to saw and the use of a dado of any width. Now regularly furnished with adjustable feet.

Low Price—
only $220.00 with 1 ½ H.P. Gasoline Engine
200.00 with 1 H.P. Electric Motor
120.00 without power

Number One Thousand and One has all the inherent qualities of fine workmanship that make the Monarch the choice of the more particular contractors and builders.

Send for full details and prices on the machines you are interested in. We specialize on a full line of latest type wood working machinery and contractors' equipment.

AMERICAN SAW MILL MACHINERY CO.
60 MAIN STREET
HACKETTSTOWN, N. J.
Another Useful Book

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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.
AMERICAN BUILDER (Covers the Entire Building Field)

Steelcrete Diamond Flat Rib Lath

At last! Diamond Lath with Flat Ribs!

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

This new product known as Steelcrete Diamond Flat Rib Lath is easy to plaster, easy to erect and requires less plaster per square yard than ordinary metal lath. The rib design sets up a resistance against the entire field of lath and prevents an excess of plaster from squeezing through the mesh. This rib also serves to give unusual strength to the entire sheet of lath and acts as a guide for the plasterer.

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

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

Consolidated Expanded Metal Companies, Wheeling, W. Va.

Steelcrete Building, Wheeling, West Va.

Sample Offer

You may obtain on request, samples of the Steelcrete Time Tested Building Products described in this advertisement and complete information on Arch Lath, Diamond Lath, Rib Lath, Wall Ties, Corrugate, Metal Base Ground, Curved Point Base Screw, 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 hangars.
One of two inexpensive cement swimming pools at Auburn, N.Y.

The Auburn pools are thirty feet square and thirty inches deep. They are safe for the tots to wade in and yet deep enough for the older ones to float and swim. The water is changed and the pools are cleaned out every day. The playground manager is on the spot to see that no accidents occur and to give instruction in swimming.

As shown in our picture, the pools are well patronized, and the City Engineer, Mr. J. J. Tehan, tells us, “The children are crazy about the water and it is doubtful now if the swimming pools could be dispensed with.”

The ALPHA CEMENT Handbook, 112 pages, illustrated, and special information on swimming pools, sent free on request.
A FEW months ago, Frank K. Coffeen and Frank F. Thompson were like hundreds of other contractors and builders—making a fair living but finding at the end of each year that the uncertainties and gambles of their business left them about where they started.

Then they heard of Duntile. Skeptical at first, they investigated carefully—decided that what others could do, they, too, could accomplish.

Started Under Big Handicaps

Getting capital together was not easy. But they made a start, followed the methods of Lind, Frauenfelder and other prominent Duntile manufacturers and soon saw that they were on the right track. They found that they could easily underbid on permanent masonry building jobs, due to the low cost of building with Duntile. Yet, thanks to the efficiency of their Duntile plant, they also made a good margin of profit on the manufacturing end.

Growth Beyond Expectations

Progress was more rapid than they had anticipated. The color possibilities of Mat Glazing gave them a broader market than they realized. Every building erected of Mat Glazed Duntile became a conspicuous salesmaker. One man told another about the savings he enjoyed, while the colorful beauty of the Duntile structures spoke for itself.

Today there is hardly a street in La Porte where Duntile is not represented in some sort of construction. Here a basement, there a garage, over here the back-up in an apartment or school, there a colorful mat-glazed home.

The adaptability of Duntile which is such an advantage to a contractor also worked to their manufacturing profit, for a steady flow, even of small orders totals into thousands of Duntile units.

The Proposition Proved Out and Means to Go Ahead

Now, Coffeen and Thompson are in a particularly good position. They have proved out for themselves in their own way that their business is sound. And they have the means to expand. They have already purchased a 2 1/2 acre tract between the Nickel Plate and New York Central tracks where they are prepared to erect a full-scale, industrial plant with added machinery and a production rate that will multiply the earnings that actual operation has proven possible.
THIS MODERN TREATMENT BRINGS UNUSUAL BEAUTY

This fountain and back-bar, done in modern style, is an interesting example of the many beautiful and unusual effects which can be obtained with Vitrolite—the vitreous slab material. This installation is in the Hotel Schroeder, Milwaukee, Wisconsin; Holabird and Root, Architects.

Only Vitrolite can be adapted to special decorative treatments, which harmonize with any interior design. Only Vitrolite assures everlasting beauty, sanitation and utility. None of the substitute materials can give you these advantages.

The Vitrolite Service Department in collaboration with the architect, designer or owner is constantly developing soda fountains, table tops and wainscotings in new designs, colors and textures to harmonize with any decorative plan or to match any interior. Write for information.

VITROLITE
THE VITROLITE COMPANY
120 South La Salle Street, Chicago

SALES REPRESENTATIVES
Atlanta Baltimore Boston Brooklyn Buffalo Cincinnati Cleveland
Dallas Denver Detroit Kansas City Los Angeles Miami Minneapolis
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A Product of this Age of Steel

When Union Metal Columns are installed on a building, all danger of failure in this item of construction is eliminated. For these stately columns, reproducing the designs of the classic orders, are fabricated from enduring copper-bearing steel, and galvanized inside and out to prevent rust and corrosion.

In ten, twenty, thirty years, these columns will continue to impart a touch of unmistakable quality to the building they adorn. The clean-cut lines preserve their sharpness despite the ravages of time and weather. And yet Union Metal Columns cost little more than less durable types.

You will be interested in learning the complete story of Union Metal Columns. It is told in our latest catalogue which will be mailed to you on request.

Union Metal Design
No. 212. One of ten classical designs made in diameters from 8" to 42" and heights 5' to 35'.
Each year since the Aero Radiator was first introduced, sales have mounted by leaps and bounds. Each year the service given by these installations, in all sorts of buildings, in all parts of the United States, Canada, and foreign countries, has convincingly proved the fine dependable performance of the complete Aero line. Aero's ever-growing popularity has led to many imitations. But none can show the record of proved performance on actual installations of every character, that stands as your best guarantee of Aero Radiator satisfaction.

**National Radiator Corporation**

Manufacturer of Radiators and Boilers

Ten plants devoted to National Service through these Branch Offices and Warehouses:

- Baltimore, Md.—1622 E his Branch Office and Warehouses:
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- Indianapolis, Ind.—453 W. Georgia Street
- Jacksonville, Fla.—201 Central Ave.
- Baltimore, Md.—210 Florida St., N. W.
- Denver, Colo.—1515 10th St.
- St. Louis, Mo.—1012 Central Industrial St.
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Each year's increasing sales prove **Aero's popularity**... Each year's service proves **Aero's dependable performance**

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The National Jacketed Boiler

The National Jacketed Boiler has a trim, durable, dust-defying empire green jacket, that houses a dependable, efficient boiler. It burns hard or soft coal, coke, oil or gas. It is furnished for either steam, vapor, or hot water systems.
Sure Thing

Boss: “There’s Jim carrying two ladders at a time, and you’re only taking one.”
Pat “Sure, he must be too lazy to go back twice!”

That’s Different

“Parson,” exclaimed Ephraim, “I’se got ’ligion, I tell you.”
“That’s fine, brother! Are you going to lay aside all sin?”
“Yes, suh.”
“You’re going to church?”
“Yes, suh-ree.”
“You’re going to care for the widows?”
“Sho’ am!”
“Are you going to pay your debts?”
“Suh? Dat ain’t ’ligion. Dat’s business.”

How Much?

No one enjoys the joke about the hardboiled purchasing agent more than the p. a. himself. It was told at the convention how a salesman rushed down the street excitedly and made for a police station. “I’ve just killed a purchasing agent,” he confessed to the sergeant. The sergeant switched his chew and replied: “You’ve come to the wrong place. You have to go to the sheriff’s office to collect the bounty.” —Southwestern Purchaser.

Send Us One, Too

Salesman — “This washing machine will pay for itself, sir.”
Prospect—“Well, as soon as it has done that, you can have it delivered to my house.”

So Are We

“What’s the matter, Sam?” sternly inquired the judge.
“What haven’t you been working lately?”
“No suh,” was the response. “Ah ain’t bin able to find mah dice.” —Country Gentleman.

Lost Opportunity

Isaac (adrift on raft): “Look, Moe! I see a sail!”
Moe: “Vat’s the use? We have no samples!”

That Unearned Increment

A farmer received a crate containing some fowls. He wrote to the sender, informing him that the crate was so badly made that it had come to pieces when he was taking the hens home with him and they had all escaped, and, after much searching, he had only succeeded in finding eleven of them. In due course he received the following reply:
“You were lucky to find eleven hens, because I only sent you six!”

The First Qualification

“So you figure my boy will be a big executive some day?”
“Yes, it always takes him so long to eat his lunch.” —Lafayette Lyre.

A Good Idea

“I ’ear the men ’ave gone on a strike.”
“What ’ave they struck for?”
“Shorter hours.”
“I always said as ’ow sixty minutes was too long for an hour.”

What For

Merchant— “Before I engage you, you will have to pass an intelligence test.”
Girl Candidate— “Intelligence test? Why, the advertisement said you wanted a stenographer.”

In Every Trade

Pompous physician (to man plastering defective wall):
“The trowel covers up a lot of mistakes—what?”
Workman: “Yus, gov’nor—and so do the spade.”

[Reprinted by permission of the Chicago Tribune.]
Decoration and Protection for Walls and Ceilings

There is no doubt that a decorated house is easier to sell than one with bare plaster walls.

Women do respond to the appeal of beauty and color, inherent in Sanitas, the original, cleanable cloth wall covering.

There are styles for every room in the house, finishes, patterns and colorings to meet any decorative requirement.

Then, the strong cloth on which Sanitas is made, prevents wall and ceiling cracks from breaking through this wall covering.

Sanitas really helps sell houses because it is nationally known as a standard material with a quarter of a Century reputation back of it.

Let us send you a complete Sanitas Sample Book containing 150 styles. Write on your letterhead and mention your wholesaler’s name.

THE STANDARD TEXTILE PRODUCTS CO.
320 BROADWAY DEPT. 51 NEW YORK

Send for this Sample Book
Building Trend Is Upward

At this particular time when general business tendencies are somewhat uncertain and indefinite, it is of value to note that the building industry has the appearance of progress, according to the monthly building survey by S. W. Strauss & Co. This survey states that reports from 562 leading cities and towns in every section of the 48 states revealed a gain in building permits issued in May amounting to 4 percent as compared with the same month last year. The figures were $374,889,045 and $361,234,801.

These reports comprise a restoration of the upward curve of building activities, a somewhat disquieting downward trend having existed since the end of March, it is stated. It will serve a useful purpose to recall, at this time, the year's building trend as revealed in terms of building permits. In nearly 600 cities and towns, which contain more than 80 percent of the urban population of the country, there was a gain in January of 8 per cent and in February of 7 per cent. The curve then turned downward with a loss in March of 4 per cent, which in April a decrease of 13 per cent.

It will be seen, therefore, that while the May figures do not represent a particularly large increase in the volume of immediate building prospects, they are of value as a possible forerunner of summer activities comparable with the prosperous years of the immediate past.

It is to be borne in mind that these figures are an index of pending conditions. While other building data has to do with the volume of construction, either current or past, these records of building permits, especially when they embrace as they do every community in the United States, serve the purpose of an unerring national barometer. At this time, when expert opinion varies as to the business outlook and when many lines are marking time, it is a happy circumstance that the building industry gives promise of sustained or perhaps slightly increased activities.

Construction of Airplane Hangars

"AIRPLANE Hangar Construction," is the title of a publication just issued by the National Lumber Manufacturers' Association in response to a widespread demand for detailed information on the establishment of airports.

Prepared by the engineering department of that association with a view to meeting the need for advice and direction in the construction of hangars at costs which will not unduly handicap the development of air fields, the publication summarizes the important considerations governing airport establishment and the structural and service requirements for hangars. Complete working drawings, bills of materials and estimated costs are given for four types of hangars, ranging from the single plane size to the large municipal type hangar.

The progress and prospects of aviation in the United States and suggestions for hangar location and construction are discussed in a general way, while other related problems, such as doors, heating plants, fuel economy, roof trusses, roofing materials and drainage, are discussed in detail.

The publication clearly demonstrates that modern hangars are available for all municipalities at costs considerably below those paid by the larger pioneering cities in airport development. In the course of preparation of the publication, the practices of numerous air fields was canvassed and the opinion of army and other officials experienced in airport operation was obtained.

Copies of the bulletin are available upon application to the National Lumber Manufacturers' Association, Transportation Bldg., Washington, D. C.

Grade-Marking Aids Financing

SPEAKING before the recent annual meeting of the National Committee on Wood Utilization of the Department of Commerce, William S. Quinter, Washington banker, outlined how the home builder can have a better home at less cost by following some of the economy recommendations of the committee.

He also spoke, with the authority of his position as president of the District Building and Loan Association, on the advantages to the owner which the adoption of the recommendations would be in financing his home. He stated that the use of grade-marked lumber, alone, would justify a building association to make a larger loan on a home because this system of marking each piece of lumber with a symbol denoting its quality gives assurance of good construction material.

"To my mind," he went on to say, "the biggest and most important work yet undertaken by it (the committee) is the movement for grade-marking. While the appraisers for building and loan associations are usually men who have had experience in both the building and selling of homes, they are not lumbermen or even builders, and grade-marks would be of very great assistance to them, giving them the assurance that the grade of material called for by the specifications was actually going into the construction of the home. I am sure that in my own case, when I have occasion to inspect a job for the purpose of making an advance on loan, grade-marks would be of great assistance."

Some Motor Travel Figures

EACH motorist, during 1927, used an average of 550.9 gallons of gasoline and traveled an average of 7,437 miles, according to figures announced by the national headquarters of the American Motorists' Association. These averages are based on a total gasoline consumption in the United States amounting to 11,563,490,000 gallons, an increase of 12.4 per cent over that of 1926, and a net registration of motor vehicles, as of July 1, 1927, of 20,991,333. The mileage traveled is based on an average of 13.5 miles per gallon of gasoline.

Using these figures, the association places the total mileage for 1927 at 1,561,071,150,000 miles.
... How We Saved Time and Cut Costs in Building the Sullivan County Court House

By M. F. Stephens
Sup't for Walter R. Heath
General Contractor, Greencastle, Ind.

“How can we hurry completion of our new court house and at the same time secure unusually strong construction?” asked the officials of Sullivan County, Indiana.

We answered both of their questions.

Concrete footings, basement walls, floors, steps, walks and driveways were ready for service 3 days after placing. This speeded up other parts of the job and as a result the court house was ready for use much earlier than otherwise would have been possible.

In furnishing speed we also provided permanently better and stronger concrete—and at the same time, because of our ability to strip and re-use forms in 72 hours, we effected substantial savings in form costs.

To secure these results we used High-Early-Strength Universal Concrete made with usual materials, usual labor, usual equipment and usual Universal cement—the same kind that we use for ordinary construction—all applied according to the definite methods* outlined by the Universal company.

*Information on these methods will be mailed promptly on receipt of the accompanying coupon.

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

Without obligation, send me detailed information on methods for securing strong concrete in 3 days with the usual materials, usual equipment, usual labor and usual Universal cement.

Name

Address

A.B. 7-28
WHAT are you doing, and how? No question is more important at the present time. The keenness of business competition today is making the interrogation mark the most widely used form of punctuation. Modern executives are out to know. They want to be shown, and insist on taking nothing for granted.

Success in practically all lines of activity right now is as much a matter of mental attitude as of mental capacity. Doubt is now a prime asset. The fellow who wins is the one who is always searching for a new and better way.

Where would the automobile business be today if the leaders in that industry had lacked the courage to break with precedent? For generations a fundamental principle of business was to buy cheap and sell for all that the traffic would bear. Then came Henry Ford with a new idea. Instead of cost determining the selling price, the selling price should determine the cost. If it had not been for this reversal of an established policy, the manufacturing cost would still be the primary consideration and the use of motor cars would not be half what it is. Prices would not have been brought down within the reach of the masses.

What I want to bring out is the essential need for a viewpoint which holds to the notion that nothing is impossible. Whatever we are doing might be done better. Right under our noses are new materials, perhaps synthetic ones, that can be utilized to cut costs without reducing quality.

Thousands of sweating Egyptians devoted years to the construction of the pyramids. Even more thousands of Romans gave all of their time for decades to the building of rock highways. Now we take a magic powder finer than flour, mix it with a little sand and rock and produce a substance that would enable a mere handful of modern workmen to build 30 or 40 pyramids as large as the famous Cheops in a single year.

Our Bureau of Standards at Washington has found that all atoms, when excited, emit light of certain wavelengths. By this means we can identify any kind of atom with as much ease as we can a radio station by the length of the wave it broadcasts. This line of research provided data that led to the discovery of the new metal halinium. Most amazing is the fact that halinium is more plentiful in nature than either tin or lead and two billion times more abundant than gold, and this disclosure came when many had concluded that there was nothing new for science to uncover in the field of useful elements.

There could be no better example to indicate the necessity of scrutinizing all current practices, regardless of their seeming importance, than the matter of the arrangement of engine-whistle toots on railroads. Originally the signal was two long blasts, followed by two short ones as the locomotive approached the crossing. Someone questioned the practice of making the most noise when the engine was farthest away. The result in several places has been a new signal in which the short toots are sounded first, while the longest and loudest warning is given just before the locomotive reaches the crossing. The first railroad that made this change had 28 fewer accidents at crossings last year, which reduction was attributed largely to the new arrangement of blasts.

It was evident years ago that the roller bearing had done more than probably anything else to make the automobile possible. After years of apparent neglect of a promising opportunity, our great rail transportation systems finally discovered that it requires only one-seventh the tractive effort to start a roller-bearing train as one equipped with friction bearings. One carrier that has commenced to operate ball-bearing trains has found already that a locomotive can start 30 such cars with as little effort as it can a 12-car train of the ordinary type.

The new system eliminates jolt and jar in starting and stopping, and does away almost entirely with the pitching and rolling that heretofore developed when the trains traveled at high speed. So easy of operation are the new roller-bearing cars that a heavy steel Pullman of this type can be pushed by two men along a level track.

Several street railway companies have also taken their cue from the automobile manufacturers and have come to the use
of rubber pads to insulate the car bodies from the trucks, thereby reducing the transmission of noises from gears and wheels.

Accidents at railroad crossings have been a source of constant worry to the rail system. Now comes an arrangement made up of two sets of rollers installed in the highway near the approach to the tracks. These rollers revolve in only one direction, and when an automobile strikes them in the face of an approaching train, they start to turn, thereby preventing the car from going forward. When the gates are up, a motor can proceed over the rollers in normal fashion. It is only on the coming of a train that an automatic switch unlocks the rollers, permitting them to revolve.

A new plan of radio communication enables the engineer and conductor on a long freight train to talk with each other at will, though separated by more than a mile of intervening freight cars. The mere pushing of a button in the caboose sounds a whistle over the engineer’s head. All that is then necessary to establish communication is for the man operating the engine to pick up a hand telephone and start to talk. This plan will speed up railway operations and allow the trainmen to be in constant touch with the signal towers along the line.

A new protector who did a lot of guessing and caused his employers to waste money in drilling dry holes, the oil company now sends forth a trained engineer equipped with delicate devices that provide data on the relation of the pull of the earth to the density of material under its crust. A specific variation in density and gravity values will very often provide reliable evidence of petroleum beneath the surface.

When the necessity is great enough, we find few obstacles too high to surmount. Not many would have believed that lightning could be chained, and yet this feat has been accomplished. Huge storage tanks filled with a million barrels of oil are safeguarded against lightning by a system that actually prevents the lightning from happening.

The ordinary rod or tower that has been in common use operates on the theory of attracting the lightning discharges which would have struck the oil or other object in the immediate vicinity. The new system operates by gathering into itself practically all of the ground charges and then returning them to the threatening thunder cloud in the heavens. By this means the electrical discharge in the heavens is changed from an ionic discharge in such a way that no destructive discharges which would have struck the oil or other object are located on top of all the poles of the officer’s beat. In an emergency it is possible to flash a general call that will summon all policemen on duty to the nearest telephone boxes.

Many manufacturing establishments not content with merely eliminating dangerous dust have gone further and are converting odors into dollars and cents. One chemical company now traps the smells going up the chimney, mixes them with water, and then by a process of distillation recovers as much as 80 per cent of the solvents used in the chemical formula employed.

New uses are being found for almost everything. Dynamite is being utilized to tame rivers and save cities. Every second, somewhere in the United States, 20 pounds of explosives are fired. Whalers use a “killing lance” with a small explosive in its tip. Many of the sharks that supply us with leather are baited with raw meat and then brought to the surface with dynamite. Mosquito-infested sections are made livable by using this same agent to dig miles of ditches. Explosives are used to loosen nuts and bolts, kill prairie dogs, quench fires, furnish smoke screens, and supply the rock salt that helps freeze our ice cream.

Fish farming is becoming a really important business. The ponds must be cleared at least once a year of all surplus production into useful commodities. A ton of a

(Continued to page 100)
Smoothing Out the Spring and Fall Peaks

By GEORGE H. EMANUEL

Seldom does a scientist who discovers a disease run upon its cure, and it is not frequent for a boy with a sling shot to kill the proverbial two birds with one stone, but the Chicago Homes Economic Council is doing that very thing in its territory and to all appearances the single stone is working havoc with a great flock of buzzards which have been preying on the business life of the great city.

The Council was organized last February to combat the city's quaint custom of dating all leases either May 1st or October 1st. This custom of forty years' standing and of unknown origin, piled the work of a year for real estate firms, decorators, movers, etc., in a month each spring and fall.

It was looked upon by its initiators as primarily a real estate movement. A campaign was launched to make every month a renting season instead of confining the activities to April and September. Investigation soon developed that the building industry was enthralled in the meshes of the same obsolete system. Property owners and contractors were so used to their fetters that they had given them but slight consideration.

Studies made by Raymond C. Booth, secretary of the council, revealed that there were a series of peaks in the building industry which owed their origin to the habit of dating leases either May 1st or October 1st. Here is the way they worked.

In a city such as Chicago, where property values are high and the cost of holding vacant is burdensome, prospective builders held off buying the ground until the last day when they could get a building ready for the next renting season. This made two inordinately active markets for vacant twice a year and boosted prices.

The ground having been purchased, the next problem was the architect. If he specialized in apartment houses it was safe to assume he had more work than he could do after six months of inactivity. It is only natural to assume that an architect with all the work he could handle would not be able to give the attention he would like to give to every job.

The difficulty of getting an architect who could devote the requisite time to an apartment house job during the peak season was only an initial step. This was followed by peaks for contractors and sub-contractors. When the excavators were working the plasterers were easy to get, but when the bathroom fixtures were being installed the bricklayers were approaching a quiet season.

Business peaks are an old story and those in the building industry have attracted the attention of Secretary of Commerce Hoover. A commission appointed by him investigated the seasonal practices in the industry a few years ago and recommended year round construction.

From the outset of its campaign to relieve the renting, decorating and moving peaks in Chicago, the department of commerce displayed a lively interest in the movement. Chicago builders took an active interest and many of them are supporting the council financially.

At the outset the council tackled the problem full on and waged war against the leases dated May 1st of this year. Property owners were circularized and real estate agents were asked to offer tenants leases for 13, 14 or 15 months which would expire the last of May, June or July of 1929. Moving men who had been in the habit of crowding a year's work into a couple of months, took an active

Oliver S. Turner, Chairman Chicago Homes Economic Council.

(Continued to page 123)
Winning Designs in the Wayside

The First Prize Building to left is intended for a New England setting.

The general color scheme, white with gray green roof and apple green trim. Materials: Roof, cedar shingles; siding, red cedar; frame, spruce; fense, spruce; porch rail, spruce; fireplace and chimney, local stone; floor, oak, pine, spruce; exterior trim, white wood. Interior, sheathed with cypress planks and battens.

First prize (above) and second prize (below) winning designs for a refreshment-stand and gas station group in the Second Wayside Refreshment-Stand Competition initiated by Mrs. John D. Rockefeller, Jr., through the Art Center of New York and the American Civic Association of Washington, D. C. These awards were made to Henry Ives Cobb, Jr., of New York City, and Malcolm P. C. Cameron, of New York City, respectively.

NOTES — The exterior walls may be either hollow tile or wood frame. The exterior surface to be white stucco. All interior walls to be finished in light gray. Rough surface plaster. Roof to be Spanish tile in irregular courses. Ceiling in main room to be open timber. The site would presumably be in the southwest.
Refreshment-Stand Competition

NOTES—The exterior stucco is to be a light gray. Chimney built of a dark over-burned brick. Rough siding on gable to be stained a silver gray. Timbers to be rough and stained brown, then rubbed with white lead. Roof to be cedar shingles laid unevenly. Porch floor to be of random flags.

Interior walls to be of plaster board painted a sand color. Roof rafters to be left exposed and stained a golden brown. Floor to be of random width oak or pine stained brown. Fireplace to be of local stone uncut. Kitchen walls and fixtures painted a light gray striped with red. Light green linoleum on the floor.

First prize for a refreshment-stand group in the Second Way-side Refreshment-Stand Competition was awarded to William E. Frenaye, Jr., of New York City, for the design shown above.

Second prize for a refreshment stand group was awarded to Franklin Scott, of New York City, for the design shown below.

Exterior
Front wall vertical boards; other walls wide siding, all painted white. Roof shingles, stained dark. Chimney brick with cast concrete cap, both white-washed.

Interior
Fireplace wall of stained fine boards. Other walls plaster. Rafters exposed and stained. Random width flooring.
The Remarkable Record Made by a Detroit Builder

ROMANCE of the business world, possible, perhaps, only in Detroit, the city that for rapid rise to fame and fortune outrivails any romance of fiction, has just been called to attention through the issuance of an insurance policy for $1,000,000.

It was just seven years ago that a young man of 25 came to Detroit. His worldly possessions included a college education, a degree of civil engineer, a rolltop desk, badly battered, and enough cash to rent a corner of a dingy office. Today, at 32, he is president of a construction company that has built millions of dollars worth of buildings, and has just taken out a policy on his life for $1,000,000, paying out nearly $20,000 as a premium for the first year.

The hero of this business romance is Frank Rolland Patterson. He is president of the F. R. Patterson Construction Company, 2631 Woodward Avenue, Detroit, which has erected some of the finest public and private buildings in Michigan.

When Frank R. Patterson decided to go into the construction business for himself eight years ago, he selected Detroit as the most promising of all cities in the United States. Now he feels that his faith in his adopted city is more than justified, and he recently predicted that in a shorter space of time than the average person believes possible, this city will rank in size and importance with New York and Chicago.

Mr. Patterson's previous experience in construction work was obtained in Chicago and also with the Pennsylvania Railroad Company. He was born at Atwater, Ohio, and was educated in the public schools and at Case College, Cleveland, and Central Institute, Cleveland.

When Mr. Patterson decided to compete with the other contractors in Detroit, he spent his first few months in feeling the pulse of the local labor market and the cost of operations and materials. Then he obtained his first contract. It was a $400,000 proposition, which he completed to the satisfaction of everyone.

Other contracts followed in rapid succession. Among them were included buildings for the C. H. Wilson Body Company; a high school at Wyandotte; a unit of six reinforced concrete buildings for the Detroit Packing Company; a church of Gothic design at River Rouge; another church of Romanesque design on the North Side, and a third and fourth church out of the city. Other contracts called for the erection of grades and high schools in Detroit, the Genesee County Court House at Flint, which is now under construction; a hotel at St. Clair, and schools at Melvindale, Mich.

At present Mr. Patterson is estimating on one of the largest propositions his firm ever has considered, but, despite that, he finds time to indulge in his favorite sport, golf, with a certain degree of regularity. He also admits that he is a lover of music, even of the sort that the average business man is apt to classify as "high-brow."

Mr. Patterson believes that the construction and contracting field offers unlimited opportunity to young men who will start out with the determination to stick to it and who are willing to strive through lean years that almost invariably precede the success that comes in the end. He also is convinced that the growth of Detroit will be extremely rapid, but decries any talk of a sudden boom of Detroit, either in values or abnormal construction. He pointed out, however, that in its rapid increase in population and the spread of the business district, that many valuable pieces of property are now occupied by buildings that are but little better than shacks, and that they must give way in the near future to income-producing properties.

Old White House Lumber Brings Big Prices

Because it was "presidential timber," much discussed these days, old lumber taken from the roof of the White House last summer during the remodeling of the mansion, sold for as high as $4.00 a lineal foot when the bids were opened at the office of the public buildings and parks.

The historic wood, which has literally held the roof over the heads of 26 presidents of the United States during the last 112 years, will be perpetuated in the form of gavels, wall plaques, chairs and all sorts of souvenirs by the patriotic, historic and other organizations which bid for it.

The lumber, rivaling in historic and sentimental interest the wood taken from "Old Ironsides," the famous frigate, and now being made into walking sticks, book ends and gavels, is longleaf Virginia pine, all in excellent condition although in use over a century.

The National Lumber Manufacturers' Association took the largest quantity of the famous wood. Among other bidders were the American Institute of Architects, which plans to make 58 gavels of the wood and will furnish one to each chapter of the institute; the Association of the Oldest Inhabitants of Washington; Camp 7, Spanish American War Veterans; E. M. Long & Sons, lumber and millwork dealers of Cadiz, Ohio; the N. P. Severin Company, which had the contract for remodeling the White House; Good Counsel College, White Plains, New York; and a number of individuals representing patriotic societies.

"The Use of Lumber on the Farm," is the title of a recently published booklet from the National Lumber Manufacturers Association, Transportation Bldg., Washington, D. C., offering advice on the most economical and effective methods of using, purchasing and storing lumber and including a list of many sources of information on farm building plans.
The Chicago Merchandise Mart a Gigantic Building Project

ANNOUNCEMENT was made recently of one of the greatest and most interesting of modern building projects—the construction, in Chicago, of a gigantic Merchandise Mart to be twice the size of the largest business building in the world. This massive edifice, whose architecture will typify the great American building of today, will be two city blocks in length, 18 to 23 stories high, and will represent an investment of $30,000,000. Construction will begin immediately.

The Mart will have a total floor space of about 4,000,000 square feet, as compared with slightly less than 2,000,000 square feet, which is the floor area of the Chicago Furniture Mart—the next largest building. Each of the eighteen main floors will have an area of over 200,000 square feet. The structure will be topped by a five story tower.

This project includes the largest single development of air rights so far scheduled. The property, except for the 553 caissons extending to bed-rock, begins 23 feet above "datum." The site is that of the former passenger station of the Chicago and Northwestern Railway. The building will extend 724 feet on Kinzie street, 577 feet on the Chicago river front and 324 feet on Wells street, with a diagonal frontage facing Orleans and Franklin.

This massive structure will be one of the most imposing masses in the country, according to the architects, Graham, Anderson, Probst & White, and will be set back from the river about eighty feet. A drive, which will be the start of North Bank Boulevard, will run between the river and the facade of the building. A river wall of stone, similar to the Wacker Drive walls, will make a stylobate for the whole.

The lower three stories will form a base of stone from which the main structure rises fifteen additional stories, and a broad tower of five stories will mark the center of the facade. At the base of the tower will be the main entrance, simple and impressive, flanked by two great bas-reliefs of a heroic scale. These sculptures will be compositions representing the romance of industry and merchandising, and will be of sufficient strength to be admired from across the river. Between the broad pilasters on the facades there will be large show windows for display. In the entire structure there will be a total of 5,500 glass windows.

The general shape of the lot is a rhomboid and the angles will be turned by having the four street fronts terminate in octagonal towers. These towers, as well as the central tower, also octagonal, will be roofed with flat stone roofs, giving a feeling of strength and stability and the three upper stories will be terraced back in steps as they butt into the towers. Entrances on Franklin and Wells streets will lead to the main lobby on the center of the river front. The lobby will open into the many activities and facilities which will greet buyers.

The masonry exterior partly stone will be carried out in a soft gray material with a conservative use of color, and the pier and window relation has been studied to convey to the quick glance of the passerby an appreciation of the colossal character of the project.

Comparisons of the cubicage of the largest buildings in the world shows the Merchandise Mart will be more than twice the size of the largest business building ever constructed. Here are the figures in cubic feet:

1—The Merchandise Mart, 55,000,000.
2—Chicago Furniture Mart, 25,370,000.
3—Equitable Building, New York City, 24,000,000.

(Continued to page 100)
Curtis Institute Concert Hall
A Problem in Acoustics
HORACE WELLS SELLERS, Architect

The problem of concert hall design presents peculiar difficulties to the architect that are not met in the requirements of ordinary places of assembly. Not only must the acoustic properties be as nearly perfect as possible, but outside noises must be minimized or wholly excluded.

Convenience of access and exits are essential to conform to municipal fire regulations; yet adequate space must be reserved for late-comers to avoid disturbance while a musical number is being performed. The building must be adequately heated; yet the problem of ventilation is of even greater importance where so many people are gathered. Last, but not least, the building must fulfill an aesthetic ideal in harmony with the artistic purpose which it serves.

These difficulties were multiplied in the erection of the new concert hall of the Curtis Institute of Music in Philadelphia, which was opened to the public last December. The Curtis Institute is an endowed school of music, founded by Mrs. Edward Bok, wife of the publicist and daughter of Cyrus H. K. Curtis.

Three mansions in Rittenhouse Square, formerly the residences of well-known Philadelphia families, form the group of buildings which have been adapted to the needs of the Institute. In the rear of the properties lay a plot of ground 45 by 70 feet, upon which it was decided a year ago to erect the concert hall.

Certain physical difficulties immediately became evident. The site was insufficient to permit of widespread ante-rooms and corridors which might isolate the auditorium from outside noises. The site is at the junction of two busy mobile thoroughfares.

There was no room for a roof garden, and the problem was to provide for a roof without encroaching upon the gallery. A thirty-six inch tower with a skylight provides the necessary illumination. The floor is 187 feet square.

The unique steel truss which supports the roof is faced with real stone. The thickness of the roof is 26 feet. The floor is of concrete 18 inches thick, excepting the skylights.

The facade of the building is faced with granite, the entire roof is a skylight, and the external openings are basement fire exits.

It is a structure of vast size, both inside and out. The hall seats over 2,000 persons. The stage is 110 feet wide and 60 feet deep, and leads up to the auditorium in an arch with a continuous central field.
busy thoroughfares carrying heavy automobile and trolley traffic. This accentuated the problem, inasmuch as the concert hall was to be the scene of continual activity—rehearsals, lectures, practice and concerts, by day as well as evening.

The solution was entrusted to Horace Wells Sellers, F. A. I. A., who has had long experience in dealing with similar requirements. A plan was finally decided upon, to erect a building practically soundproof, without exterior windows, doors or skylights in the auditorium, and therefore provided with artificial lighting and ventilation. Only by thus conserving every inch of available space could the building be erected at all.

The result is a structure unique in certain respects. Of steel and reinforced concrete faced with cut stone, the concert hall rises to a height of 26 feet above the sidewalk level unrelieved by ornament except an unobtrusive cornice. The facade blends inconspicuously into the adjoining building, which was once the town house of the Drexels. In its entire exterior there are no openings except the basement fire exits.

It is through the old Drexel mansion that entrance to the concert hall is gained. Here the hand of the craftsman appears in the entrance doors of wrought iron created by Samuel Yellin, the design being in harmony with the architectural treatment of the whole facade. The entrance leads into a marble vestibule enclosed by iron grille doors, thence to a foyer that gives into the auditorium.

Here beauty of treatment of a difficult subject at once becomes visible. From floor to ceiling the walls are lined with white mahogany restrained in detail and stained a neutral tint of gray. The curved ceiling of cream color gives an effect of spaciousness. Raised balconies at either end are ornamented with wrought iron railings.

The heating and ventilating problem has been deftly solved. Openings for air ducts have been fitted with carved wood and metal grilles, the mechanical equipment having been made especially complex by the requirements of a large pipe-organ which had to be installed without encroachment on the hall.

The acoustic problem demanded exceptional treatment, owing to the fact that in an auditorium of limited size, every type of performance from solo piano to full orchestra had to be accommodated. In consultation with Clifford M. Swan, acoustical engineer, Mr. Sellers arrived at an interesting solution.

All partitions were constructed of two layers of gypsum block with an air space between. Into this space were inserted two layers of deadening felt, between which was hung a sheet of galvanized metal. The sound waves, under this theory, are partly absorbed by the gypsum block, further dispersed by the deadening felt, and then are reflected back through these insulating mediums by the metal sheet and thus dissipated.

Similar acoustical treatment of the studios throughout the Institute building has eliminated to a notable extent the confusion of sounds often met with in structures devoted to the practice and teaching of music.
The New Milwaukee Journal Plant

A BIG achievement of The Milwaukee Journal in the erection of its new home at Fourth and State streets, Milwaukee, is in harmonizing the conflicting demands of utility and beauty and obtaining a high percentage of results in both. In planning the building, The Journal management frankly recognized that it was engaged in a manufacturing enterprise, and that any expenditures for a new structure could be justified from a business standpoint only if greater efficiency in operation were attained.

The plans, which were five years in preparation, gave first consideration to problems of straight line sequence of operations, both in the plant and in the offices; substitution of machine for hand labor wherever possible; maximum light and ventilation; and greatest possible accommodations for the public. Its location, in a district still undeveloped and three blocks from the present retail center of the city, was chosen because it gave ready accessibility on all sides.

The lot was located on an artery which promised, with the construction of a new bridge over the Milwaukee River, to become a thoroughfare of the first importance, and because it was only a block distant from Cedar Street, which may some day be the city's plaza leading to its public buildings grouped at a Civic Center. The location, also, is only a few blocks distant from rail terminal, permitting quick delivery of newsprint, which is a large item in the cost of a metropolitan newspaper.

The building, which cost approximately $2,000,000, is one-half block square, and has a floor area of 165,000 square feet, in the form of a wide rectangle, which permits of maximum utilization of space. The exterior is designed in the Italian-French Renaissance style, and facing is pink Kasota marble. All window openings are flush with the exterior walls.

The almost severe simplicity of the exterior is relieved by seven great arches, placed at balanced intervals in the north and west walls of the building and extending above the second floor; by a series of publishers' and printers' marks in lunette form, carved into the stone in the arches above the third story windows and life size friezes at the top depict the evolution of news and its dissemination.
Daylight Press Room, Visible to Those Passing on the Street, Has a Capacity of 108,000, 32-Page Papers an Hour.

above the third story windows; and by a carved frieze of life-size figures, depicting the evolution of news and its dissemination from the earliest times, which extends entirely around the two street sides just below the top coping.

Nearly one-half of the first two floors and a part of the fifth floor of The Journal's new building have been arranged to serve the public. Rest rooms, waiting rooms, telephone, telegraph and postal stations, tour and travel bureau, an auditorium seating 300 persons, and a visitors' gallery are among the features. The press room has been located directly on the street so that even the passersby can see the entire press and reels in operation.

The main lobby is as large as a city lot. In addition to want ad, subscription and general information counters, it contains the offices of The Milwaukee Journal Tour Club, an organization of 30,000 motorists, conducted by the paper. Last year more than 200,000 questions were answered by the Tour Club. To extend this service to the public still further nearly one-third of the lobby has been turned over to the tour department. Telephone, telegraph and postal stations complete the public service in the lobby.

Adjoining the lobby is a series of rest and waiting rooms as luxuriously furnished as the best hotels. Comfortable davenports, wicker tables and chairs, and writing materials are supplied to make the visitors feel at home. Guides are employed daily, except Sunday, to escort visitors through the entire plant.

On the second floor a lounging room has been furnished for the convenience of employes and visitors. Adjoining this at the rear of the press room is a visitors' gallery running nearly the full length of the building, from which the entire press room can be seen.

On the fifth floor an auditorium seating 300 persons has been placed at the service of the public. This is at the disposal of any group that wishes to discuss matters of public interest. For small committee meetings, several small conference rooms are available for public use.

The basement, given over to paper storage, is large enough to hold a two months' supply. The reel room, to which the paper rolls are delivered automatically to feed the hungry presses just above, is be-
The idea of the straight line production has been rigidly adhered to. The roll of paper enters the building in a gravity slide from the south alley and rolls to a loading platform. From here it is taken on a tiering machine into the large storage rooms. When it is needed for printing, it is delivered by another tiering machine to a platform on the reel room floor, loaded onto a "dolly" (a small hand car with a concave surface to fit the roll) and delivered on miniature track to the reels, which feed the presses.

Through the presses and up to the ceiling by a series of conveyors the paper goes, now a finished product, into the mailing room on the second floor, just back of the press room, and then down a second gravity chute to the loading platform where The Journal trucks are waiting to make their deliveries. The loading bay has accommodation for 12 trucks at one time, all under cover.

Straight line production holds also for news and advertising copy. News copy, which originates on the fourth floor, is sent by pneumatic tubes to the composing room. Here it is distributed two ways from the copy cutter to the linotype operators. The correction bank and the proof-reading table are both on the route to make-up banks. Advertising copy goes from the sales department, through the planning department, to the ad alley, meets the news type at the forms, and the completely made up pages are delivered to the stereotyping department, mat-making and casting machines, in the form of curved plates, and thence, down a gravity elevator to the press room where they are distributed to the various units of the press by an automatic conveyor.

New Ways for Old

(Continued from page 90)

ordinary straw mixture on distillation has been made to yield 1,600 pounds of chemical products worth $250. One of these products is furfurol, a flavorer of tobacoo, a solvent for dyes, a germicide and fungicide, and an important ingredient in the manufacture of leather dressings, nitrocellulose and lacquer. A few years ago furfurol sold for $10 or more per pound. Now it is in large supply for 15 cents a pound. Developments of this kind are making the farmer a factor in a number of chemical businesses, including the production of perfume.

The wide introduction of thousands of improved practices means the elimination of unnecessary losses of time, effort and material. Wealth created in this way is real and permanent. It produces a revenue in which all may participate. Here we have the real answer to the cause of our present prosperity. Our advances in this direction have produced gains that will not disappear overnight. Paper profits created entirely by speculation have no such stability.

The Chicago Merchandise Mart

(Continued from page 95)

—General Motors, Detroit, 20,411,000.
5—Union Trust, Cleveland, 20,000,000.
6—Railway Exchange, St. Louis, 18,898,000.
7—Illinois Merchants Bank, Chicago, 17,850,000.
8—Continental & Commercial Bank, Chicago, 13,200,000.
9—Woodworth Building, New York City, 13,200,000.
10—Straus Building, Chicago, 10,000,000.

The big business of the country is now done in concentrated market places, as evidenced by the Garment Center and Cotton Goods Center in New York City, automobile rows in all the leading cities, financial buildings, and the Furniture Mart in Chicago. The establishment of the Merchandise Mart is a dramatic development in the program to make Chicago the Great Central Market, a movement which the Chicago Association of Commerce started a number of years ago.

This great Mart, which will house several hundred of the country's foremost manufacturers, wholesalers and importers will be located in the rapidly developing new river district, and will occupy a distinctly conspicuous position just across the river from Wacker Drive at Wells street where the southern facade of the structure will be visible for blocks.

Within the walls of this huge edifice the retail merchants of the United States, Canada and foreign countries will be able to see, under one roof, hundreds of lines of merchandise. The manufacturers' exhibits will include textiles, ready-to-wear, toys, laces, gloves, hosiery, corsets, millinery, silverware, glass, rugs, knit goods, shoes, men's wear, notions, fancy goods, art and antiques, jewelry, trunks, toilet articles, house furnishings, office equipment and scores of other merchandise displays. Among the largest tenants will be the wholesale and manufacturing sales departments of Marshall Field & Company.

On all floors of the Mart will be great corridors, with all the appearance of boulevards, 650 feet in length, on either side of which will be the shops displaying their varied lines—veritable "business streets." These great corridors will be impressively treated architecturally and with the large space available it will be possible to house the selling activities and warehousing of many allied concerns on one floor, thus attaining the advantages of concentrated grouping.

The facilities of handling merchandise within the building will embody the best and most modern achievements of engineering science, including fast elevators, freight conveyors of both the gravity and endless chain type and quick horizontal distribution on every floor.

Probably no building in the world will have such facilities for receiving and shipping merchandise as the new Merchandise Mart. The entire ground level below the street floor will be a modern freight station. Private tracks for incoming car-load freight will extend under the building.
The THORNDALE

The special equipment recommended for this attractive Colonial home is as follows:

- Kitchen Ventilating Fan
- Kitchen Cabinets
- Gas or Electric Range
- Refrigerator
- Stove and Oven
- Range Hood
- Mail Box
- Mud Closet
- Medicine Case
- Tub Shower
- @ Efficiency Wardrobe
- Weatherstrip
- Storm Sash
- Screens
- Lighting Fixtures
- Convenience Outlets
- Electric Panel
- Washing Machine
- Ironing Machine
- Clothes Dryer
- Coal Chute
- Heating Plant
- Oil Burner
- Water Supply System
- Hot Water Supply
- Water Softener
- Radiant Gas Heaters
- Electric Wall Type Heaters
- Casement Windows
- Dishwashing Sink
- Automatic Cellar Drainage
- Radiator Covers or Furniture
- Disappearing Stairway

The QUARTSBURG
Above and to the right a very interesting four-room cottage, 24 by 30 feet.

The QUESTA
Below and to the left a gem of a Dutch Colonial 26 by 24 feet, containing six rooms.
The TILDEN

A FRENCH cottage with a dash of the Old World charm is presented in this cozy bungalow of five rooms. Such houses are a satisfaction to build and a joy to live in. They never lack for a buyer or a tenant. The color sketch above shows how conveniently the kitchen of this house is arranged.

Key to Equipment

- Kitchen Ventilating
- Fan
- Built-in Mail Box
- Gas or Electric Range
- Fireplace Throat and Damper
- Package Receiver
- Storm Sash
- Thermostat
- Screens
- Weatherstrips
- Kitchen Cabinet
- Lighting Fixtures
- Radiant Gas Heaters
- Attic
- Convenience Outlets
- Disappearing Stairs to Attic
- Electric Panel
- Efficiency Wardrobe
- Electric Wall Type Heaters
- Mirror Door
- Heating Plant
- Clothes Dryer
- Oil Burner
- Radiator Covers or Furniture
- Dishwashing Sink
- Water Supply System
- Automatic Cellar Drainer
- Water Softener
- Radiator Covers or Furniture
The TIMBERLAND

A DUTCH Colonial home of extremely graceful lines containing six rooms and bath besides the large sun porch and the vestibule hall. For a home of only 24 x 30 feet this contains an exceptionally large amount of space. Color sketch above shows the sun porch used as a radio room.
Our Front Cover Home Can Justly Claim to Be Typically American in That It Incorporates Those Many Refinements and Conveniences Which Distinguish Modern American Homes from Those of Other Countries.
These Floor Plans of Our Front Cover Home Show a Six-Room House with the Breakfast Nook Which Has Been Found so Handy, and with a Downstairs Lavatory Besides.
Here is the Plan of That Important, Though Formerly Neglected, Place, the Basement, as Well as Various Details of Construction. Elevations Follow on the Next Two Pages.
The Sectional View Shows the Type of Construction Used to Produce Quality in Our Front Cover Home.
Here and on the Opposite Page Are to Be Seen the Four Elevations Which Reveal the Appearance of Our Front Cover Home from Every Angle.
THE location of "7321 South Shore Drive" in one of the most desirable residential districts of all Chicago, makes an ideal setting for this unusually beautiful building of co-operative homes. The property fronts one hundred feet on South Shore Drive and extends into Lake Michigan a distance of approximately four hundred feet. The property is two blocks from The South Shore Country Club, one of the oldest and most exclusive organizations of its kind in the Chicago district. Jackson Park, with its acres of green groves, lagoons and winding drives, municipal golf links, yacht harbor, bathing beaches and other outdoor recreational facilities, is within convenient distance.

The design of the 7321 South Shore Drive building is unusual enough to make it one of the prominent buildings of Chicago. The architect's inspiration was derived principally from the works of famous architects of Italy during the thirteenth and fourteenth centuries, at which time the development of face brick and terra cotta reached a point of perfection. The style is known as Late Italian Romanesque, and if the building were christened architecturally it could appropriately be named "The Lombardy."

The entire exterior of the building is of pressed brick and terra cotta trim of a color and texture designed to create an appearance at once as unusual as the architectural design. The architects have done away with the usual ugly pent houses by inclosing them in a setback story with tiled pitched roofs topped by an octagon tower which will have marine colored lights illuminating arched windows. The fire escapes have been ingeniously obscured and converted into wrought iron balconies, thus adding to the beauty. The roof on the lake side has been skillfully worked out for a roof garden with a timber pergola.

The contour of the building in plan resembles a "crosset" and lends itself readily to the Romanesque style. The cloistered loggia is a distinctly appropriate architectural feature of this design and is a practical form of shelter to those entering the building.

The building will contain a total of 60 apartment homes, including 12 of eight rooms and four baths, 24 of seven rooms and three baths, 12 of six rooms and three baths, and 12 of six rooms and two baths. All apartments command a view of Lake Michigan. The square foot area of the apartments is greater than is usually found in rented apartments and many unusual features which make for convenience and home comfort are to be found here, such as butlers' pantries, cedar closets, individual electric refrigerators, glass-in showers, built-in wardrobes, linen cases, book cases, fire places, clear oak flooring, canvassed and panelled walls, six-burner range with oven, broiler and heat regulator, filtered water, etc. The walls are sound-proofed and the building is being constructed in accordance with the requirements of the Chicago Board of Underwriters and the City ordinance governing fireproof buildings.

The convenience of a private bathing beach is provided just a few steps from the lake side entrance and on the first floor are canoe lockers and shower rooms for both men and women. Putting greens and tennis courts are at the water's edge, while indoors are recreation rooms for the children's use when the weather is inclement. A large attractive directors' room, which may be used as a card party room, is provided just off the main lobby. Also...
there are baby carriage rooms, ample store rooms and laundries. The roof garden affords a magnificent view of the ever changing waters of Lake Michigan and on clear days the sand dunes of Indiana may be seen miles in the distance.

A Typical Floor Plan of "7321 South Shore Drive" Which Is Arranged in a Crosslet and Contains Six and Eight-Room Apartments, with Two to Four Baths in Each, All Affording a View on Lake Michigan.

"7321 South Shore Drive," One of the Newest and Handsomest of the Large Co-Operative Apartment Buildings, Which Are Being Built on Chicago's Lake Front. It was designed by Robert S. DeGoyler & Co., Architects, after the style known as Late Italian Romanesque.
Twenty-four-forty Lake View Av.
Co-operative Apartment Units Range from 5 to 14 Rooms in This Modern Tudor-Gothic, Chicago Structure; Rissman & Hirschfeld, Architects; The Lake View Co., Owners

This Is One of the Newest of Chicago's Apartment Homes Groups. It is of reinforced steel and concrete; 17 stories high; has homes ranging in size from 5 to 14 rooms; spacious closets; cedar closets; tiled enclosed showers; individual porcelain electric refrigerators; incinerators.
Among the many practical details of this building, and indicating that nothing desirable has been omitted, are the private intercommunicating telephone system, connecting all rooms with the servants' quarters, the large cedar closets, the six door all porcelain electric refrigerators, German silver sinks in butlers' pantries, two closets to every bedroom, and extra maids' and chauffeurs' rooms provided for those who require them. Nothing that could add to the convenience or comfort of a tenant-owner is lacking.

Two Typical Apartment Layouts in the Twenty-Four-Forty Lake View Building; a Six-Room and an Eight-Room Unit.
A Correct Ellipse for an Arched Opening Can Be Laid Out by This Method Which Is Both Quick and Simple.

Now make a stick half the length of the base line, 2 feet, hold one end at the nail "A," and swing till the other end just touches the lower edge of the board and drive the nail "C." Do the same on the other side and drive the nail "B," letting these nails protrude also. Next fasten a line to the nail "B," stretch it around "A" to "C," and fasten to the nail "C."

Now remove the nail "A." Take a pencil in the loop of the line and stretch the line as far to the left as possible and you will find it just touches the point two feet from the center of the base edge. By moving the pencil along the line around to the right you will describe a perfect ellipse. This method can be used for any size of arc.

C. Adolph Olson, 869 Grand St., Bridgeport, Conn.
A Roof Framing Problem

Here is a sketch and explanation of a problem worthy of consideration. The sketch shows the end view of a house having two gables, the roof being a quarter pitch. To find, with the steel square, the cut X Y in Fig. 1 that will fit the verge rafter Z Y on the small roof, giving it the proper pitch, is the problem. Here is how I solved it.

Place the steel square on the timber in the manner shown in Fig. 2 with 12 on the blade and the proper rise of one foot on the tongue, in this case six inches, and mark along A B, six inches, being the rise per foot run of the rafter A B, Fig. 1.

Now suppose the timber in Fig. 2 were cut along A B and placed in position on the small roof. It would be level or parallel to the plate as shown in Fig. 1. It still lacks the proper rise so we need only to find the rise per foot run of the rafter Y Z and apply the square to the first drawn line A B, as shown in Fig. 3, and mark along A C, which will give the desired cut the same pitch, as 12 and 6 inches. If 12 inches and six inches be used, it will be necessary to extend the line A B, Fig. 3. This rule holds good where the rafters A B and Z Y have unequal pitches.

Ralph Cox, Ft. Payne, Ala.

Improving Shed Door Hinges

In building sheds and similar buildings it is well to provide hinges which will allow for changes in alignment from various causes. With firm hinges any change in alignment may tear the hinges from their foundation. The hinge arrangements shown in the sketch will overcome this trouble. The upper sketch is the original method used in building this type of hinge.

To make a single hinge unit two half-butt and half-gate hinges are used. The pins are removed and a new pin is inserted through two halves of the gate hinges and one of the butt halves. The new pin is made longer than the combined length of the three parts so as to allow for vertical motion. The proportions are shown in the sketch.

In the lower portion of the sketch is shown another type of hinge which takes care of vertical motion. It can be made either with or without the strap portion on the right side.

Erwin C. Schroeder, 1041 S. Oakley Blvd., Chicago.

Gauging Shingle Exposure

I had to shingle a side wall recently and found my hatchet blade had been ground down till it was too short to use a clamp on as a gauge. To take the place of the clamp I measured down the handle six inches, which was the shingle exposure for the job I was working on, and screwed a 1½-inch wood screw into the handle. I then filed the flange of the screw down to left the smooth shank and used the hatchet as shown in the sketch. The filling leaves enough slot so the screw may be removed readily. I find this method much faster than the side gauge as the hatchet after gauging is in position for nailing.

Henry A. Dewing, P. O. Box 63, Walnut Grove, Cal.

To Lay Out an Octagon

Here is a simple way to make a square stick into an octagon, or eight-sided, stick. Lay the square on the stick as shown in the sketch and mark the stick at seven inches and at 17 inches. Do this on each side of the stick and draw parallel lines through these marks as indicated by the dotted lines in the sketch. Next connect the lines on the ends of the stick as shown. Now cut the stick down to the dotted lines and you will have a perfect octagon. This will serve for any size of stick which is perfectly square and properly marked.

R. W. Fox, Tioga County, Antrim, Pa.
INSTRUCTIONS in ROOF FRAMING

The Uneven Pitched Roof
By JOHN T. NEUFELD

A SKETCH of the roof plan shown in Fig. 1 was sent in by one of our readers. We are pleased to have it and shall use it as a basis for discussion.

Notice the three different pitches:
The main part has a 7-inch rise per foot run.
The transverse roof on the end a 9-inch rise per foot run.
The porch has a 12-inch rise per foot.

Where the two large roofs meet the jack rafters are framed to a valley. Where the porch roof meets a large roof it is framed over the sheathing.

For framing this roof the carpenter would frame the common rafters "A" and the ridge "B" first. The common rafter "A" has a 7-inch rise per foot. The length per foot for this pitch is 13.89 inches (see any roof-framing tables).

Length of rafter "A" is 13.89 x 12 = 166.68 inches or 13 feet 10 11/12 inches.

For top and bottom cut use 7 inches and 12 inches on square.

The second step would be to frame the common rafter "C" and the ridge "D." Rafter "C" has a 9-inch rise per foot run. The run is 7 feet.

The length per foot run is 15.00 inches (see any roof-framing tables).

Length of rafter "C" is 15.00 inches x 7 = 105 inches or 8 feet 9 inches.

Deduct for ridge as previously shown.

Top and bottom cuts by using 9 and 12 on square.

The next step would be the framing of the hips "F" and the valleys "E." The hip "F" is an ordinary hip as the two sides are of the same pitch. We will, therefore, not discuss this portion of the roof but devote the space to a discussion of the portions having different pitches.

As the rafter "E" is between two roofs of unequal pitches we must first find the point at which the valley rafter "E" frames to the ridge. If it were an even pitched roof this point would be 7 feet in both directions from the corner "X." The problem now is to find at what point the roof to the right will be as high as the ridge "D." The rafter "C" rises 9 inches per foot. The total rise is 9 x 7 = 63 inches. The ridge "D," therefore, is 63 inches or 5 feet 3 inches high.

The rafter "A" rises 7 inches per foot. To reach the height of the ridge the run of rafter "A" must be 63/7 = 9 feet, because it rises 7 inches in one foot and has a total rise of 63 inches to make. Rafter "E," therefore, has a 7-foot run in one direction and a 9-foot run in the other.

The length of rafter "E" may be found by the square root method. The rafter "C," the ridge "D" and the valley rafter "E" form a right triangle of which the valley rafter "E" is the hypotenuse. In a right triangle, we have learned, that the hypotenuse is equal to the square root of the sum of the squares of the other two sides.

In this triangle the one side (ridge "D") is 9 feet or 108 inches. The other side (rafter "C") is 8 feet 9 inches or 105 inches. The length of rafter "E," therefore, is the square root of 108 squared + 105 squared = square root of 105 x 105 + 108 x 108 = 150.6 inches. Length of rafter "E," therefore, is 150.6 inches or 12 feet 6 1/4 inches.

This length would be to the center of the ridge and we would have to deduct for 1/2 the thickness of the ridge; however, if we measure along the longest side of the valley rafter we do not have to deduct for this.

In the next article the problem of making the side cut for the valley rafter will be taken up and illustrated.

Problems

(1) If rafter "C" had a 10-inch rise per foot, how high would the ridge "D" be?
(2) What would be the length of rafter "C"?
(3) At what point along the ridge would rafter "E" come if rafter "C" had a rise of 10 inches per foot run and rafter "A" had a rise of 7 inches per foot run?
(4) What would be the length of rafter "E"?
(5) What is the length of rafter "F"?

Answers

(1) The ridge "D" would be 7 x 10 = 70 inches high.
(2) Rafter "C" would have a length per foot of 15.62 inches. The total length is 15.62 x 7 = 109.34 inches or 9 feet 15 1/4 inches.
(3) The total height of the ridge is 70 inches. Rafter "A" rises 7 inches per foot. 70/7 = 10. Therefore the valley "E" meets the ridge at a point 10 feet from the corner measured horizontally and parallel to the ridge "D." The length of the rafter "E" would be the square root of 109.34 squared + 120 squared = 162.34 inches or 13 feet 6 1/4 inches.
(5) Rafter "F" has a 12-foot rise per foot. The length per foot is 16.97 inches. The total length is 16.97 x 4 = 67.88 inches or 5 feet 7 3/4 inches.

"Estimating Building Costs" by William Arthur, published by the Scientific Book Corporation, 15 E. 26th St., New York City, a new edition of which has recently been brought out is "A concise and handy guide for contractors, building tradesmen, material men, technical students and others interested in the construction of dwellings, barns, stores and industrial buildings of moderate cost." Price $2.
The Method of Solving a Problem of Framing an Uneven Pitched Roof.
Why Some Heaters Fail to Heat
A Few of the Many Reasons Responsible for Inability of Improperly Installed Warm-air Heaters to Perform the Duty Expected of Them

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

Cold dining rooms at breakfast time and drafty living rooms on the exposed sides of houses during periods of severe weather add little zest to home comfort, as those who have suffered will eagerly testify. Though a poorly planned and installed heating system may keep an average, modern dwelling warm in mild weather it will not do so when the mercury hovers around zero and below. Then it is one needs all the warmth available and then it is, too, that the improperly installed plant falls down in the crucial, grilling test.

Sometimes constant shoveling of coal may be without avail for no apparent reason. The heater becomes a fuel-hog, the flames leap up the flue, the heater becomes almost red hot, yet rooms on the exposed, or windward, sides of the building are so cold one cannot use them with comfort. The furnace installer is called in and, if he is not the man who put in the plant, he will probably explain the difficulty; that the warm-air ducts to the ailing rooms are too small. Or, it may be that there is no means for the exit of the cold air which enters through window cracks, glass, walls and other points where one would not think it possible for outside cold to come in.

Perhaps the heater has been wrongly placed, that is, located in the mathematical center of the house rather than slightly nearer the exposed sides of the house. The reason for failure to heat may be one or all of the foregoing reasons. Take the matter of inward leakage, for instance. The amount of cold reaching building interiors at this source is surprising in spite of all efforts to keep it out. For an unstrapped window the leakage may be as great as 125 cubic feet per minute on windy days. This is sufficient air to provide ventilation for six persons. If there are three windows in a single room 18 persons are provided with fresh air, whether they desire it or not.

Heat ducts to exposed rooms, consequently, should be one or two sizes larger than if being run to rooms of the same size on sheltered sides. If, say, a 10-in diameter duct will take care of a room on the leeward side of a building, this should be increased to 12 or 14 inches when extended to windward rooms. Even then sometimes the heat will not find its way far from the register because the drafting air pressure blows it back as soon as it leaves the register. When this proves to be the case a cold air register should be installed in the floor near an outside wall. The cold air will then drop into the floor register and allow the heat from the warm air register, usually placed near an inside wall, to be dissipated through the room and warm it to comfortable temperature.

Some installers remedy a condition like that described by installing a supplementary warm-air register and heat duct. This may give the desired relief, but usually accomplishes it by diverting heat from another room to the ill heated one, thereby leaving some other room insufficiently warmed. The better way is the cold-air register, as this adds to the quantity of air supplied to the furnace casing and increases its capacity and robs no other room.

Of all furnace heating ills there is none more annoying than inability to get up a good, hot fire. Opening the ash pit door may not provide the desired result. Lack of draft, one would say, offhand. Quite likely, but piping and flue leakage is a common condition. There may be a cracked heater section or one or two openings between sections where the furnace cement has loosened and blown out.

These things should be discovered in the summer and repaired at that time if possible. An ordinary flash light will reveal them. If the cause is lack of draft the chimney flue may be too small or the chimney too short. Sometimes the smoke pipe needs overhauling.

It is easy to understand that if there are leaks in the smoke pipe the gases from the fire will find their way out to the basement instead of passing up the flue. Sometimes, the current will be the other way and the chimney flue, which should suck through the grate, will suck through the leaks in the smoke pipe. Thus the grate does not get enough air current to provide good draft at the fire bed. No amount of coaxing will make the draft go through the fire.

An 8 by 12-inch chimney flue would best be the minimum size and 35 feet the minimum height, with the top not less than 4 feet above the ridge. If there are adjacent buildings or large trees these may affect the draft by diverting the breeze away rather than to, the chimney top. Usually an extra few feet must be added to the chimney then. Insulating the smoke pipe with thick asbestos paper of air-cell asbestos is an excellent precaution against faulty draft from leakage at this point and will pay for its cost in the good results secured. If soft coal is burned it is not infrequently that soot and creosote collect on the interior of the flue and smoke pipe and for this reason a thorough summer cleaning is in order each year.

To secure good heating results one often has to sacrifice beauty to utility. This applies particularly to locating and facing the heater. Instead of placing the plant where
Connected separately to the furnace casing there is danger in the connection of the cold air return ducts to the sole cause of hot basements, for many times the difficulty supplied to the rooms. Faulty cold air boxes are not the likely to be sluggish and the air overheated when it is Practice. An important fact about air supply is that if the heater can warm with current fuel rate the circulation is from inside, and this is coming to be recognized as good direction in which it is easiest to refuel it, practical persons face their heaters so that as few heat leaders as possible are taken off the front. It should be considered, too, that piping to exposed rooms will provide more heat if they are short and have an upward pitch of at least one inch to the running foot.

Sufficient heat generally will be radiated from the heat leaders and furnace casing to warm the basement. If this becomes overly warm, say, above 65 degrees Fahrenheit, there is probably something about the system which demands correction to secure maximum heating upstairs. Hot basements may come from a variety of reasons, the common one being insufficient air supply to the heater. When the supply is taken entirely from outdoors, obstructed cold air boxes may reduce the supply to a point where the furnace overheats. To prevent this the box would best have an unobstructed area equal to at least 80 per cent that of the combined heat ducts. When the air supply comes in from outdoors and partly from cold air return ducts, care must be exercised that the air current in one duct does not interfere with that in the others.

A well planned combination supply connection is that shown in Fig. 1 from which it is noted there is a swinging damper which may be operated by hand by means of a chain from above to vary the proportion of supply taken from outdoors and from within. An upward pull lifts the damper and notches in the chain race permit fastening the damper at any desired point. In mild weather all air may be preferred and in cold weather beneficial results will be had by taking all the air supply from within.

Again, many owners prefer to take the entire air supply from inside, and this is coming to be recognized as good practice. An important fact about air supply is that if the supply does not equal the quantity of air which the heater can warm with current fuel rate the circulation is likely to be sluggish and the air overheated when it is supplied to the rooms. Faulty cold air boxes are not the sole cause of hot basements, for many times the difficulty lies in the connection of the cold air return ducts to the heater casing.

Where there are two or more cold air returns and each is connected separately to the furnace casing there is danger of interference of air flow. Naturally, the duct with the greatest quantity of air and higher rate of flow will force the weaker stream back, slowing up the air current and rendering its effectiveness almost nil. The eddies and cross currents set up within the casing result in uneven heating and unequal temperatures.

It is better practice to connect the cold air returns into a single junction piece, or shoe, before entering the casing, as shown in Fig 2, right. The incorrect method is noted in Fig. 2, left. The area of the shoe must equal the combined area of the ducts leading into it. Likewise, connection of the return-air ducts to the back, rather than to the sides of the heater casing are to be preferred.

When a single cold air shoe cannot be installed but two or more individual returns have to be connected it is suggested that two or more webs be soldered in between the outer casing and ash pit section, extending to the top of the ash pit. These webs prevent interference of the various cold air supply streams and are set in radially. Some installers refer to such pieces as shields or dividers.

Basement space in late years has increased in value with mounting real estate values and better homes. It is here nowadays that one keeps her vacuum cleaner, washing and floor polishing machines and other like appliances, not to say where the laundry is located, hence every effort is made to secure unobstructed headroom. For this reason it has become common to box in spaces between joists and use them as ducts for conveyance of both warm and cold air supply. If this is to be done it is essential that the openings be entirely closed in the best manner known and care exercised almost as great as putting on a cylinder head on an automobile. Installers who enclose joist areas simply by nailing sheets of metal to the bottoms of the joists are not performing their contract as well as they can. Nails come loose due to seasoning of lumber, constant jarring and other causes with the result cases have been observed by the author where a person could thrust his hand between the bottom of the joist and the sheet metal.
than is estimated as actually being necessary. The surplus is not an unsound plan at all to select the next size larger heater area equal to the combined area of all heat ducts. It is not expected of them. The safest way to prevent this is to estimation of furnaces which are too small to perform the duty reached.

Fig. 3. With either type plenty of headroom is desirable and we hope will be before the year is out." Within the past week, there are 18 reputable Southern Pine manufacturers end matching products, and to acquaint the public with their utility and economy." The objects and purposes of the bureau are: to standardize proper methods of distribution of end matched products. To effect an unpaved strip near Amnicon Falls, just beyond the end of concrete pavement placed last fall, was in bad condition. W. C. Buetow, chief highway engineer of Wisconsin, decided to use high-early-strength concrete rather than a temporary surfacing. The decision to use high-early-strength concrete was made at 9 o'clock in the evening of June 4. By 7:00 the next morning state engineers had staked out the project and forms were set by noon. At 9:00 that night the last of the concrete was placed and the next afternoon at 5:00, just 20 hours after placing the concrete, the road was opened to traffic. Laboratory tests showed concrete having a compressive strength of over 2000 pounds per square inch in 20 hours, a strength usually obtained in two or three weeks.

briefly, bonnets are classified into those with flat tops and straight sides with pipes coming off the top and designs having sloping sides and inverted conical tops, with pipes being attached to the side. These are shown in Fig. 3. With either type plenty of headroom is desirable but, if there is not at least 4 feet, the flat top with top pipes is not recommended, whereas the conical bonnets with side outlets may be installed with safety. When heat leaders connect to the top of the bonnet it is obvious that two 90 degree piping bends are necessary before the warmth reaches the first-floor registers and wall stacks. It is largely for this reason that conical bonnets have become more common, as with them only one, a 45 degree bend, is needed. In actual use, heat rises from the heater radiator, strikes the sloping sides of a conical bonnet and receives a good impetus to carry the heat along the upwardly pitched basement leaders to the registers and stacks. The side of the bonnet faces in the correct direction to give the leaders proper pitch. With flat top bonnets the impetus which the heat receives at the outset is lost before the registers are reached.

Another common cause of heating failure is the installation of furnaces which are too small to perform the duty expected of them. The safest way to prevent this is to estimate the sizes of heat ducts required for each room by the heat transmission method of calculation recommended by the Standard Code of the National Warm Air Heating and Ventilation Association. Add from 10 to 25 per cent for exposure and safety and select a heater having free casing area equal to the combined area of all heat ducts. It is not an unsound plan at all to select the next size larger heater than is estimated as actually being necessary. The surplus capacity will prove economical over a 10-year period in freedom from repairs and lower fuel requirement to secure normal heating result.

Quick Setting Concrete Paves President's Road in 20 Hours

PRESIDENT COOLIDGE'S sudden decision to spend his summer vacation at Brule, Wis., gave Wisconsin highway engineers an urgent assignment to "put the roads around Brule in first-class condition and to do it quickly." Because they were pressed for time, they established what is believed to be a new record for opening concrete pavements to traffic by opening the pavement within 20 hours after the last concrete had been laid.

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An unpaved strip near Amnicon Falls, just beyond the end of concrete pavement placed last fall, was in bad condition. W. C. Buetow, chief highway engineer of Wisconsin, decided to use high-early-strength concrete rather than a temporary surfacing. The decision to use high-early-strength concrete was made at 9 o'clock in the evening of June 4. By 7:00 the next morning state engineers had staked out the project and forms were set by noon. At 9:00 that night the last of the concrete was placed and the next afternoon at 5:00, just 20 hours after placing the concrete, the road was opened to traffic. Laboratory tests showed concrete having a compressive strength of over 2000 pounds per square inch in 20 hours, a strength usually obtained in two or three weeks.

Col. E. W. Starling, representative for the White House; W. C. Buetow, J. R. McLean, H. F. Holmes and Roy Risberg, all of the State Highway Department, and George F. Mork, field engineer for the Universal Portland Cement Company, were associated in planning and executing the work, which was done by A. N. Nelson, contractor, Duluth.

End Matching Makes Progress

SPEAKING to the recent annual meeting of the Southern Pine Association, E. C. Gates, of the End Matched Bureau, outlined its development. He said: "As stated in the by-laws of the bureau, membership is open to any Southern Pine manufacturer end matching or planning to end match all or any part of its pine product. The objects and purposes of the bureau are: to standardize manufacturing practices in end matched products. To effect proper methods of distribution of end matched products. To effect group advertising and sales extension; to collect, compile and disseminate information as to end matched products, and to acquaint the public with their utility and economy."

"At the present time, unless there has been an addition within the past week, there are 18 reputable Southern Pine mills end matching, while a great many others should be and we hope will be before the year is out."
Is a Check Legal Tender?

"You owe me $600," the wholesaler averred. "Four hundred dollars is the correct amount," the builder retorted, and placed a check for that amount on the wholesaler's desk. "I'm willing to pay what I legally owe you, but not a cent more, and I'm making a tender to you right now."

"I'll not accept a cent less than the $600 that you owe me, and you can 'tender' till you're black in the face," the wholesaler retorted, handed back the check, the builder departed, and, inside of twenty-four hours, the wholesaler sued for $600.

"Four hundred dollars is all we owe, and my client tendered that amount before the suit was brought," the builder's lawyer contended, when the case came to trial.

"No legal tender was ever made to us," the wholesaler's attorney retorted, "for a check is not legal tender. A tender can only be made by offering the actual cash."

"I'll admit that, for the sake of argument," the builder's lawyer retorted, "but, in order to get the benefit of the objection, the creditor must object to the form of the tender, at the time it is made. A creditor cannot object to a tender by check without raising the point 'and then get the benefit of it on the trial.'"

"It is also objected that the tender of certified checks is not a valid legal tender within the meaning of the law. It is true it is not a legal tender in money, but it has been frequently held that objection to the medium in which the tender is made may be waived. If no objection is made on the ground that it is not lawful money, a certificate of deposit is a sufficient tender. So, too, if a check be tendered by a debtor who has sufficient money in bank to pay it, and the creditor refuses to receive it for some other reason, but not because it is a check, the tender is valid," said the Pennsylvania Supreme Court, in ruling in the builder's favor, and the general weight of authority in the American courts is to the same effect.

Does the Greater Include the Less?

The seller had agreed to sell a certain quantity of goods, shipped about 60 per cent more than the order called for, the goods were seized in transit by government inspectors, and the buyer sued in the New York courts for the return of his money.

"The title passed to you, so you can fight it out with Uncle Sam," the seller told him.

"Not when you shipped more than my order called for," the buyer retorted, and the New York Court of Appeals ruled in his favor in 147 N. E., 1544.

Two Checks for One Debt

A Oklahoma Builder had bought a carload of cement, paid the dealer by check, the check was lost, the builder issued a duplicate check, and the word "duplicate" was written in red ink on the face of new check.

A few days later the duplicate check was paid by the local bank on which it was drawn, the original check, purporting to be endorsed by the cement dealer and B, was cashed by X at the Popular bank, the Popular Bank presented the check to the local bank, and, through an oversight, the check was paid. Then the local bank discovered that it had paid the same check twice, and that the dealer's endorsement on the first check was a forgery.

"You've got to make good to me, and sue the other bank, if you like," the builder declared, the local bank then sued the Popular Bank, and the Oklahoma Supreme Court ruled that the local bank had no case, on account of its carelessness in paying the first check.

"Under the testimony offered, it is shown that, in banking circles the marking of a check as a duplicate has the effect of serving notice upon the drawee bank that an original of said instrument has been executed, and not to honor both payments. In this case, the duplicate check was paid on March 7th, only one week before the original check was presented and paid, and it was the duty of the drawee bank to have taken notice of the duplicate check, and not paid the original when it was presented thereafter on March 15th. If the original check had been received first by the drawee bank, could it be said, upon the presentation of the duplicate check thereafter, that the said drawee bank would not have to take notice of the fact that it had already paid the original? If it paid the duplicate under such circumstances, would it not do so at its peril?

The issuance of duplicate checks is a practice in the commercial world, but of what advantage is it and what protection has a depositor if the drawee bank may ignore the notice imported by the duplicate check?" was the reasoning of the court.

M. L. Hayward.
A New Contribution to Home Comfort

"A Home Without a Fireplace Seems a Home Without a Soul"

A FIREPLACE is an essential in every home. More than any other feature of design, more than any other item of interior equipment, it creates the genuine home atmosphere.

It is truly the symbol of comfort. Around it the family life is lived. In the pleasant glow of the fireplace the children play their games and learn their lessons during the long winter evenings. And when Christmas comes expectant stockings fringe its mantel as Kris Kringle thrusts his merry face through its mysterious portals.

A home can never be truly a home without a fireplace. Unfortunately, fireplaces have been a considerable luxury. The high cost of ash pit foundations, expensive brick work and other items have eliminated the fireplace from thousands of houses. Reluctantly the home builder has been obliged to omit this desirable feature from his plans.

But now this important problem has been solved, and solved more completely and effectively than any one had ever anticipated. A gas-burning grate has been developed and is rapidly being taken up by builders which is something far more than an inexpensive fireplace. It is a unique development that comprises a complete fireplace so adaptable that it can be installed in any room, wherever there is wall space with flue connection available, and provides glowing heat at the touch of a match. All these advantages are combined in one installation at a minimum price.

A successful building firm of Long Island City, N. Y.—O'Brien & Walsh, Inc.—are one of the alert merchant-builders to take up this home improvement and make sales capital of it. In a circular describing a group of their houses on Sixteenth Avenue, Astoria, Long Island, they list the various construction and equipment features. Referring to the room heaters they say:

"In the living room a decorative mantel piece has been installed which is equipped with a 'Radiantfire' gas heater. There are many days during the spring, fall and winter when the necessity of operating the steam plant can be eliminated on account of this gas heater, which provides sufficient heat to remove the chill from the house. This gas heater will prove a great economy in coal saving, as well as eliminating the trouble of running the furnace. The owners will also derive the pleasure of sitting comfortably in front of a warm attractive fire without any dirt or trouble. It is our opinion that this heater will provide sufficient heat so that the steam plant will have to be operated only during the severe months of mid-winter."

The accompanying illustrations show the two finishes available for the wooden mantel—one in three priming coats of flat white ready to receive the final coat of enamel that will match it to the woodwork in the home; the other in dark brown mahogany. The latter should be your choice if you do not intend to match it to your painted woodwork.

Both mantels are made of the finest selected woods and are shipped complete ready for installation.

The entire Radiantfire and front panel facing are made throughout of a rustless steel and in an armor bright finish. These metal parts are free from any electro plated finish or lacquer, therefore will not scratch, stain or tarnish. Any metal polish will keep this front in its original spotless condition.

The upper panel of Radiantfire front is removable so the flue connection is accessible. The hearth is also removable, exposing the burner for connection or cleaning.

To install, all you need supply is the necessary gas piping and a simple ventilating flue. Simple means are provided to fasten the mantel securely to the wall and anyone can do this work, no skilled labor is required, no tiling is necessary. See installation views on the next page.

Can also be installed where no flue connection is available.

For these reasons it is believed that this new Radiantfire with mantel is one of the most important contributions yet made to the advancing art of home building. Every builder, architect or householder should learn the facts regarding this new development that is destined to exert a profound influence on the design and construction of American homes.

The Editor of the What's New Department, AMERICAN BUILDER, 1901 Prairie Ave., Chicago, has a quantity of very interesting information on this subject which he will gladly send free to any reader who will write him.
Remodeling Campaign Making Headway

THIRTY cities, located from coast to coast, within the last month inaugurated campaigns destined to rehabilitate thousands of decrepit homes and these campaigns have stimulated business and have been important factors in stabilizing labor conditions.

This announcement was made by Walter J. Kohler, chairman of the Home Modernizing Bureau, Builders' Building, Chicago, which is composed of competitive but co-operating interests in the construction and allied fields. The bureau was launched recently by trade associations for the purpose of encouraging remodeling and raising the standard of structures now standing.

"The immediate response to our national program leads us to feel that the modernization movement will prove one of the greatest economic measures developed since the war," asserted Mr. Kohler.

"In Topeka, Kan., for example, 90 per cent of the members of the building industry joined in setting up a permanent modernization committee.

"Fifty structures, homes, stores and other type of buildings, are now being modernized, and where thirty days ago there was a surplus of building labor, today there is even a slightly healthy employment situation.

"Business in building supply lines is also reported considerably stimulated, and the financial and civic organizations are vigorously backing the movement.

"Recently at Kansas City, fifteen of the leading interests met and perfected preliminary organizations for an extensive modernization campaign.

"In Omaha the building and loan association, seeking new capital, realized that the man of modest means would modernize his home on the installment plan if he were informed how easily this could be arranged."

Mr. Kohler said the Minneapolis Electrical and the Builders' Bureau of the Retail Lumber Dealers' Association called in the paint and wall paper dealers, the plumbing contractors, and real estate men and decided to launch a home modernization campaign.

"Other cities in which activity is now under way or planned for the near future," said Mr. Kohler, "include New York City; Buffalo; Spencer, Iowa; Little Rock; Philadelphia; Springfield, Ill.; Florence, Ala.; Bloomington, Ill.; Los Angeles; San Diego; Decatur, Ill., and Washington, D. C.

"Practically unlimited funds are available to finance modernization by home owners, and consequently stimulation of new construction, which will logically follow, will develop outlets for millions of capital now seeking employment."

Mr. Kohler said it is interesting to note that in practically every city where local programs are now under way different interests have started the work. He asserted this shows there is a general acceptance of the need to make a drive on this market. He pointed out that modernization of homes not only restores the original value but changes the property value from a frozen to a liquid asset.

*Smoothing Out the Spring and Fall Peaks (Continued from page 91)*

part, as did the decorators' associations and labor unions.

Tenants were circulated and it was pointed out to all concerned that here was a reform which would work a benefit for both tenants and property owners. A survey is now being conducted which is expected to reveal the exact number of leases changed this spring so they will expire out of the old period. Early indications are that it will exceed the fondest hopes of the council members.

If the present ratio is continued, more than thirteen thousand leases have been changed by real estate men alone and only about 50 per cent of the apartments in the city are handled by renting firms.

The council does not expect to accomplish the breaking down of a forty-year-old custom in a few days. A two or three-year campaign is planned. With the elimination of the renting peaks, it is the belief of this organization that the peaks in the building industry will be alleviated.
Philippine Hardwood Comes Into New Favor With Builders

This Handsome Wood Has All the Beauty of Grain and Color of Any of the Mahoganies

Loading the Large Philippine Hardwood Logs in the Forests of the Philippine Islands. These logs are hauled first to a railroad and then to the mills or rivers.

Within the past few years Philippine hardwood, (sometimes known as Philippine mahogany), has come rapidly into favor with the builder as an interior finish lumber. In its rich red color and satin beauty of grain, it rivals the native mahogany of Central America. At the same time, its cost is only about half that of the other mahoganies, so that it is now being imported in large quantities for use in the cabinet work and paneling in ships, banks, public buildings, libraries, luxurious office suites and private dwellings.

Philippine hardwood offers a rich finish. Doors, moldings, paneling, all forms of cabinet work, are beautiful and effective in this material. The use of plywood paneling, particularly, has brought Philippine hardwood into favor in the building of homes. Richly beautiful, but at once economical, this wood is well adapted to the finishing of the model house, where the decorative treatment must attract the buyer's attention. When once the house has been furnished, the mellow tones of the paneling will harmonize with the soft gold of brocatelle curtains and the blues and greens of an oriental rug in a manner especially pleasing. Prospective buyers who have been inspecting such a model house are often led to investigate its cost and specify Philippine hardwood in the homes they, themselves, purchase.

Most of the Philippine hardwood which is imported into this country comes from the Dipterocarpaceae or Lauan family. There are a number of different species included in this group which have often been roughly classified by the trade as Philippine mahogany. The Lauan family is by far the most important family of hardwoods in the Philippine Islands. It embraces about 75 per cent of the present stand of timber and has a wider range of uses than wood of any other family. Some of the trees grow to great size. It is not uncommon to find trees of five to six feet in diameter.

The collection of these woods for commerce is often a laborious process, undertaken by the natives. It sometimes involves the construction of a road through a dense forest and in a most difficult country, upon which the wood must be drawn to the nearest watercourse or sawmill. Here the logs are sawed, sometimes in very wide boards, with some shipments averaging 10 inches and wider, with excellent lengths from eight to 20 feet. A common practice now is to ship the Philippine hardwood logs as a deck load on vessels to America, where they are sawed to the particular grain and dimension needed. The lumber is sawn both quarter-sawed in (rift) grain and slash (plain). The quarter-sawed stock is known as ribbon figure and has on the face that narrow ribbon figure so desired in mahogany.

The two distinct divisions are red and white stocks of Philippine hardwood, or light red and dark red stocks, as they are sometimes called. The light red stock is particularly adapted for staining brown or walnut shades and can also be stained an excellent mahogany finish. While the dark red can also be stained brown, it is particularly adapted for a beautiful mahogany finish.

In the past, considerable of the so-called Philippine mahogany, that has been marketed in this country, has contained many small pin worm holes. This has been an (Continued to page 125)
The Drainage of Caisson Holes
by “The Chicago Method”

A GREAT deal of interest has been aroused in the rapid and economical sinking of caissons by what is known as “The Chicago Method.” An important feature of “The Chicago Method” is the drainage of the holes during the process of sinking the caisson, a feature which has been highly developed because of the conditions which are met in carrying on this work.

In the building areas in the lake regions, of which the Chicago district is an outstanding example, a great deal of water is encountered. This makes the sinking of the hole exceedingly difficult unless adequate provisions are made for drainage. The pumps used for this work are generally three inch, centrifugal pumps of a special design, driven by 10 horsepower, vertical motors. These pumps operate with a suction lift of from 12 feet to 15 feet even though handling a very large percentage of sand and clay with the water. They usually have capacities of 150 to 200 gallons per minute. In extreme cases, where the depth exceeds 100 feet, two or more pumps are placed in series in the same hole. Usually there is not much infiltration of water in the upper clay, but the pumping problem becomes very serious at the lower levels. It is, therefore, essential that the pumping equipment be absolutely reliable at all times.

In the solution of the caisson drainage problem, the Economy Pumping Machinery Company, at 3431 West Forty-eighth Place, Chicago, has done pioneering work which has led to the development of a special type of pump for this purpose. This unit, which is shown in operation in the accompanying photographs and in more detail in the smaller illustration, is of a particularly rugged design, mounted in a channel frame so that it may be skidded easily and suspended during construction work. This company has specialized on caisson pumps for eight years and its equipment has been used on such prominent projects as the Chicago Union Station, New State Line Generating Plant, Strauss Building, Daily News Building, Builders' Building, Mather Tower, Lawyers' Building and many others.

One feature of these pumps which has led to their very general adoption, where “The Chicago Method” of sinking caissons is used, is their accessibility and the fact that the shaft, impellers, bearings and other parts can be renewed quickly, easily and economically. The manufacturers will be glad to furnish data, upon application, concerning the drainage of caisson holes and also upon other pumping problems.

Philippine Hardwood
(Continued from page 124)

objectionable feature. It is now possible to get this material free from worm holes, as the better material is being cut from the uplands in the islands where the trees are not attacked by these small worms.

Among the largest importers and manufacturers of Philippine hardwood for panels, moulding, trim, lumber and doors in America is the Wheeler, Osgood Company, of Tacoma, Washington, which is successfully marketing this material in its various forms. This company has experimented for some time with Philippine hardwoods; and it has developed the best and most economical methods.
Collapsible Steel Horses

Would you pay a man good wages and then hamper his work? Not if you knew it. Yet unhandy and inconvenient equipment does hamper the work of your men. The collapsible steel horses and trestles, illustrated, are a type of equipment which is replacing the old-fashioned wooden horse and trestle and replacing it with equipment which is far more handy and convenient, thereby facilitating work that was hampered by the older and poorer equipment.

This equipment is of two types, the steel horse and the steel trestle. The former is of a fixed height, the latter adjustable in height. The horses come in four sizes, two feet high by three feet wide, three feet by eight feet, 4 1/2 feet by five feet and five feet by five feet. They range in weight from 18 pounds to 64 pounds according to size.

The trestles come in two sizes, three feet high by five feet wide and four feet high by five feet wide. The first has an adjustment to increase its height to five feet by three inches at a time, making eight different heights. The second has a three foot rise, three inches at a time, making 12 available heights.

All these are made of high grade steel throughout with no loose parts. They are absolutely safe and fireproof, will carry a load of 2,000 pounds and are said to outlast 10 wooden horses. They fold up into a small space for storage or transportation. One hundred and fifty of them can be transported at a time in an ordinary stack truck or stored in an eight by 10-foot shed. This means economy in both transportation and storage as well as in handling on the job. The safety of this equipment also means confidence on the part of workmen and no fear of mishap.

Solderless, Puttyless Skylights

Through years of experience in the manufacture of skylights, a certain company has perfected a line of skylights which are both solderless and puttyless and of a design and construction which is highly resistant to fire, and proof against leakage and caving. These skylights include both ventilating and non-ventilating models, four different styles being included and any desired size produced. One style is designed for sawtooth construction.

The accompanying illustration shows the construction of the most commonly used style in this line and a description of this style can be taken as typical of the whole line. The pitch of this skylight is nine inches to the foot. The trusses are built of 16-gauge, copper bearing, galvanized iron, "T" shape, well supported and bolted with 3/8 and 5/8-inch machine bolts. They are spaced as required and properly attached to the curb, may be of either wood, concrete or gypsum tile. A truss is provided on each end of the skylight.

All the flashings are of 18-gauge, copper bearing, galvanized iron. The center flashing is bolted to the upper and lower trusses with four 3/4-inch bolts to each truss. The lower flashing has two bolts to each truss and is properly fastened to the curbing. The upper flashing is bolted to puttyless bars. Condensation gutters of 18-gauge copper bearing galvanized iron, three inches wide, are leakproof and have the proper opening for condensation. A ridge of the same material is well braced and fastened to the skylight. The ends are of the same material in 20 gauge and are fastened to the truss. The glass is 3/8 inch thick, wire-ribbed. The caps are 20 gauge, fitted flush to the glass, and fastened with brass bolts. Malleable fork hinges, 3/8 inch thick, are used. Chain or handle operator can be supplied. With this style the opening for ventilation is one-third the width and the full length of the skylight—that is, a skylight 12 by 40 feet gives an opening 4 by 40 feet, or a total of 1,600 square feet. Where greater ventilation is required, it is provided by the use of one of the other styles.
**Self-Furring Device for Metal Lath**

BECAUSE of the great increase in use of portland cement stucco for exteriors and plastering on metal lath in interiors of buildings of every description, architects and builders will be especially interested in a new self-furring nail used with metal lath. It is said to be the first practical device for furring of small-mesh lath that has ever been put on the market. Its uniqueness consists in being a duplex nail without a head in combination with a metal furring clip through which it is driven over insulating board or building paper into the sheathing before the lath is applied. A collar on the nail holds the clip firmly to the support so that it can be applied on soffits as well as vertical surfaces.

Over the projecting ends of the nails, of which a sufficient number are driven in turn for several yards of lath, the lath is hooked, pushed down to furring clips, and the ends of the nails then bent over to hold the lath to the support a fixed distance from the backing, determined by the height of the clip, which is ¾ of an inch. This height was carefully chosen after experiment so that no more inch high, being used on the under side of joists to fur metal lath away from them. This assures that no part of the plaster passing through the lath will touch the joists, provides full plaster keys under the joists and air circulation behind the plaster. Thus streakless ceilings, with neither lath streaks nor joist streaks, are now within reach of the average owner's pocketbook.

The nails are inexpensive, being cheaper than wood furring strips on the outside of a building and much less than furring bars on ceilings, it is stated. When used on ceilings they save their cost many times over because of the elimination of redecoration such as is necessary when metal lath which is nailed directly to the joists.

**An Improved Spiral Plug Cutter**

ILLUSTRATED here is an improved, spiral, plug cutter which is described as the best and most practical plug cutter this manufacturer has ever produced. It is made with several spiral cutters, allowing sufficient room for easy clearance of chips, eliminating choking, binding and heating, which makes for easy working.

This tool is especially adapted to cutting plugs in cross-grain wood, used for plugging holes, so that when the wood is finished the grain will all run in the same direction and the plug will not be seen. It is made in all sizes listed and is suitable for cutting plugs in all kinds of wood, such as poplar, oak, hard maple, walnut and mahogany. It is used in any ordinary boring machine. This cutter is extensively used in the manufacture of chairs, tables and furniture of all kinds and in all work where plugs are used for filling holes where screws are countersunk. It is also used, in the larger sizes, for boring out and plugging up defects in lumber.

**Hammer Line Is Improved**

A NUMBER of new features have been incorporated in a well-known line of hammers. The hammer shown in the illustration is so designed and constructed as to give perfect balance, along with strength, safety and economy. Added strength is obtained by inserting a special analysis steel rod between two halves of the dovetailed, hickory handle, the rod locking the head to the handle and eliminating any chance of the head flying off. It is said that mechanics find this feature a great improvement in hammer construction.

Only stout, second growth, white hickory is used in the handles. Their two-part dovetail design is tough, their entire length with the grain opposed, are set with casein glue under powerful pressure. Neither heat, water nor weather can affect it, according to the manufacturer. The head is made of special analysis, chrome steel. Additional toughness is obtained by a heat treatment in oil and the head is drop forged with a final shaping blow of 2,000 pounds.
Electric Refrigeration Specially Designed for Apartment Buildings

REFRIGERATION for the apartment kitchen has always been a problem. The difficulties of ice delivery and drainage together with the strict limitation of space available have been obstacles which have stood in the way of satisfactory solution of the problem by the employment of the familiar ice box. These obstacles have, however, been entirely eliminated with the introduction of electric refrigeration. Now comes an electric refrigerator which has been especially designed for apartment use.

The manufacturers of this unit set out to develop a refrigerator for apartment installation which would easily fit into the small apartment kitchen, which would be trouble-proof, quiet, economical and, above all, would give perfect refrigeration day after day and year after year without need of servicing or mechanical attention of any kind on the part of the owner or tenant. This new unit is completely independent of pipes, drains or attachments with the exception of a single electric cord which is plugged into an electric outlet just as is done with the vacuum cleaner or electric fan.

The first step in the development of this unit was an investigation to determine just what size and type of refrigerator was needed for apartment service. The small model shown in the photograph was finally decided upon and was equipped with the same efficient icing unit which this company uses on its other models and which is already well known. Apartment house refrigeration presents a special problem, in addition to those at first mentioned, in that the conditions are more exacting than they are in the average home. Such a machine must be built to stand up under the hard usage given by different tenants, many of whom are likely to be careless with things which are not their own property. It must be quiet in operation because of the close grouping of the units and the proximity of kitchen units to sleeping and living rooms of other apartments. It must conserve floor space which is of high rental value and is strictly limited, especially in the modern small apartment. Finally it must require no mechanical attention. This new unit meets all of these requirements. In addition it is sanitary, easy to clean and attractive in appearance.

The construction of this company's refrigerators is such that, even in this small unit, there is a comparatively large food storage capacity. All of the mechanism, with the exception of the evaporator, is mounted on the top of the unit, leaving the interior largely free for food.

Locating the machine on top of the box has made it possible to eliminate all service valves and pipe joints. The machine, being a complete unit, can be installed by merely dropping it into the top of the box. Since the machine is on top, the hot air from it rises away from the box, allowing the box to operate in a cooler atmosphere than if it were bathed in hot air from the machine.

This machine is characterized by a high degree of safety by reason of the total enclosure of all moving parts. This construction also prevents trouble due to tampering. In case anything ever does go wrong with the machine, it is serviced by simply removing the entire unit, lifting it off of the box, and replacing it with another unit. The machine is exceptionally quiet and vibrationless.

Another innovation is the vitreous enamel freezing chamber. This feature makes the chamber very sanitary and easy to clean. Tests have shown that these machines under extreme conditions, for example, operating in a room temperature of 100 degrees, will maintain temperatures under 50 degrees in the food compartment.

The machines are manufactured as complete units and are thoroughly tested and inspected for leaks. This makes it possible for unskilled workmen to install the units without the troubles which occur when unskilled men pipe a machine from the cellar to the box.

It is maintained by the manufacturers of this refrigerator that the ideal apartment house refrigerator is one which is self-contained. Individual control of refrigerators in each apartment is an economic feature which interests the apartment building owner. With refrigerators of the type described here those in apartments which are not rented may be shut off when not in use and the temperature control permits each tenant to maintain any temperature.

Then, too, the owner considers the continuity of service. If one unit fails only one tenant is affected and replacement can be made very quickly. Since these units are air cooled the building owner is relieved of any water expense and by allowing the tenant to pay for the electric current consumed by the refrigerator, just as for other current used in his apartment, an additional expense is eliminated.

The Problem of Refrigeration for the Apartment Kitchen, Which Has Always Been a Troublesome One, Has Been Solved by the Perfection of Electric Refrigeration and This Special Apartment Unit Marks a New Point of Perfection in This Type of Equipment.
**What's New?**

**Efficient Belt Sander**

Here is offered a new model, belt sanding machine which was developed as a result of the demand for a larger and heavy duty machine after the introduction of a small sturdy machine of the same type. Its dimensions are 9½ inches high, 7½ inches wide and 15½ inches long. It weighs 22 pounds and has pulleys with a diameter of 2¾ inches. The belt size is four by 27 inches and it runs at a speed of 2,000 feet per minute.

This machine is equipped with a new type one horsepower motor that shows little rise in temperature after continuous use, and with sufficient power to meet any demand placed upon it. It is also a universal motor operating on either direct or alternating current, of 25 to 60 cycles and is supplied in any voltage from 32 to 250, inclusive, 110-volt being supplied when voltage is not specified. It will operate from any lighting current if the line has a 20-ampere fuse.

This sander will eliminate hand sanding and being a hand, belt machine produces an excellent smooth finish, without ripple marks. Flexible pads can be furnished with which the operator can sand slightly curved surfaces. Entire floor areas can be sanded leaving a chatterless and waveless finish and the machine will sand right up to the wall, eliminating hand scraping. It can be furnished with a handle attachment that enables the operator to sand floors with ease.

Belts can be changed in a fraction of a minute and the manufacturers can furnish belts for cutting wood or metal, made up ready to be slipped on over the pulleys. The tension on the belt is automatically correct.

**Luminous Room Numbers**

The illustration shows a hotel room number specially developed to meet a demand for hotel room numbers which would be visible in the dark. It is being manufactured by a company which has long been a leader in the manufacture of radium luminous compound for fine watches, clocks, electrical, aeronautical and marine instruments.

The individual number consists of a frame of brass, measuring three inches by 1¾ inches and finished in bronze Duco. Other Duco finishes or polished or brushed brass or unusual lacquer or enamel finishes may be obtained on special order at special prices. Into this frame there fits a glass plate and behind it a plaque on which is the number. This plaque is of black pyralin .08 inch thick, ashed and polished. Other colors and wood grain finishes are made up special.

The numerals are 1½ inches high, shaded arabic. They are sunken with raised edges. Four ¾-inch flat head brass screws are furnished with each number and after installing, these screws which fasten the frame to the door are entirely hidden.

Since all orders for these numbers must be made up to order, about 10 days is required for filling orders and two weeks where a special frame finish is required.

These room numbers are easily deciphered under any light conditions or in total darkness. They are graceful and attractive in design and finish and are so framed that they always remain neat and clean and bright. They are simply and easily installed and can be furnished in finishes to match any door finish. Because of the concealed screws by which they are attached they are not readily stolen by souvenir hunters. They do not require any maintenance.

**New Truck Features Flexibility**

A VERAGE operating speed is gradually being raised for all types of vehicles throughout the country and, in view of the fact that a larger percentage of the country's motor driven traffic travels over one-third of the country's highways, there is only one way to avoid hopeless congestion. Trucks must be made so they can keep up with the procession, since it is necessary for trucks to operate over the same routes traveled by other vehicles. It is necessary that trucks be more flexible, easier to steer, quicker on the getaway and quicker to stop.

In line with this idea one manufacturer of motor trucks has developed the new model shown in the illustration. The many refinements on this model make it particularly adaptable to what may be called "heavy-light" delivery, it is stated. It lends itself to attractive bodies that speak favorably for the owners, and still has the size, capacity, power and speed required for the haulage of a great quantity of merchandise.

This new truck is a 1½-2 ton capacity, having four-wheel brakes, four-speed transmission, and is powered by a six cylinder engine having an S. A. E. rating of 27.34 horsepower. The chassis is available in several sizes, the standard being a 151-inch wheelbase and the special having a 163-inch wheelbase. The specification and equipment throughout are those of a high grade truck for efficient service.

**What's New?**

**Efficient Belt Sander**

Here is a new model motor truck designed to meet the rapidly increasing traffic demands that face the contractor.
**New Dining Table Efficiency**

Striving for economy, convenience and 100 per cent use of valuable home and department space the manufacturers of kitchen equipment have done wonders, and builders have been quick to take up their suggestions regarding modern kitchen and pantry equipment. The latest development, just announced, is a table complete with two benches which tucks away into remarkably small space, and presents a beautiful finished appearance both in the put away and the service positions.

This equipment is a real piece of furniture designed and manufactured by a prominent manufacturer of dining room furniture so that there is both skill, artistry and efficiency in production in this new item.

The accompanying photographs show this new table installed in connection with an attractive mantel, this being suitable for a living room, making a dining room end when desired.

Another favorite arrangement places this ingenious table underneath a window as in a kitchen or breakfast alcove.

The entire assembly of the table and benches is remarkably simple. Self-releasing springs cause the bench legs and all other parts to fold up automatically and in the proper order. It is impossible to put it away wrong or to wrench or break any of the parts or connections. It is "fool-proof." When folded away nothing is visible but the beautifully finished table top, the benches and all connections being snugly tucked away underneath and out of sight.

Those planning and building apartment houses, residential hotels and private homes will quickly see the space-saving advantages and the convenience of this new fold-away table. Why set aside so much valuable space for a dining room which at most is used only a few hours each day? Modern ideas of efficient living are eliminating the large dining rooms and bringing into favor the dinette or small breakfast alcove. This new equipment so strongly made and beautifully finished is in line with the times and will be quickly adopted.

A staff of district representatives is being recruited from among the American Builder readers to call on architects and builders and introduce these new tables. The proposition is very interesting and the opportunity looks good. Those interested should lose no time in addressing the

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**Well Known Wallboard Improved**

A well known type of wallboard, which has been on the market for over 30 years, has recently been improved to make it more widely useful for the various purposes to which it is adapted. The wallboard differs decidedly from other types. It consists of a core of strips of redwood pressed between two sheets of heavy paper or cardboard, and the whole permanently cemented together. The thickness of this board was \( \frac{3}{4} \) inch. The facing material has, in the past, been of a dark red color.

The manufacturers have for some time been making this board with the facing material of a cream tint for special customers. The demand for this, among the general trade, became so insistent, it is stated, that it was finally decided to put this product on the market for general distribution.

The new color has a smooth finish which lends itself to every decorative treatment and is in itself very attractive when unfinished. The new surface is specially sized to take paint, stain, calcimine and wall paper without further preparation. In addition to this the strength has been increased.

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**Editor of the American Builder What's New Department, 1901 Prairie Avenue, Chicago.**
They Can All Use Johnson's Liquid Wax Glaze

Wherever textured and sand finished walls are used—wherever people congregate or live, you can decorate with Johnson’s Liquid Wax Glaze. The simple bungalow, the palatial home, hotels and apartment buildings are all good prospects to the user of Johnson’s Liquid Wax Glaze. This adaptable finish provides almost unlimited possibilities for artistic color treatment.

It is easy to use and has great covering capacity. Multi-color effects can be obtained with a single setting of ladders and scaffolds. Unusual color effects and outstanding advantages of cleanliness, long life and low cost recommend it over all other decorating mediums. The new business you can get and the opportunity for more decorating work from old customers open the door to greatly increased profits for you.

A Liberal Free Sample

We want every painter and decorator to learn of the decorative possibilities of Johnson’s Liquid Wax Glaze and the opportunity for profit it has for him. The coupon will bring a generous quart size sample with complete instructions.

Clip to letterhead or business card
S. C. Johnson & Son, Dept. AB7, Racine, Wis.
Please send me a Free quart size sample of Johnson’s Liquid Wax Glaze with complete instructions.

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State...

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Compact Electric Glue Pot

HERE is a compact little device to carry to the job instead of taking the work to the glue pot. The glue is maintained at a constant temperature of 150 degrees Fahrenheit, which gives the best working consistency for smooth tight joints. The heating element is a nichrome ribbon, with mica plates and thermostatic control. The glue container is cast aluminum carefully machined to fit a gray iron receptacle, thereby conserving heat. The heating element is tightly sealed with asbestos to eliminate fire hazard, short circuits, etc. The sides of the pot are sloped to minimize spillage and a heavy iron wiper across the center of the glue container prevents waste from drippage. This electric glue pot is a distinct advance over the old style glue pot and, once used, will be found practically indispensable. It is made for use with either 110 or 220-volt alternating current.

Latch for Light Doors

THIS novel door catch has been designed as an addition to a well-known line. In addition to its simple beauty the mechanical construction is such as to insure quick installation and positive latching. Less than one-tenth of a turn of the glass knob, either to the right or left, unlatches the catch. Merely pushing the door shut locks it. Installation is as simple as boring one hole and sinking four screws. It is adaptable to doors from 3/8 inch to 1 1/4 inches thick without changes or additional boring. It is a convenient and attractive latching device for all types of light doors on cupboards, kitchen cabinets, medicine cabinets and similar storage spaces.

A Reliable Wall Safe

PROTECTION against both theft and fire is afforded the family valuables by the installation of a wall safe of the type illustrated here. This safe is fastened into position through the inside so that after the bolts have been secured to joists or other solid supports it cannot be removed from the outside. It is stated that the brackets and bolts are of specially treated metals which no hacksaw or chisel known to man can pierce.

The door is locked by five bolts, a system of construction which jimmys cannot penetrate, and interlocking steps and flanges on door and walls eliminate even the opportunity for jimmying and protect the contents of the safe from fire at the same time.

This safe has been tested, as to its resistance to fire, both in the laboratory and actual fires. In the laboratory three safes were placed in a force draught furnace for one hour and ten minutes and the fire maintained at 2,600 degrees Fahrenheit. It took three hours for the safes to cool to the point where they could be handled and when opened the contents, consisting of delicate jewels, watches, and papers were found to be in perfect condition. In an actual fire, which practically demolished the building, the only valuables which came through unharmed were those kept in one of these safes and among the unharmed papers was the only record the owner had ever compiled showing the value of his possessions.

This safe, though built like a large and heavy safe, weighs but 39 pounds. It is finished in black crystalline, with burnished dials. The outside dimensions are: length, 14 inches; height, 10 inches; depth, eight inches, and the interior measures 11 by seven by six inches. It is equipped with two lacquered, lined, jewel boxes having separate locks.

New Elevator Door Hanger

THIS new elevator door hanger is made for both single and two-speed doors, doors in pairs, combination swinging doors and two-speed combination swing and slide doors. It is attractive in appearance and, being completely enclosed, dust and dirt are positively eliminated. One of the important installation features is that it requires the minimum amount of head room. The projecting ledge of the angle above the top of the track serves to protect the hangers from falling dirt and also makes a very convenient place for attaching a cover if a cover is required. The angle also makes a much stiffer construction than would a flat plate.

A Hanger for Elevator Doors Designed to Provide for a Wide Variety of Installation Requirements.

The limit roller is adjustable and is mounted on an eccentric shaft or axle. If the nut of the limit roller is loosened, the axle can be turned a short distance by means of the screwdriver slot which will either draw the roller closer to the door or farther away from it. When the proper adjustment is made the axle will be locked in position by the nut.
What is your Time worth?

If you are a hustling builder, your time is worth real money. You do not want to slight any of the items in your building program but you want to handle each job in the quickest, surest, best way.

If you consider your time worth money, you can save and make money by using Andersen Window and Door Frames*. "A frame up in ten minutes" is more than a slogan. It is a guarantee of time-saving service to contractors and builders. Andersen Frames are so accurately milled and inspected that they always go together perfectly to make close fitting, weather-resisting joints. Thus they help builders to give value and build reputations as well as to save time and make profits.

Fill out and mail the coupon below; we will tell you how to save time and money with Andersen Window Frames.

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A Frame for Every Kind of Building

Andersen Distinctive Features

1. Patented, noiseless, long wearing Andersen pulleys used exclusively.
2. Genuine soft White Pine sills and casings—last a lifetime.
3. Patented, exclusive weather-tight features including groove for wide blind stop.
4. Absolute accuracy of milling.
5. A Frame up in 10 minutes.
6. Standardised styles and sizes, convertible for all architectural needs.
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8. Dependable because guaranteed by a reliable manufacturer.

Set of folders describing construction and uses of Andersen Frames.
"How to Make Your New Home More Comfortable"—an illustrated booklet of interest to all home builders.

ANDERSEN LUMBER COMPANY
Box 2107, Bayport, Minnesota.

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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Improved Steel Bridging

The illustrations show the application of a new type of steel bridging designed to assure economy, convenience and strength. Great stress is laid, by the manufacturers, upon the integral connection of three joists made by this brace and it is claimed that extensive tests made at the plant clearly demonstrate the benefit from connecting three joists. Strains are thereby carried to two adjacent joists, on either side, instead of only one.

This bridging is adjustable to variations in the size of joists and spacing so that a given size of brace may be applied to different sizes of joists, in fact, four stock sizes are provided to cover two and three inch joists, on 12 inch and 16 inch centers. This bridging is shipped in cartons, in straight lengths, but when applied it is bent to an inverted "V" shape. One brace is dropped over the top of each joist, the ends extending each way and underneath the adjoining joists. A nail is driven down through the top depressed aperture and finishes flush.

After the floor is laid, the bottom ends are nailed, each being bent around the under edge of the joist and up the side. One nail only is sufficient, although several apertures are provided to facilitate nailing.

The Bridging Strips Come in Straight Pieces Which Are Bent on the Job and Are Adjustable to Variations in Size and Spacing of Joists.

and avoid knots if any come in the way. Although these braces are corrugated longitudinally their chief bracing action is said to be through tension and, therefore, the lapping of the brace around the further side of the joist and securing there affords a stronger attachment than would be possible on the lower or inner edge only.

The lower ends of the bridging being bent in this way makes the bridging adjust itself perfectly to the spacing of the joists. The manufacturers point out the saving of nails which this bridging effects, only three per joist as against eight with wooden bridging. This also means a saving of labor in applying.

Heating Boilers in Colors

The desire for clean basements which might be put to more practical uses suggested the design of the boiler shown in the illustration. This boiler is totally encased in a bright scarlet jacket which is easily kept bright and new looking. It is entirely dustproof and moistureproof. Great care is taken in applying the enamel, it is stated, so that the finish is permanent.

There is a symmetry and gracefulness worked into the design of this boiler which is intended to appeal to women. The automatic draft regulator, with its accessories, is out of sight at the rear and the shaker grates are likewise concealed in front.

This boiler makes a flexible heating installation that is readily converted to the owner's choice of fuel and heat. It is designed with an extended ash pit and deep fire box to accommodate either oil or coal and offers a choice of steam, hot water or vapor heat. It is made in six sizes with ratings up to 1,200 square feet, steam, or 1,950 square feet, hot water.

The dome and staggered fire travel construction provide unusual heating efficiency, it is stated, by shunting flames and hot gases back and forth, again and again, over all heating surfaces before passing them on up the chimney.

Portable Hollow Chisel Mortiser

Boring square holes is an operation so common that machines for the purpose have been well known for years. There has now been developed, however, a portable hollow chisel mortiser which does the highest caliber work on the squares holes up to ¾ inch diameter. Now the shop which has need for such a machine can meet its requirements without the heavy investment involved in purchasing a large stationary mortiser, and with the added advantage of portability. It can be moved about, easily, to bring it close to the work in hand.

Simplicity has been secured and efficiency increased by omitting all attachments and adjustments not called for in ordinary work. The machine is symmetrical in design, perfectly balanced and accurate in every detail. Three, easy rolling casters in the round, cast iron base make it easy to move.

Mounted on the upper carriage is a high grade motor specially designed to meet the requirements of this machine, to operate at a constant speed under maximum load and keep cool by a heavy current of air drawn through a screen at the top. This same air forced downward by a fan on the armature shaft, cools the chisel and bit and blows away chips. The motor is entirely closed and dustproof.

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HE SPEAKS of the masonry job on the Commonwealth Edison Company Power House which he supervised for the J. W. Snyder Company.

“For the buttered brick work, which was very intricate and difficult, we puddled the Carney Cement vigorously before sanding and using. Mixed with clean lake sand, the resulting mortar far exceeded our expectations as to butteriness and uniformity of texture. It was as smooth as satin, looked good enough to eat and carried the red mortar color perfectly.”

THE CARNEY COMPANY

DISTRIBUTED OFFICES

CLEVELAND CHICAGO DETROIT ST. LOUIS MINNEAPOLIS

Lea/er Building Builders Building Book Tower Louderman Building Builders Exchange

Cement Makers Since 1883

Specifications:
1 part Carney Cement to
3 or 4 parts sand depending upon quality of sand.

CARNEY CEMENT

for Brick and Tile Mortar

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Now Comes Washable Wallpaper

For many years wallpaper experts have endeavored to perfect a truly beautiful washable wallpaper. Now they have achieved this long-sought result. At first thought one might imagine that washable wallpaper could not possess the charm of other papers. This new washable paper, however, is distinguished by the same blended beauty of color and design found in the more familiar papers. In fact, the waterproofing actually preserves the colors. They are soft in tone with none of the high gloss commonly associated with washable wall coverings.

The washable quality of this paper means a remarkable economy. Wallpapers become soiled very quickly under certain conditions and the walls cannot be restored to their original appearance except by repapering. With this washable paper one can simply wipe the paper off with a damp cloth when it is soiled and dust, grease spots and even ink can be removed. It is an excellent wall covering for any room and an ideal one for bathrooms, kitchens, and rooms where children play and are likely to smear their hands on the wall or where soot or moisture deface the walls.

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The spring stud snaps the receptacle into place, it is only necessary to run one screw in from the front, a one man job. The fixed position of the spring stud and the terminals makes it easy to polarize the sign. The spring stud and exposed screws are bronze and the screw shell is copper, high quality throughout.

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An excellent illustration of the use of a new roofing, flooring and waterproofing material may be seen in the repairing of the tile roof of the men's store building of Marshall Field & Co., in Chicago, which is illustrated in the accompanying photographs. The composition in which these roof tiles were originally set became hard and brittle and it was desired to make a permanent repair, to avoid a recurrence of this trouble.

The workmen broke out all the hard material between the tile and then inserted new tile wherever necessary. The cracks between the tile were then caulked with this new roofing material which is an asphalt compound easily and quickly applied. After the cracks had been caulked with this asphalt mastic, the entire roof was given a light dressing with the same composition in its softest form.

After the work was completed and had been subjected to the action of the sun for a few days, the surface appearance of the roof was not greatly altered. Each separate tile stood out as an individual tile, but was slate gray in color, instead of the usual red. The leaks were stopped by this treatment and the value of the roof deck as a promenade was retained, as this unusual roofing composition forms a sheet almost like a rubber floor.
The “Old Virginia” Spirit

The new Cavalier Hotel at Virginia Beach, Virginia, was designed to embody as much as possible of the spirit of “Old Virginia.” Pine was the lumber selected after a study by the architects showed its extensive use in old Virginia homes and buildings.

Pine panelled walls in the entrance lobby greet the guest in true colonial spirit. The main lounge is dressed in Pine, the fireplace in its attractive setting being the dominating note. Throughout the hotel, Pine imparts the spirit of “Old Virginia.”


Shevlin Pine Used

The sash, doors, interior and exterior finish of the Cavalier Hotel are all of Shevlin California White Pine from McCloud, California.

This wood is winning favor everywhere for home and building construction. Its easy-working qualities make it desirable for all woodwork. The light color, smooth texture and even grain are attractive with most any finish, whether left natural or treated with paint, enamel or stain. It endures and seldom warps or shrinks.

Abundant Supply Available

The Shevlin, Carpenter & Clarke Company has a stand of California White Pine sufficient to supply the nation’s needs for decades, perhaps indefinitely. You will find it carefully seasoned, rigidly graded and smoothly milled.

Leading lumber dealers can supply you with Shevlin California White Pine and the other varieties: Shevlin California Sugar Pine, Shevlin Pondosa Pine, Shevlin Norway Pine and Shevlin Northern White Pine.

Get More Information About Pine

The book, “Specify Shevlin Pine,” contains detailed information about each variety of Shevlin Pine—the characteristics, uses, physical properties and other data.

You should have this information in your files. A copy will be mailed to you upon request.

Shevlin, Carpenter & Clarke Company
903 First National-Soo Line Bldg., Minneapolis, Minn.
Chicago Sales Office: 1806 Continental & Commercial Bank Bldg.
San Francisco Sales Office: 1038 Monadnock Building.
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CLEVELAND CHICAGO DETROIT ST. LOUIS MINNEAPOLIS

Lea'er Building Builders Building Book Tower Louderman Building Builders Exchange

Cement Makers Since 1883

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This model is a complete fireplace—a wooden mantel (either white or mahogany finish) paneling and Radiantfire® of stainless steel with silver-like finish. It is of classic simplicity, adapted to any scheme or decoration or architecture. It is easy to install; no skilled labor, no tile setting, no chimney or ash pit. Takes up little wall space.

Three Fireplaces for The Price of One

The salability, attractiveness and comfort of the home or apartment can be increased many times by adding these extra fireplaces.

You spend the price of three such units when you build an ordinary fireplace, with its masonry, chimney and ash pit, but there is no comparison in the efficient service that they render.

They come complete, ready for installation. All you have to do is provide a gas connection. The design of the mantel is such that it fits in with any interior.

A Humphrey "Radiantfire" Gas Heater provides clean, odorless heat. It is always ready for instant use. Many days in spring, fall and winter the necessity of operating the furnace can be eliminated. The joy and pleasure of sitting before a warm, attractive fire without any dirt or trouble, make satisfied owners and tenants.

Plan your Homes and Apartments for Humphrey "Radiantfire" Mantels.

Details and prices mailed on request. Write today

The HUMPHREY Radiantfire Mantel

No smoke—No odor. No ashes—No dust

GENERAL GAS LIGHT COMPANY, KALAMAZOO, MICH.
New York - 44 West Broadway  San Francisco - 135 Bluxome Street

IF IT ISN'T A HUMPHREY, IT ISN'T A RADIANTFIRE

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The "Old Virginia" Spirit

The new Cavalier Hotel at Virginia Beach, Virginia, was designed to embody as much as possible of the spirit of "Old Virginia." Pine was the lumber selected after a study by the architects showed its extensive use in old Virginia homes and buildings.

Pine panelled walls in the entrance lobby greet the guest in true colonial spirit. The main lounge is dressed in Pine, the fireplace in its attractive setting being the dominating note. Throughout the hotel, Pine imparts the spirit of "Old Virginia."

This wood is winning favor everywhere for home and building construction. Its easy-working qualities make it desirable for all woodwork. The light color, smooth texture and even grain are attractive with most any finish, whether left natural or treated with paint, enamel or stain. It endures and seldom warps or shrinks.

Abundant Supply Available

The Shevlin, Carpenter & Clarke Company has a stand of California White Pine sufficient to supply the nation's needs for decades, perhaps indefinitely. You will find it carefully seasoned, rigidly graded and smoothly milled.

Leading lumber dealers can supply you with Shevlin California White Pine and the other varieties: Shevlin California Sugar Pine, Shevlin Pondosa Pine, Shevlin Norway Pine and Shevlin Northern White Pine.

Get More Information About Pine

The book, "Specify Shevlin Pine," contains detailed information about each variety of Shevlin Pine—the characteristics, uses, physical properties and other data.

You should have this information in your files. A copy will be mailed to you upon request.

Shevlin, Carpenter & Clarke Company
903 First National-Soo Line Bldg., Minneapolis, Minn.
Chicago Sales Office: 1866 Continental & Commercial Bank Bldg.
San Francisco Sales Office: 1028 Monadnock Building.
Sold in New York by N. H. Morgan, 1205 Graybar Bldg.
Maple Panels the Latest Improvement in Paine Lumber Co. Doors

By D. C. McCRAY

A STILL better "Miracle" door has been the motive actuating Mr. Nathan Paine of Oshkosh, Wis., in bringing out his new line of doors with white pine stiles and rails and figured white maple panels, as announced to the trade on June 4.

The "Miracle" door has been for a number of years one of the leaders in beauty of design and quality of manufacture. The Paine Lumber Co., Ltd., has concentrated on its construction and workmanship with success measured by more than four million doors now hanging on hinges.

With this new development of hard maple panels, produced in very large quantities, a new standard in low cost, high quality doors is made available to builders.

Maple panels, as all builders, architects and dealers know, are extra strong—straight and clean. They take beautifully any finish—stain, paint—varnished, waxed or oiled. Ordinarily they are too costly for any but the most expensive special doors.

The very large production of veneers in their own veneer mill unit, now offers the Paine Lumber Co., not only mass production economy but also the opportunity for selection of veneers for figure. Mr. Paine intended for some time, to feature such selections in special door jobs, carrying an extra charge for fancy figured veneer.

Thorough consideration, however, brought the decision that the "Miracle" door was entitled to every advantage that the Paine facilities offer. It seemed certain that the popularity of the "Miracle" door would be tremendously stimulated through favoring it with a selection of panel veneers of white hard maple that would add to its individuality and beauty.

The white maple veneers that are figured, and also those that are unique in natural design, are chosen for use in the "Miracle" doors. These veneers as selected are unexcelled for beauty of figure and perfection of texture.

White maple veneer panels of slightly less interesting pattern go into the Paine Company's "Klimax" line of doors.

This plan gives Paine customers a line of doors exclusive in selection for beauty and quality of materials, as well as for beauty of design and quality of workmanship, all priced in accordance with Mr. Paine's established policy of economical mass production. These doors are now in the hands of the Paine jobbers and dealers ready to satisfy the building demand.

New Company Organized

THE Gibsonburg Lime Products Company, Gibsonburg, Ohio, has announced the appointment of Chenoweth-Stolz Company, of Atlanta, Ga., as exclusive representative and distributor. With this announcement comes the news of the organization of the Chenoweth-Stolz Company. The new organization is a corporation, the officials of which are W. M. Stolz, president and treasurer; R. Chenoweth, vice-president, and Bruce Chenoweth, vice-president and secretary. These men have all, for many years, been associated with the building material business in the Southeast and are well known to the dealers of that territory.

The Gibsonburg Lime Products Company has built a new plant said to embody unusual modern and compact features which provide a daily output of 100 tons or more and requires but 30 men for operation.

"Distinctive Doorways for Office Buildings" is the title of a handsome new booklet published by the Van Kannel Revolving Door Co., 716 Whitlock Ave., New York City, and illustrating in colors the kind of installations possible with this company's equipment.
This builder says: "O. K. and then some"

"The Fenestra Steel Casement Windows used in our 'El Castillo' apartment building, on Chicago Boulevard, have proven thoroughly satisfactory, not only in their low first cost and economy of installation, but also in their attractive appearance, convenience and weathertightness.

"'El Castillo' has rented with gratifying rapidity, and from the comments made by prospective tenants, we feel sure that Fenestra Casements have been a large factor in the popularity of the building. Women seem to be especially impressed by the ease with which your windows can be washed from the inside, without any danger of falling.

"Another attractive feature of Fenestra Casements is the fact that they are screened on the inside, and can be contained in any number of pleasing styles, giving that 'different' touch for which every housewife strives. The small glass lights, too, contribute to the good appearance of the windows.

"We shall undoubtedly continue to use Fenestra Casements in our building operations, and wish to take this opportunity to thank you for the interested attention and efficient service accorded us by your representatives."

Yours very truly,

CHICAGO INVESTMENT CORPORATION
(Signed) John B. Ebert, President

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Detroit Steel Products Company, 2304 East Grand Boulevard, Detroit, Michigan
Factories: Detroit, Michigan, and Oakland, California • Convenient Warehouse Stocks

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Another Weyerhaeuser
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FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
Why builders have welcomed this labor saving lumber

FAR-SIGHTED builders are praising Weyerhaeuser's new 4-Square Lumber for these three significant reasons.

FIRST, it permits more careful workmanship throughout because it saves most of the time your carpenters ordinarily spend in hand-trimming ordinary lumber. All 4-Square Lumber is trimmed square and smooth at both ends—ready to use just as taken from the 4-Square package.

SECOND, 4-Square Lumber is better lumber in every way. It is properly seasoned. Uniform in quality. Cut to standard sizes and exact lengths.Packaged with faces and ends protected. And the species and grade are plainly printed on the 4-Square label and guaranteed by Weyerhaeuser. By every test, 4-Square!

THIRD, the advantages of 4-Square Lumber are being nationally advertised to the public—giving the public an unmistakable way to judge lumber quality, lumber values and builders. It is now being distributed by local lumber dealers. If your dealer cannot supply it, write us.
Establish Research Institute

ESTABLISHMENT of the Holland Institute of Thermology, to conduct researches into various phases of the relation of humidity, temperature and circulation of air to public welfare, has been announced by A. H. Landwehr, president of the Holland Furnace Company, Holland, Mich. It will attempt to solve some of the heating and ventilating problems of the construction industry, study the effect of humidity upon various industrial products used in homes and investigate problems connected with industrial housing and the efficiency and working conditions of workers in shops and offices.

"The Institute will be given ample resources to teach the American home owner, in a practical way, the science of heating and ventilation," Mr. Landwehr stated. "This object, of course, has many ramifications into numerous industries. A competent engineer will be placed in charge and the results of tests and investigations made by the Institute will be placed before the public from time to time in the form of reports of its findings."

A. H. Landwehr, President of the Holland Furnace Company, Who Has Announced the Establishment of the Holland Institute of Thermology.

Changes in Inland Personnel

THE Inland Steel Company, First National Bank Bldg., Chicago, has announced the appointment of Leigh B. Block as purchasing agent, with headquarters at the Indiana Harbor, Ind., plant. Mr. Block, who has been with the company for the past four years, succeeds J. E. Stafford, who has resigned after 16 years with Inland to become affiliated with a company handling refractory materials in the Chicago district. Howard C. Yost has joined the sales department of the Inland Steel Company and will be located at St. Paul, Minn., district sales office.

Representatives Appointed

THE T. L. Smith Company, Milwaukee, Wis., announces the appointment of M. B. Rider as its factory representative for the eastern district. He will be active principally in the direction of co-operation with the various Smith distributors of that district.

The Smith company has appointed the Newlin Motor Company, Kansas City, Mo., as its representative for the western half of Missouri and the eastern half of Kansas. This company will handle the entire line of Smith construction mixers, while the Smith paver will be handled as before by the Bublitz Machinery Company. A complete stock of mixers will be carried to insure prompt delivery.

Virginia Dealers to Meet

THE mid-summer convention of the Virginia Lumber and Building Supply Dealers’ Association, Inc., whose office is located at Roanoke, Va., will be held at Virginia Beach, July 19 and 20, 1928.

Buy What You See

and yet—

Preserve the texture and beauty of hand decoration

Lin-Tex, a new hand-decorated washable wall covering, is shipped to you finished and ready to apply to the wall. No more need to worry about how the wall will turn out . . . Lin-Tex is true to sample. Apply this to new or old plaster or wall-board,—easy to remove, practically everlasting.

Write for sample and information.

Thibaut Lin-Tex

RICHARD E. THIBAUT INC., 24 West 40th St., New York
FREE How to Read Blue Prints

New Easy Practical Way
That Has Doubled Pay in 2 or 3 Months!

Thousands of Men in the Building Trades Have Discovered An Altogether New Way to Double and Triple Their Incomes! Surprising, Yes—but True! Almost Over Night They Have Stepped Into Interesting, Big-pay Jobs—Become Foremen and Superintendents—Or Are Making Big Money in Business For Themselves. The Same Wonderful Opportunity Is Now Offered You. Don't Send One Penny. Just Mail the Coupon For Full Set of Valuable Blue-Print Plans, Big Free Book, and Complete Details.

FREE YOU MEN who work with your tools in the building trades make good money. But you don't get one penny more than you're entitled to. Every boss on the job—making plenty more than just your wage scale—you can figure pretty well for yourself what a lot of real money the contractor and the builder clean up. Why do these men get more money for their work than you do? Why do they clean up $6,000 to $15,000 a year or more? It's simply because they're trained in the head-work side of Building and Contracting work. They can read Blue-Print Plans. They know how to lay out and run jobs.

Get This Big-Money Training

Many men think the only way they can get practical head-work training is on the job. Perhaps that was true once. But thousands of Chicago Tech. graduates have proved that the idea is all wrong now. You know yourself that a man can spend 5 or 10 years working with his tools and never get a real chance to learn the things he must know, if he is ever to get into the big-pay class. (Incidentally, it's a long, hard, slow process—never mind the time.)

But it's all different—the new Chicago Tech.

NOTE: We do not employ solicitors—No salesman will call on you.

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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Homes they Buy are Insulated

Purchasers of new homes look for comfort. They want eye-comfort and bodily comfort. And they want purse-comfort, too.

When you insulate with Cabot’s Quilt, you help out eye-comfort because the Quilt is hidden away under lath and plaster.

The Quilt keeps in the heat in winter, and keeps it out in summer, for it resists the passage of heat, either way. That gives real bodily comfort.

Finally, low cost of Quilt gives real purse-comfort in first cost, and its real insulating qualities keep purse-comfort up year after year, in fuel savings.

Residence of Solomon A. Smith, Lake Forest, Illinois. Roof stained with Cabot’s Green CREOSOTE Shingle Stains, side walls insulated with Cabot’s Double-Ply Quilt and finished with Cabot’s 341 Bleaching Oil. Architects, Puckey and Jenkins, Chicago.

Send in the coupon below (roll of Quilt) for full Quilt Information. Send it in today.

Insulate with Cabot’s Quilt
In Successful Use for Over 30 Years

Welded Building Being Erected

TWO new factory buildings, all the structural work of which will be electric welded instead of riveted, are now being erected by the General Electric Company. One of these will be an addition to the company’s plant at Bridgeport, Conn., and the other will be located at the company’s Pittsfield, Mass., plant. These buildings mark a second step in the company’s program of utilizing welding in the construction of its buildings. The first General Electric welded building was erected in Philadelphia as an addition to its plant there. The General Electric Company has found that less steel is required in the design of trusses for such buildings resulting in an appreciable saving in cost. Also that steel can be fabricated without noise and that simpler sections can be used.

New Directors Elected

A RECENT announcement states that John Sloane, president, and William E. S. Griswold, vice-president and treasurer, of W. & J. Sloane, Trenton, N. J., and Robert T. Fowler, for 30 years associated with Alexander Smith & Sons Carpet Company, Yonkers, N. Y., have been elected directors of the latter company. Richard Ede, Jr., treasurer; Thomas Ewing, Jr., vice-president; Williams Hertherington, president, and William F. C. Smith, of the Alexander Smith & Sons Carpet Company, and William D. Gardner, wholesale sales manager, and Joseph M. Hobbs, assistant retail sales manager of W. & J. Sloane, have been elected directors of W. & J. Sloane.

Guarantee Building Projects

A N important step in business service has been announced by the H. K. Ferguson Company, Cleveland, Ohio, international construction engineers, who have adopted a policy of guaranteeing buildings for five years. Every lump sum contract undertaken by the company on plans and specifications which they have prepared or approved for guarantee will include this clause: “The builder guarantees the work against defective workmanship and material for a period of five years after date of completion.” No company has ever before guaranteed complete building projects for so long a period as a regular policy, according to Harold K. Ferguson, president of the company.

Upson Joins Chain Belt Co.

I T is announced by the Chain Belt Company, Milwaukee, Wis., that Charles H. Upson has joined the sales organization of that company and will have his headquarters at Cincinnati, Ohio, representing the company’s entire line of Rex chain and transmission machinery.
Solid Oak Floor Planks

*CELLized — Cost no longer prohibitive

Wide solid boards that are unaffected by moisture—that will not cup or shrink—blind-nailed like strip flooring, and that will take the usual finishing processes!

All these factors, which greatly reduce the cost, and bring for the first time, solid Colonial plank floors within any flooring estimate, are due to *CELLizing. This deep-cell chemical treat stabilizes oak, and prevents distortion by moisture. It makes unneces-

sary the expensive laminating or veneering now resorted to in an effort to prevent movement in the finished floor. It permits a richer finish with less finishing materials, and easier nailing. Insect and decay proof.

As the cost is but little higher than the usual hardwood flooring, solid oak planks may now be economically laid in modest homes, clubs and similar buildings.

*CELLized Oak Flooring Inc.
MEMPHIS — TENNESSEE

Write for booklet "Style in Oak Floors" to

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Machinery Companies Merged

The merger of two well-known manufacturers of concrete and construction machinery, the Construction Machinery Company of Waterloo, Iowa, and the Marsh-Capron Company, of Chicago, has been announced by President H. B. Lichty, of the Construction Machinery Company. This merger has been effected for the purpose of bringing about economies of common management rather than for the elimination of either organization.

Both lines of equipment are to be continued as in the past and the sales and service organization of the two companies will remain intact. The long established sales and service policies of both companies will also be continued as in the past and careful attention will be given to the export field, as has been done heretofore.

The new arrangement will permit the manufacture of a complete line of tilting and non-tilting equipment under a single organization. Co-operation and exchange of information between the two engineering staffs is expected to bring about decided economies and advantages.

Organize Construction Committee

Striving to correct improper practices and to stabilize credit conditions in the building construction industry, representative sub-contractors and general contractors have joined in the Allied Construction Industries Committee, a new body recently formed at a meeting in Washington, D.C. Formal organization of the committee followed a series of preliminary conferences held at West Baden, Ind., Cleveland, Ohio, and Chicago, under the auspices of the Associated General Contractors of America.

Demonstrate Slate Making

Because of the great interest in slate manifested by visitors to the 1927 Own Your Home Exposition, the Bangor Slate Association decided to put on a real demonstration of slate making at the 1928 exposition at the Grand Central Palace, New York City. This exhibit included the sawing and splitting of blocks, trimming of the slate and finally nailing it onto the roof. Sheets 1/8 inch thick were split to show the flexibility of the material.

Each of the six houses surrounding the “Village Green” at the exposition were roofed with genuine Bangor slate in the manner best suited to the type of construction of the house. Two roofs showed a combination of 60 per cent blue-gray and 40 per cent colored slate, a combination which is growing in popularity each year.

One of the Houses Surrounding the “Village Green,” at the New York Own Your Home Show, All of Which Were Roofed with Slate as a Part of the Bangor Slate Association Exhibit.

When writing advertisers please mention the American Builder
The Only Small Mixers with Handy Feed Chutes

THE Smith Mascot 2½-S Mixer and the 3½-S Mixer have feed chutes into which it is easy to shovel. The Smith chute is low down—men do not have to shovel so high. They can feed a Smith faster and stay fresh right up to quitting time.

Faster Discharging

The Smith is the only true Tilting Mixer. It is discharged by a short pull of a lever, the batch shoots out, and the drum settles back in but a second, ready for the next batch. The seconds you save at every discharge mean more batches a day.

You, too, will find, as thousands have, that you can put far more concrete through a Smith per day.

Smith pioneered the machine mixing of concrete back in 1900 and reserved the rights to the now famous Double Cone Drum. Smith Mixers of 2½-S, 3½-S, 5-S and 7-S capacities are identical in principle and operation with the great Smith Mixers that leading engineers have insisted on for years for such projects as Exchequer Dam, Conowingo, Muscle Shoals, Jordan Dam, etc. These men know the Dependability and Speed of Smiths.

The T.L. SMITH COMPANY
1026 32nd St., Milwaukee, Wis.
Sales Offices and Service Stations in all Principal Cities

Catalog 528 gives full specifications and pictures of all the Smiths. In spite of their outstanding performance, Smith Mixers are not high priced. Mail the coupon for Catalog and Price Sheet TODAY.

For 28 years, Smith has been a leader in the developing of the many refinements that have brought Concrete Mixers up to their present Dependability, Ruggedness and Speed.
Spray Painting Lowers Cost of Building

Today practically everybody knows that it costs less to spray-paint a building with DeVilbiss equipment than to brush-paint one. Contractors and painters who are familiar with the results also know that a DeVilbiss spray-painted surface is given a much greater protection than when the same materials are applied with a brush. The contractor who figures on brush painting, figures higher than the one who figures on spray painting, and the low figure delivers the better job.

DeVilbiss equipment gives you all the advantages of spray painting. A comparison of spray painting units will reveal to you the definite, specific features which constitute DeVilbiss Leadership. We will promptly mail you complete information about DeVilbiss equipment suitable for the general contractor and painter. Modernize your operation. Ask about it now.

THE DeVILBISS CO.
238 Phillips Ave., TOLEDO, OHIO
Sales and Service Branches
New York, Philadelphia, Cleveland, Detroit, Indianapolis, Chicago, St. Louis, San Francisco, Windsor, Ont.
Direct factory representatives in all other territories

DeVilbiss Spray-painting System

News of the Field

Abrasive Companies Consolidate

RECENTLY the Manning Abrasive Company, Inc., Troy, N. Y., and Herman Behr & Company, Brooklyn, N. Y., consolidated under the name of the Behr-Manning Corporation. This consolidation combines the resources, technical knowledge and experience of two of the leading companies in the field of sandpaper and general abrasive products and is expected to contribute to quality of their many products and to the service available to customers. No immediate change are contemplated in connection with the manufacturing or sales policies of either company except to establish closer contact between the manufacturing and technical organization. Both factories will be continued in operation as before and communications may be addressed to either.

Truscon Purchases Steel Company

THE Hydraulic Pressed Steel Company, Cleveland, Ohio, has been purchased by the Truscon Steel Company, Youngstown, Ohio, and will operate it as its Pressed Steel Division. The entire plant is being completely modernized to insure the most efficient production. With this increase in facilities, the Truscon Steel Company will have one of the largest capacities for furnishing pressed and deep drawn steel of every description. The improvements are proceeding rapidly, and full productive capacity will be available shortly.

Students Erect Bungalow

AN English type, seven room, brick bungalow, built entirely by students of the Department of Building Construction of the Carnegie Institute of Technology, was visited by 11,782 persons in one night, according to a report from the Pittsburgh institution. The bungalow was one of the displays of the annual exhibition which attracts between 20,000 and 25,000 visitors yearly. The bungalow was built, this year, in the masonry and bricklaying shop, under the direction of Charles W. Larkin, instructor. All work, including the masonry, bricklaying, carpentry, plumbing installation, electrical installation, plastering and painting was done by the students of the day and night classes. Several rooms were furnished especially for the exhibition through McCreey & Company, of Pittsburgh, and several industrial firms loaned electrical and plumbing apparatus for the occasion. It is expected that the bungalow will be torn down and replaced by another problem next year.

A Bedroom in the Seven-Room Brick Bungalow, Built Entirely by the Students of the Department of Building Construction of the Carnegie Institute of Technology.
Check them all off

No Material List to Struggle Over.
No Sets of Blue Prints to Buy.
No Worry About Leaving Out Items.
No Wasted Time in Finding Comparative Costs.
No Doubts As to the Accuracy of Your Bids.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Other HOLT BIDDERS Have Said

Clear and Accurate
"I received the HoltBid and found it perfectly clear to me after a few evenings’ reading the HoltBidder’s Instructions. I have checked it up and find it accurate far beyond my expectations."
Exeter, N. H.

Use While Learns
"Have finished about half of the HoltBid Instructions and like it very much. Already sold one house and figured several other buildings. I find in checking with houses we have completed that the HoltBid checks up very closely."
Laceyville, Penna.

Most Complete
"In my fifty years of building, I have seen many estimating outfits but HoltBid is the most complete I have seen."
Jackson, Miss.

Best and Instructions Very Plain
"I have been giving what time I could conveniently spare to the study of the HoltBid Method of estimating building costs and so far have found it to be the best method I have ever tried. I have not bothered yet about sending in any requests to your Service Department, because you have made your Instructions very plain indeed."
Richmond, Va.

It’s Great!
"Have just received my HoltBid System and wish to thank you for the layout. I think it is GREAT. I am enclosing $5.00 herewith to prove my satisfaction as my first month’s payment."
New York, New York.

HoltBids After 7 or 8 Hours’ Study
"I had not put in over seven or eight hours learning to HoltBid before I figured a house and sold it and came out about 2% to the good."
Logansport, Ind.

RADFORD

The worst job in contracting or carpentering is estimating the cost. It is not only the most tedious work, it is also the most important—because the profit is determined before the job is even started.

HoltBid is a system that guarantees greater accuracy in figuring costs than any method that has ever been developed.

There is no stumbling block on the road to success that trips more men than inability to make accurate bids.

That is why HoltBid has met with such tremendous success—thousands of men are using it.

Your Questions

The entire profit on a job is sometimes lost by the low-bidder because he left out some item in his estimate.

There is no chance for errors of this kind in using HoltBid. The HoltBid Forms preclude any omissions or losses through carelessness or oversight.

Practically every builder has spent money for plans only to have the low-bidder take the job and switch to another design or not build at all.

HoltBid will save the expense of plans in developing a sale. All you need is floor plans and picture—such as shown in any plan book.
Honest Words of Praise

Pays For Itself

"Sold four or five houses and many smaller buildings, due primarily to the knowledge gained from HoltBid Service, so already feel fully repaid for the money spent with you." Waterloo, Iowa.

Lands Nice Jobs

"Local attorney says the HoltBid Forms were the best specifications for contracts that could be gotten. I feel that the HoltBid had a lot to do with my landing a couple nice house jobs last year." Amery, Wis.

Even Easy For Beginners

"I sure appreciate your books because they explain in such detail that a beginner like myself should have little if any trouble to understand them." Peoria, Ill.

Promoted

"I want you to know that I feel the HoltBid System is largely responsible for my recent promotion." Fargo, N. Dak.

Not Difficult to Learn

"The HoltBid is well organized and am convinced that it is practical and absolutely reliable—not difficult to master—very much pleased—in the beginning I was skeptical as I could not see how it was possible to fit different localities—now I know I shall obtain great benefits and save hours of hard, tiresome estimating which has been my previous experience." Littleton, New Hampshire.

Greatly Benefited

"It certainly is interesting and I feel benefited already. Can see where it will make building a profession instead of a mere vocation." Havre, Montana.

Answered Here

Sometimes a builder lets a profitable job slip through his hands because of lack of confidence in figuring the cost. He sticks to the ordinary jobs that he has done over and over.

Every table in HoltBid is based on actual figures. No approximating or averaging was done. A HoltBidder is competent to discuss building costs intelligently and snap up those chances that offer more than ordinary success.

One of Nature's laws is that no man may stand still—he either must progress or fall back. It is the natural instinct of every man to become independent and successful.

HoltBid will help you succeed because it increases your efficiency. HoltBidders have an advantage over all competitors that can neither be over-estimated or overcome.

Regardless of how much experience you may have had—how thoroughly you understand your work—you will admit you have got to keep up with modern methods in this day of keen competition.

HoltBid will enable you to make more money because it will assist you in keeping your business on the basis of service. It's the jobs that went to the other builder that gives you the feeling of failure.

After all, ability is the deciding factor in any profession or trade. There can be no success unless you know how to carry out your work as well as your fellow men.

We know that HoltBid is worthy of your investigation and that you owe it to yourself to give our method a personal trial. Order coupon on next page is for your convenience.
William A. Radford, President,
The HoltBid Service Company.

I GUARANTEE that the HoltBid Method of Estimating 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. During the thirty days of free examination it is understood that our corps of expert HoltBidders will hold themselves in readiness to answer any question, and to give you true appreciation of the great value of the HoltBid Method. In accepting your order I place my full confidence in your intentions to give the HoltBid Method a fair trial.

WILLIAM A. RADFORD, President,
The HoltBid Service Company.

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 ................................................. State

Town ................................................ Occupation

Street Address ....................................

Note:—The service must be entered in the name of the individual and not the firm.

PIN A DOLLAR BILL TO THIS COUPON AND MAIL TODAY

(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.)
An Architectural Competition

Forty-eight countries are already represented in an architectural competition which will begin on September 1, 1928, for the selection of a design for a monumental lighthouse in honor of the memory of Christopher Columbus, that will be erected at Santo Domingo, capital of the Dominican Republic, in accordance with the terms of a resolution adopted at the Fifth International Conferences of American States. Before the opening of the contest it is expected that a considerable number of additional entries will be made. The entries of 699 architects have been received.

An international jury of three, to be selected by the competitors, will meet at Madrid, Spain, on April 15, 1929, for the purpose of selecting 10 designs from the entries. The authors of these designs will then recompete for the purpose of choosing a final decision. Each of the 10 architects whose designs are selected will receive $2,000. There will be 10 honorable mentions of $500 each. The author of the design placed first in the final competition will receive a prize of $10,000 and will be declared the architect of the lighthouse. Second prize will be $7,500; third, $5,000; fourth, $2,500, and $1,000 will go to each of the other six competitors. The selected architect will, in addition to the prizes mentioned, receive a commission of 6 per cent on the first million dollars, 5 per cent on the second million and 4 per cent on all above two million dollars total cost of the lighthouse.

Kalman Opens Washington Office

A recent announcement states that the Kalman Steel Company has opened an office in Washington, D. C., at room 811 Barr Building, which will serve as a sub-agency to the Baltimore district office. Mr. Howard M. Lloyd will be in charge of the new office and will act as sales engineer.

Name New Sales Manager

It has been announced by the American Roof Truss Company, 5 N. La Salle St., Chicago, that R. C. Schwass, who for a number of years has been in charge of its western sales, has been made sales manager of its New York office, which is located in the Architects' Building, 101 Park Ave.

L. Mundet & Son, Inc., 461 Eighth Ave., New York City, offers a pamphlet on its Jolinite cork tile for use in the smallest homes as well as the largest institutions.

The Manning Abrasive Company, Troy, N. Y., offers a new pamphlet pointing out the importance of uniformity in sandpaper.

The Schlangen Bros., Co., 2435-2441 Irving Park Blvd., Chicago, has recently published a handsome new catalog, No. 10, covering its complete line of brass goods including builders' hardware, hose fittings, and special goods made from brass, bronze, aluminum and nickel silver.

“Kawneer Store Fronts” is the new Catalog M of the Kawneer Company, 2626 Front St., Niles, Mich., which contains very complete information, detail drawings, etc., on this company’s store fronts.

“Structural Economies for Concrete Floors and Roofs” is a new publication offered by the Concrete Steel Company, 42 Broadway, New York City, which is a reference book for architects and builders on the subject of the type of construction known as the Havemeyer Truss Floor System.
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.

"Stair Builder's Guide," by Morris Williams, published by the Scientific Book Corporation, 15 E. 26th St., New York City, a new edition of which has recently been brought out is described as "A treatise on the construction of straight flight, platform, cylindrical and elliptical stairs, explaining the theory and practice so that the average building mechanic may understand it, with examples of work, ranging from the simplest to the most complex forms." Price $3.

The Cincinnati Iron Fence Co., Inc., 3331 Spring Grove Ave., Cincinnati, Ohio, has published a handsome catalog very completely describing and illustrating its line of iron fences and gates.

"Installing Oil Heat" is the title of a new booklet published by the Oil Heating Institute, 350 Madison Ave., New York City, treating the subject of "Oil heat from the architects point of view," and prepared by C. Stanley Taylor, architect.

"End-Matched Softwood Lumber and Its Uses" is the title of a new bulletin published by the U. S. Department of Agriculture, containing the report of the Subcommittee on End-matched Softwood Lumber of the National Committee on Wood Utilization. It is the second of a series on the marketing and use of lumber and may be secured from the Superintendent of Documents, Government printing office, Washington, D. C., for five cents a copy.

"What Constitutes Roofing Quality?" is the title of a booklet by Lester Kirschbaum, B.S., Ch.E., published by The Flintkote Company, Park Square Bldg., Boston, Mass., which describes the manufacture of composition roofing.

The Shaw-Perkins Manufacturing Company, Pittsburgh, Pa., offers a catalog, No. 25, on its high convection radiators for steam and hot water heating, cooling, drying and industrial applications.

The Stewart Iron Works Company, Inc., Covington, Ky., offers a very complete catalog of its line of hand wrought iron and bronze, illustrating both modern and period designs in hardware, fixtures and furniture.

The American Engineering Standards Committee, 29 W. 39th St., New York City, has published its 1928 year book containing a description of standardization activities during the past 12 months and a list of new projects.

The Milwaukee Corrugating Co., Milwaukee, Wis., offers a new pamphlet, in colors on the subject of "The Spanish Motif in Roofs as Expressed by Milcor Spanish Copper Tile."

The Indiana Limestone Company, Bedford, Ind., has prepared a pamphlet under the title "Physical Properties of Indiana Limestone containing data correcting certain misunderstandings as to comparative values of various limestones."

The Truscon Steel Company, Youngstown, Ohio, offers a new booklet under the title "Window Beauty" on the subject of Truscon Standard Casements Model No. 5, containing full detailed information and illustrated with photographs and architectural sketches.

David Lupton's Sons Company, Philadelphia, Pa., has issued a new folder, "How to Get a Good Foundry," which describes the radical improvement in daylighting and natural ventilation of foundries with its products.

The Benjamin Electric Co., 120 S. Sangamon St., Chicago, has published a pamphlet catalog of its new line of electric refrigerator cabinets.

Only Genuine High Class Performance

Pays Big Money

You need look no further than the leading floor men in your city or any city. They'll tell you that the "American Universal" gives genuine high class performance and that pays big money. Ask for a demonstration.

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Sell and Install Porstelain Tile

This new low cost, high quality tile makes a beautiful, permanent job, equal to clay or composition tiles in every way.

It is the answer to the demand for a tile that will give greater satisfaction at less cost. A tile that anyone can install; a tile that will not crack, one that is beautiful and has a lasting finish.

Porstelain
System of Standard Wall Tile

A new and practical method of securing tiled walls that are colorful, sanitary, heat and moisture-proof and non-cracking.

Not Just a Wall Surfacing Finish

Porstelain Tile makes a complete insulated wall when installed. They can be applied directly to studding or hollow tile or over the existing walls.

Porstelain Tiles are pressed out of sheet steel (resembling shallow, oblong pans) and coated with a hard, indestructible, china-like surface of porcelain enamel.

Made in standard sizes and a wide variety of colors. Each tile is a separate unit and is set individually on a grooved base.

We Want One Energetic Builder in Every Community to Specialize in Porstelain Tile Installation

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Every new and old home is a live prospect. Old bathrooms and kitchens can be modernized and beautified with this new patented tile.

No Experience Required to Install Them

You or your men can do the work with a speed that is surprising. This is the opportunity of a lifetime to start a business of your own; a business that will grow year by year. Get in while the field is new. We are ready to help you.

Write Us Today. Your Territory Won't Be Open Long

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CHICAGO, ILLINOIS

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Brings Complete
Information. Mail
it at once.
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.

Geo. L. Mesker & Co., Evansville, Ind., has issued a pamphlet on the subject of the standard steel hangers which it has developed and placed on the market to meet the rapidly increasing demand from airports and flying fields throughout the country.

The Vento Steel Sash Company, Muskegon Heights, Mich., has prepared a pamphlet covering the styles, sizes, construction and application of its puttyless steel windows.

The Clinton Metallic Paint Company, 558 Clinton Road, Clinton, N. Y., has published new literature on the subject of the use of Clinton cement colors, including two booklets, "Color in Stucco" and "Color Suggestions for Brickwork," and a circular, "Clinton Mortar Colors."

The Sisalkraft Co., 228 N. La Salle St., Chicago, offers a pamphlet describing the use of the reinforced, waterproof paper which it manufactures.

The Louisville Cement Company, Incorporated, Louisville, Ky., has published a booklet on the subject "Brixment for Stucco" which contains full instructions for this use of its product.

E. C. Atkins & Company, 402 S. Illinois St., Indianapolis, Ind., has published a new catalog, No. 20, in a de luxe edition, in hard covers, covering the complete line of saws, saw tools and machine knives which this company manufactures.

The Midwest Steel & Supply Co., Inc., Bradford, Pa., has issued a new pamphlet on the subject of "Midwest Steel Stringers for the Modern Factory."

The Pyramid Metals Company, 2014 Wabansia Ave., Chicago, offers a circular, entitled "There's a Hole in Your Window Four Inches Square," which presents the important service rendered by its weatherstrips.

The Roe Safety Door Corporation, 1260 Builders Bldg., Chicago, offers a pamphlet illustrating the various types of safety door which it manufactures for home protection.

The Dovetail Anchor Slot Company, 660 Builders Bldg., Chicago, offers a pamphlet illustrating the application of the Dovetail masonry anchors which it manufactures.

The Concrete Reinforcing Steel Institute, 435 N. Michigan Ave., Chicago, has published, in the form of a booklet, the "Proceedings of Fourth Annual Meeting, Biloxi, Mississippi, March 19-21, 1928."


L. Mundet & Son, Inc., 461 Eighth Ave., New York City, has prepared a pamphlet on the subject of the "Mundet Jointite Cork Tile" for small homes as well as the largest institutions.

The Autocar Company, Ardmore, Pa., has published a new booklet under the title "Autocar Car Trucks for Hauling Building Supplies," which contains some interesting information, including an extensive list of Autocar users in the building supply field.

The Cork Import Corporation, 345-349 W. 40th St., New York City, has published two new pamphlets, "Novoid Corkboard Insulation" and "Novoid Cork Covering—For Refrigerated Lines and Tanks and Drinking Water Systems," containing useful information on the use of its products.

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### Bommer Spring Hinges

**Spring Hinges**

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**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*

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Send for catalog and estimates. Free of course.

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@ Panelboards help sell the houses you build as well as give you lower labor costs in the installing of them. Whatever the size or type of building there is an @ Panelboard for it.

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FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
Insulates Best
Says U. S. Bureau

ON YOUR next job, insulate with Gimco Rock Wool. Not only insulates against cold and heat, but also against FIRE, water, vermin and SOUND. Rock wool is listed by the U. S. Bureau of Standards as the most efficient 100 percent fire proof, chemically stable insulator known today. Approximately 90 percent of its volume is DEAD AIR space.

Gimco is Rock Wool at its best. It is produced by drawing molten silica rock into fine, long fibres by a special process which also anneals the fibres, making them tough, elastic and waterproof. This silica rock is found in only one community—Alexandria, Indiana.

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Gimco Rock Wool is available in three convenient forms to meet every need and requirement of installation—Loose; Felted (which we term Flexfelt) and Granulated Rock Wool.

1. LOOSE ROCK WOOL—Light, fluffy and easy to handle. Wonderfully adapted for insulating walls and attic floors in new homes or attic floors in old homes. Tucks in easily and quickly between joists or studding. Packed in handy 50-pound bags.

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In a great many instances you will find that Genfire T-Bar Joists can be used to great advantage where it has been customary to use wood. Their light weight and unusual strength are important factors. They are entirely shop fabricated and require only the time necessary to lay them in place. No cutting, fitting, or other operation is necessary. The open web permits the passage of piping and conduits. When building several stories, the T-Bar Joists serve as working platforms and any number of floors can be constructed at the same time. Remember, too, that because these joists provide a light weight construction a corresponding saving can be made in the sub-structure.

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Manufacturers of a Complete Line of Firesafe Building Products, also Waterproofings, and Concrete Preservatives
Branches in All Principal Cities. Dealers Everywhere.

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enhance their value

Houses laid with "Perfection" Brand Oak Flooring command a better price on the open market. You can depend upon "Perfection." In two modern plants operated by skilled lumbermen, only the finest oak is selected. After proper seasoning and kiln-drying, it is perfectly milled and matched so that it lays smooth and stays smooth. It is graded and handled so carefully that upon arrival anywhere, it is always in perfect condition. Leading lumber dealers gladly feature this nationally advertised brand.

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There's a size and grade for every structure, new or old. Write today for full particulars.

"Perfection" Brand Oak Flooring, Blocks and Planks, may be obtained chemically treated by the "CELLized process."
DeWalt is the Ideal Woodworker

The DeWalt is the only overhead, direct drive, universal woodworker on the market. It is the most flexible machine made. To change from cross-cut to rip, to bevel, to bevel rip, to miter, to compound miter, to dado, mortise, routing, shaping, tenoning or ploughing tool takes but one minute. Cuts studs and jack-rafters at speed of 30 in 6 minutes. Routs complete stair of 14 risers in 12 minutes. It's portable. Two men carry it easily. Pays for itself on 3 average houses in time, labor and material saved.

DeWALT
Wonder Worker
The Ideal Saw for Builders

Flexibility Plus!
Motor can be tilted to any bevel. Crane swings to any miter and moves up and down. Yoke slides forward and back and swivels. No tilting table. Any cut can be made with work lying flat and layout marks in full view.

Texas Builder tells why DeWalt is the Ideal Woodworker

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Get the full facts in Catalog No. 60

Write for DeWalt Builders' Catalog

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I understand your Builders' Catalog will tell me all about the DeWalt. Please send it at once.

Individual

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Here is a machine which fills a long-felt want—a woodworker to which the individual motor drive principle has been applied.

Equipped with five motors, each with its own starting switch, it provides a complete equipment of woodworking machinery without belts or clutches. It has every good feature for which the FAMOUS Woodworker has been long noted—with the additional advantages which only individual motor drive for each unit can produce.

No belts to shorten or replace when they become worn—

No clutches to adjust—

No possibility of small pieces of waste material falling into belts or driving mechanism—

All of these features are offered at a cost only slightly higher than the belt driven machine.

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THE SIDNEY MACHINE TOOL CO.
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In order to permanently preserve the beauty of this house and insure a dry interior, the stucco was hardened and waterproofed with "ANTI-HYDRO." It cannot leak, and the stucco is so hard it will never crack or chip.

In addition to its hardening and waterproofing qualities, "ANTI-HYDRO" has many other advantages. It so enriches the mixture that the mortar sticks firmly to walls and prevents sliding, so that workmen can plaster 50% more surface in the same time as when using plain cement mortar. It insures a perfect bond to tile, brick or concrete. And any tone may be obtained by adding dry mortar color. "ANTI-HYDRO" may also be used with white cement and white sand without dimming or changing the color.

"ANTI-HYDRO" is a liquid compound and therefore easy to use. It mixes readily with the water used to wet down stucco. For 24 years it has been the outstanding concrete hardener and waterproofer. Results are guaranteed permanent. Use it on your next job.

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265-269 Badger Ave.
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SAFETY--SERVICE—and ECONOMY

LONG life and good service are two outstanding characteristics of Kimball Straight Line Drive Elevators. Nearly half a century of such service has brought many complimentary letters to us. Mr. F. D. Higginbotham, Manager of the Dooly Block in Salt Lake City, writes:

"In the month of October, 1914, Kimball Passenger Elevators were installed in this building. They have a capacity of 2500 pounds and a speed of 300' per minute. We have not been without service a single day during thirteen years."—This is just one example of Kimball Superiority.

Inquire about Kimball Straight Line Drive passenger and freight elevators—motor and machine assembled as an integral unit. Permanent alignment of motor and machine guaranteed.

Valuable descriptive pamphlets sent free upon request.

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HOME ENJOYMENT has a cash value for you—when it's one of your satisfied clients who's telling all of his friends about the wonders of his new home—and satisfaction all hinges on heating!

Better Heat—Easier Sales!

Your homes should be built around the heating plant, for it is the heart of the home. Choose a well designed Hot Water Heating Plant, Thrush Regulated, and you'll build friends as well as houses. Ask us about it—we will send you full details.

H. A. THRUSH & CO.
PERU, INDIANA

Tell me about the mild, healthful, uniform heat which Thrush Regulation economically provides.

Address

My Plumber is

THRUSH SYSTEM
OF HOT WATER HEATING
Touch It With a Ten Foot Pole—

REMEMBER the old saying “You can’t get near enough to touch it with a ten-foot pole”? That applies to the Improved Schlueter when you compare it with other floor surfacers.

Not One!
For what other has even half of the features that have made the Improved Schlueter the peer of Floor Surfacers? Steel roller adjusts itself to floor irregularities (by a patented suspension feature). 2. Link Belt chain drive. 3. Baldor motor made especially for surfacing machines (can’t burn out). 4. Positive suction gathers all dust. 5. Surfaced right up to quarter-round. 6. No weight to adjust. 7. No levers to manipulate. 8. Five Year Guarantee.

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You may have the Improved Schlueter for a Five Day Free Trial. Use it as often as you wish. Compare it with any other. If it isn’t definitely superior send it back. The Improved Schlueter is always bought because of the actual work it does. It is never sold. Write for details of Free Trial Offer and Easy Payment Plan.

Lincoln-Schlueter
Floor-Machinery Co., Inc.
222 W. Grand Ave.
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NOW! Crane fixtures in color as well as in glistening white

Cheerful pinks and yellows, gleaming ivory and soft tans, greens and blues enticingly cool as lake water on a summer’s day; Crane Co. now offers a complete line of plumbing fixtures in colors as well as in glistening white. Twice-fired vitreous china fixtures may be had in white or in a choice of seven colors; solid porcelain in white or in eight colors; porcelain enameled iron in white or in ten colors.

The new Crane color fixtures are a distinct contribution to the art of decoration in bath-room and kitchen. The fixtures themselves may be seen at the nearest Crane Exhibit Rooms. Or a request will bring complete information.

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A woman may look ever-so-carefully into this room and that. But, after all, it's her impression of the kitchen that makes or loses the sale. And next in importance comes the bathroom.

Use SANI ONYX, the modern wall material in both of these rooms. Fused from rock ingredients, it doesn't crack, chip, check or discolor. No repairs or redecoration. It means a certain sale!

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Catalog No. 24-6 describes over 2500 Starrett Tools. Write for a free copy.

THE L. S. STARRETT CO.
World's Greatest Toolmakers
Manufacturers of Hacksaws-Unexcelled Steel Tapes—Standard for Accuracy
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"This saw certainly was a wonderful investment for us. Saved $147.60 on one house." J. SMETTS & SONS, New Brunswick, N. J.

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"We have found many uses for this saw—has been an asset to our business." J. E. METCALF & SON, Corsicana, Tex.

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"... have wished many times that the hours I spent sawing by hand could have been done with your power saw. I use it for everything—to make work easier." OTTO F. RUPNOW, Wauwatosa, Wis.

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Wodack Electric Hand Saw may be had in 3 models. Model "B" has tilting base for bevel cuts to 60°. The 11" diameter blade cuts 4¾ inches, giving saw ample capacity for deep bevel cuts on 2" and 3" lumber. Rip and depth gauges. ¾ h.p. G. E. Universal Motor for A. C. and D. C. 60 cycles or less. Perfect Safety Guard. Operate from neighbor's light socket.

Write today for name of nearest demonstrator
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IT may be that in your territory most of the large building contracts have been let for the season—but how about the store front business? Now is the time when merchants are preparing for their Fall selling effort, and a well planned store front, built for good display of their merchandise, will prove a sound investment.

Hundreds of contractors all over the country have used International Service to their profit in landing store front contracts. We will supply designs and estimates free of charge to all reliable contractors who appeal to us for this service. Write today for further information, and ask for our illustrated steel catalog.

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Wall-Tex is a flexible fabric wall-covering, almost impossible to crack. For new homes, where walls and ceilings often settle, accompanied by plaster cracks, nothing can equal Wall-Tex. In old homes, where plaster is in bad condition, Wall-Tex helps to strengthen it, and hides the cracks.

Whenever Wall-Tex is applied, there is an added assurance of satisfaction. The beauty of Wall-Tex doesn’t fade. Spots, finger marks, furniture scars, the collected grease and grime of city air, even, cannot disfigure Wall-Tex permanently. It can be wiped clean time after time with a damp cloth.

Wall-Tex comes in 48” width, and it is hung just like wall-paper. New patterns are constantly added to keep the line up-to-the-minute. Every design in the sample book has proved its popularity. You can find there Wall-Tex numbers to harmonize perfectly with any decorative plan, for any room in a home. Both dull and glossy finishes. And plain Wall-Tex which makes an ideal base for the applied finishes so popular in modern decoration.

Architects, builders and decorators can use this modern wall-covering to advantage. For information on your particular requirements, write The Columbus-Union Oilcloth Company, Columbus, Ohio.
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**Sterling**

"rivet assembly" instead of bolts keep the legs rigid.

There should be more to a wheelbarrow than simply a tray, with a wheel, two legs and a couple of sticks hitched on. More than just any old perambulator made to sell cheap. There should be more — and there is more — you'll find it only in a Sterling. This one feature, shown here, will make you three times as much money in longer service and less repairs than you could ever save by buying any other barrow. Why take a chance — others don't.

Leading Hardware and Equipment dealers have Sterlings — or they can get them quickly from complete stock warehouses at Chicago, New York, Philadelphia, Pittsburgh, Cleveland, Detroit, St. Louis.

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All these concrete masonry units made on one machine —

**Self-Contained Vertical Power Stripper**

Here is the newest thing in power machinery for the rapid and economical manufacture of concrete block and tile. It is entirely self-contained — when it arrives at your plant you skid it into place, hook on a belt and you're ready to start operations. A power feeder that works automatically, power tampers that cut labor cost and insure a uniformly dense product. Only one clutch on the whole outfit and that one has a light job.

For the builder who is interested in establishing a concrete products plant with not too great an investment but whose trade requires a variety of sizes and types of masonry units, this outfit will be especially valuable.

Write for the Ideal catalog describing hand and power block, brick and tile machines, mixers and ornamental molds.

**Ideal Concrete Machinery.**

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The building trades are booming. Employers everywhere are looking for men who can read architects' blue prints. Splendid salaries and rapid advancement are offered men who have this special training.

There is an easy, delightful way to learn. The International Correspondence Schools will teach you right at home in an hour a day of the spare time that now goes to waste.

You will like the course because it is so practical. You work on actual blue prints—the same blue prints a contractor would use if asked for an estimate, or a foreman would receive from a contractor.

In a surprisingly short time you can acquire a knowledge of blue prints that will be of great value to you in a salary way the rest of your life.

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"The Universal University"
BOX 8171-C, SCRANTON, PA.

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Name
Street and No.
City
State
Occupation

If you reside in Canada, please send this coupon to International Correspondence Schools Canadian, Limited, Montreal, Canada.

When writing advertisers please mention the American Builder.
Re-Roofing With Natural Slate

Everywhere, a common sight, is warning the public of this eventual necessity if they buy a home roofed with anything but material that is known to be durable. And what roofing material is better known to have withstood the test of time than Genuine Natural Slate?

Would not, therefore, the very sight of "A Slate Roofed House" invoke exceptional interest in the mind of your prospective buyer?

Literature on our special Quarry Cleft Slate as well as standard varieties will be mailed upon request, or return of this advertisement.

VENDOR SLATE CO. INCORPORATED EASTON, PENNSYLVANIA

$100.00 BUYS A HESS WELDED STEEL PIPELESS FURNACE

Freight prepaid to any station East of Omaha, North of Cincinnati, West of Buffalo. Including the register and connecting hot and cold air pipe. Large enough for an 8 room house. Burns any fuel—delivers all the heat. Every seam welded—never leaks. Sold direct from our factory to you, and fully guaranteed—, for cash or on easy payments.

Send us a sketch of your house and let us show you how to heat it economically and thoroughly. No charge, no obligation.

We make pipe and pipeless furnaces in six sizes, suitable for big or little houses. Our 55 years of furnace experience is worth money to you. It's yours for the asking, in the form of a 48 page illustrated booklet on furnace heating. A postal card brings it to you.

SPECIAL RATES TO CONTRACTORS.

HESS WARMING & VENTILATING COMPANY 1220 South Western Avenue, Chicago, Illinois

Makers of Hess Snow-White Steel Medicine Cabinets. Distributors of Miami Wall Tile—a superior wall covering at half the price of clay tile.
Tie Up with the Garden Club Idea

In every small city and smart suburb, there’s an active garden club these days. Rivalry among the members is keen. Many garden club members would mortgage their souls for a small garden under glass, such as this one up near Boston, to give them an edge on their rivals.

Why not make that craving your entering wedge for easier sales? We can show you how to double the moderate investment required to build your initial greenhouse.

Frankly now, can you do any better than that with your money?

Fall facts by mail if you send the coupon

Hitchings Company

General Offices and Factory: ELIZABETH, N. J.
New York 136 Liberty St. Philadelphia 6709 North Broad Street
Albany, N. Y. 100 State Street

(But print plainly—Name and Address)
Send me full facts about your Sunshine Room.

KUHLS Elastic Glazing Composition
UNEQUALLED

You will find Kuhls' ELASTIC GLAZING COMPOSITION unequalled for bedding and glazing sash, skylights, conservatories and glass construction work, tile-setting, etc. Fine for pointing stone and terra cotta work. Ideal for window calking.

Kuhl's Composition is elastic, never sets hard, adheres strongly to wood, metal, glass, concrete, etc. Never cracks or crumbles. Stands heat and cold and is not affected by moisture or changing weather.

Kuhl's Elastic Glazing Composition can be economically and efficiently used in all construction works—from a four-room cottage to a 25-story building. It is now used by the best builders, contractors and architects and greenhouse builders in the country.

If your dealer does not carry it, write for your free sample today

H. B. FRED KUHLS
6415-21 Third Ave. Brooklyn, N. Y.

Get These Booklets and FREE SAMPLE

H. B. FRED KUHLS
6415 Third Ave, Brooklyn, N. Y.
Please send me free of charge your literature and a sample of KUHLS' Elastic Glazing Composition.

Name: ...........................................
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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Representative Bargains from Our New Catalog

**on Quality Plumbing & Heating Material**

**The Jewell**
An inexpensive high grade outfit of latest style that carries the stamp of perfection, priced very low at $55. Bath Tub and Lavatory are cast iron, heavy porcelained and fully equipped. Tub lengths to 5 ft. same price, 26 or 30 in. wide. Closet has deep seal syphon action wash-down bowl.

**The Peerless Beautiful Complete**
Highest type of Bathroom. Fixtures are solid and massive. Tub, Closet and Lavatory, heavily enamelled inside and out. Closet is deep seal syphon action, wash-down type with jet. Solid porcelain tank. Shower equipment shown $11 extra.

**WHOLESALE PRICES**
on the best plumbing and heating supplies. Everything GUARANTEED, or we refund your money. Only high class goods sold. Prices Always Lowest

**CATALOG FREE**

B. Karol & Sons Co.,
800-10 So. Kedzie Avenue,
CHICAGO, U. S. A.

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There's more profit in a Huther Saw

Backed by fifty years experience in the making of highest grade saws, each Huther Saw has a quality built into it that insures maximum length of service.

ROCHESTER, N. Y.
Makers of Better Saws for More Than Fifty Years
A Carborundum Combination Stone will last for years, for it is made of genuine Carborundum—the hardest, sharpest, fastest-cutting abrasive.

One side coarse grit—to start your edge and take out nicks. Other side fine grit—to give a smooth finished edge.

CARRIED BY HARDWARE DEALERS EVERYWHERE

Send for our Catalog C-2

THE CARBORUNDUM COMPANY
Niagara Falls, N. Y.

CANADIAN CARBORUNDUM Co., Ltd.
Niagara Falls, Ont.

Carborundum is the Registered Trade Mark of the Carborundum Company, for Silicon Carbide and Carborundum Company Products. This Trade Mark is under license from the American Carborundum Company.

SYNTRON Company
PITTSBURGH, PA.

The SYNTRON Electric HAMMER is motorless, therefore has nothing to get out of order. It is the lowest priced electric hammer on the market. Send the coupon at once for full description. No obligation.

Here's the Coupon:

SYNTRON CO., Pittsburgh, Pa.

Please send me complete information at once concerning your new SYNTRON Portable Hammer at new low prices.

Name....................................................

Address................................................
Edge Grain Flooring from
SUPREME QUALITY SELECTED
LONG LEAF YELLOW PINE!

As our specialty is the highest grades of flooring, the best logs are manufactured by us into flooring strips, enabling us, with the high quality of our timber, to produce a larger percentage of Edge-Grain flooring than other manufacturers of Long Leaf Yellow Pine Flooring. Scientific kiln-drying with proper moisture content and accurate machine work make the finished product the finest flooring of which men and machines are capable.

Manufactured $\frac{13}{16} x 2\frac{1}{4}''$ face counted as $1 x 3''$

End-Matched and Plain End

"Obtainable from Your Local Lumber Dealer"

E. E. JACKSON LUMBER CO.

SAVES THE TIME AND COST OF TEN HANDS!

Get full particulars NOW about this wonderful time, money and labor saver. Reap the extra profit you can make on your jobs by using the "Master Woodworker".

Don't stick to old-fashioned hand methods when you can do your work so much faster, more easily and with greater accuracy. The "Master" represents the one truly practical and modern way of woodworking. Constantly increasing orders prove it and hundreds of enthusiastic testimonials establish the "Master" as the outstanding leader.

Replaces five expert carpenters' cost. Speedy, powerful, accurate, dependable. Driven by electric motor or gasoline engine. Four models. You can't afford to be without the "Master."

Write today. Cash or EASY-PAYMENT PLAN.

The "MASTER WOODWORKER"
Congress and Brush Sts., Detroit, Michigan
(Established 1917)

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
One POINT you ought to know

My boss would like to make one point clear to you. Here it is:

Your office is right next door to the big WILLIS factory as we have representatives in every principal city in the United States. These representatives are anxious to tell you how big our factory is here at Galesburg, Illinois. We are still growing in order to meet the exacting requirements of contractors and builders who strive to always give or specify the best.

Do you know that it requires a half million tons of sheet steel a year—fed through a battery of 8 to 12 foot power forming brakes and shears—to fabricate, complete, enough hollow metal windows, fire doors, skylights, ventilators, marquise and special sheet metal work to meet the needs of this vast army of WILLIS representatives?

You can serve your clients better and save estimating time and labor by knowing, personally, the WILLIS representative in your territory. Each man is an engineering salesman capable, through training and experience, to advise you which types of sheet metal goods are best for your particular building problems. Write us for his name and address—you will enjoy knowing him and profit by it, too.

WILLIS MANUFACTURING CO.
Dept. 128, Galesburg, Ill.

FREE

Our descriptive catalog No. 8 shows a complete line of sheet metal building products. We shall be glad to send it to you FREE merely for the asking.
"They Keep a-Running"

5 Horse Power Century Type RS Repulsion Start Induction Single Phase Motor

For Automatic or Remote Control Service

Wherever automatic or remote control requirements must be continuously and satisfactorily met—in installations controlled by floating or pressure switch, or where the motor is located at a distance from the operator—use Century Type RS Repulsion Start Induction Single Phase Motors.

Their starting current is so low and their acceleration to full load is so rapid that full-load operating fuses are generally of ample capacity to effect a start. . . . This eliminates the necessity of elaborate starting equipment. . . . Any approved single-throw switch can be used for starting.

Century Type RS Repulsion Start Induction Single Phase Motors are built in standard sizes from 3/8 to 40 horse power.

CENTURY ELECTRIC COMPANY
1806 Pine St. St. Louis, Mo.

33 Stock Points in the United States
And More Than 50 Outside Thereof

What a whale of a lot of trouble a little inch can make!

One Inch Slice Cut From Building

Special Dispatch to The Sun.

SEATTLE, Washington.—One of the oddest tasks in building history here was finished recently when a one-inch slice was cut from a concrete building which had bulged over onto adjoining property. An offer to buy the inch of land under trespass was turned down, the owner desiring to sell the entire lot at a figure which the prospective purchaser thought prohibitive.

Needless to say, "Somebody blundered!" Which goes to prove that, in the long run, it is false economy to use any but the most dependable instruments.

K & E CONVERTIBLE LEVELS
usually are found on jobs where accuracy and speed mean dollars to the contractor.

Catalog sent on request

KEUFFEL & ESSER CO.
New York, 127 Fulton St. General Office & Factories, Hoboken, N. J.

CHICAGO
SAN FRANCISCO

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
SAMSON SPOT
SASH CORD
SOLID BRAIDED COTTON

SAMSON SPOT SASH CORD is made of extra quality cotton yarn spun in our own mills and is guaranteed to be free from imperfections of braid or finish. It is the most durable material for hanging windows. It can be easily distinguished by our trade-mark, the Colored Spots. Send for samples.

SAMSON CORDAGE WORKS - BOSTON, MASS.

"There is a Difference in Sash Cord!"

NEW MIAMI CABINETS
OUTSTANDING in design, attractiveness and construction. Ultra modern fixtures that mark the conveniently built home, apartment or hotel. Easily installed ... and the prices are reasonable. Five designs to show. Illustrated is "The Renaissance"

Mirror is held by ornamental clips ... no holes to lessen strength of glass.

Air-cushioned door absorbs shocks of slamming.

Full length piano hinge.

Five Models to Choose from:
De Luxe Victorian Renaissance Colonial Roman

M 1 Mirror is held by ornamental clips ... no holes to lessen strength of glass.
2 Air-cushioned door absorbs shocks of slamming.
3 Full length piano hinge.

MIAMI LAUNDRY QUEEN
IRONING BOARD CABINET

Breakage, heretofore a "bugbear" in shipping and installation, is held to a minimum with three carefully tested Miami features:

- Mirror is held by ornamental clips ...
- Air-cushioned door absorbs shocks of slamming.
- Full length piano hinge.

Write today for full details about the entire list of 1928 models. Catalog No. 7 on request.

THE MIAMI CABINET CO.
MIDDLETOWN, OHIO

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
For Shore Cottages and Summer Homes

Here the Bessler is especially appreciated for it provides easy access to the floor or loft above, and gives the fullest use of the floor below. It is easily installed and the cost is low.

Send for new circular showing particular application to summer homes.

The Bessler Disappearing Stairway Co.
AKRON OHIO

"I wouldn't use anything but SISALKRAFT"
"THERE'S no waste to Sisalkraft," says one Illinois contractor. "In the first place I can use every piece for it doesn't get torn in handling. Then I use most of it twice—once for protecting floors and finished work and then in the walls or floors in the next job."

This double use of Sisalkraft cuts down the cost and speeds up the work anywhere that a building paper would be used. Sisalkraft with its combination of tough strength and complete waterproofing means a better job, better protection to the finished building. Send for samples of this new material or get a roll from your dealer and try it on your next job. You will find a dozen different uses for Sisalkraft and a decided saving in all the ordinary building paper applications. Try Sisalkraft once and you will use it exclusively.

The Sisalkraft Co.
228 N. La Salle St. Chicago, Illinois

SISALKRAFT
"MORE THAN A BUILDING PAPER"
AD7-Gray

THESE WINDOWS WILL MAKE A PROFIT!

DEALERS are making money in handling Bayley-Springfield Steel Windows. Designed for all types of buildings. Bayley construction features make for great strength and economical installation, and are the result of 45 years' experience in architectural ironwork. Carried in stock so that a dealer's turnover makes the Bayley line an attractive proposition.

THE WM. BAYLEY COMPANY
128 West North Street SPRINGFIELD, OHIO
Sales Offices and Warehouses in Principal Cities
Bayley-Springfield Steel Windows

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
All Angles Are Cut Accurately with the Portable Crowe Safety Beveling Saw

Cut bevels the natural way. Take the Crowe Safety Saw to the job, plug into a light socket, and the saw is ready to cut at any angle you wish. For speed, portability, ease of operation, lasting service, it stands without a rival.

Body of aluminum alloy, blades are standard and can be purchased any place, equipped with proper gearing, it will not heat and is absolutely fool-proof.

With amazing speed you can make window frames, cut or trim flooring, cut frames, joists, studding, sills, cut jack rafters, rout for stair risers—any cut out of the ordinary.

You can't get hurt with a Crowe—automatic safety guard locks in position when not in use. Approved for safety by industrial commissions, listed as standard by Underwriters' Laboratories, and recommended by insurance companies.

A positive time and hard work saver wherever lumber is cut on the job. Made in four sizes: CC-7, CC-9, CC-12 and CC-16, cutting 2", 2½", 4½", and 6¼", respectively.

Write for folder and information, and learn about the many Crowe Safety Saw advantages.

THE CROWE MANUFACTURING CORP.
317-321 Sycamore St., Dept. A, Cincinnati, Ohio

REDYBORD

INDISPENSABLE TO HOTELS—APARTMENTS—HOMES

This Marvelous Invention is such a convenience to guests and such a saver of money to proprietors of furnished rental properties that they should not be without it.

The REDYBORD puts an end to the marring of furniture and cost of refinishing which amounts to thousands of dollars.

The REDYBORD needs no installation. It can be attached to a closet door, bathroom door or on the springs of an In-A-Door Bed. The low cost combined with the utility of REDYBORD make it a ready seller.

DISTRIBUTORS

There is a large field in Hotels, Apartments and Pullman Kitchenettes for energetic and reliable contractors who wish to specialize. There is some exclusive territory still open to the right men.

Send for information at once

REDYBORD, INC.

General Offices and Display Rooms
Builders' Building
28 So. Wells St., Chicago

Factory

Builders' Building Chicago, Ill.

Please send complete information regarding REDYBORD.

Address...

Please check the square, so we may know your requirements.

I am interested in proposition as distributor.

Name...

Contractor

( ) Dealer

( ) Architect

( )

Send for information at once

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
HERE is the logical power unit for Contractors and Builders Equipment

Fullpower

4-CYCLE AIR-COOLED

GASOLINE ENGINES

Ten years of dependable service as standard equipment on contractors' and builders' equipment—that's the record behind FULLPOWER engines. Men in the contracting and building field have seen these powerful, compact, small size engines perform faithfully week after week under full load. They know what the FULLPOWER engine will do. When you equip the machines you build with a FULLPOWER, you get the benefit of this reputation—it's a big selling factor.

Outline your power application problem to our Special Engineering Department—our experience will help you work out a satisfactory solution.

BRIGGS & STRATTON CORPORATION
Dept. A2

MILWAUKEE, WIS.

WHY SAW LUMBER BY HAND?

When You Can Take A Power Saw Out On Every Job

The Saving You Make With Its Use Is A Real Profit

Here is a Powerful, Portable, Carpenter, Sawing Machine not dependent on electric service or skill of the operator. Will cut rafters, studs, stairhorses and bridging; square long dimensions as fast as you can handle the lumber. For trimming sash, doors, screens, fitting casing and flooring. Will do those smooth, accurate jobs with 50% of the cost of hand fitting.

Cross Cuts, Rips, Miter, Dados

Furnished with either gasoline or electric power, or both. Gasoline equipment weighs 300 pounds and is positively without vibration. Runs all day long on a couple of gallons of gas and a little oil. Will saw as much lumber as a crew with hand saws. Build 1928 buildings 1928 way.

If you will write, we will make you a trial offer that will interest you. Delivery from stock or ouse near you.

Manufactured by
4448 Royalton Ave., D. W. ONAN & SONS, Minneapolis, Minn.

FOR ADVERTISERS’ INDEX SEE NEXT TO LAST PAGE

AMERICAN BUILDER (Covers the Entire Building Field)
Fireplaces That Give Plenty of Heat!

In modern homes, fireplaces are used only as supplements to the home heating plant and for providing heat on cool fall and spring evenings. Fireplaces built according to Donley Construction Plans and containing the Donley Damper, can be guaranteed to give plenty of heat for the above uses, and to be free from soot and smoke evils. Any mechanical device, other than a damper and ash dump, are entirely unnecessary, do not add to fireplace efficiency, but do add tremendously to fireplace costs.

Send 25c in stamps or coins for a copy of the Donley Book of Successful Fireplaces that gives construction plans, fireplace designs and descriptions of Donley equipment for building completely successful fireplaces at lowest possible cost.

The Donley Brothers Co.
13910 Miles Avenue • Cleveland, Ohio
Prospective Home Owners Appreciate Their Many Advantages!

Quick odorless heat in the bath or bedroom (instantly available in chilly weather), or a realistic log fireplace—for utility or ornamentation—RADIA heaters meet the need! And because they have these factors of convenience and comfort as well as beauty and appeal, they strike the fancy of prospective home owners. Builders find them a great help in profitable turn-over of property.

We manufacture a complete line of Gas and Electric heaters for the home.

F. W. SHEPLER STOVE COMPANY
1300 Sheffield St., Pittsburgh, Pa.

Safety - Saw

RIP-CROSS CUTS—MITERS—JOINTS
GROOVES—RABBETS—TENONS—BORES
MORTISES—DADOES—BEVELS—SANDS

Ball Bearing

Runs from light socket

FOR casement security, convenience, ease of operation, safety, and protection, use Win-Dor Casement Operators on your jobs.

Win-Dor
CASEMENT HARDWARE
The Casement Hardware Co.
402-A North Wood Street, Chicago

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
One
Piece Dependability

Expanded from one piece of steel without welds or rivets under stress, the Bates-Truss Joists give one-piece dependability to construction. Uniform in strength, the open web permits piping and conduits to be run without trouble. Every contractor and architect should have a copy of the Bates catalog on file, giving complete specifications, loading table, etc.

Write for a copy today.

BETTER SIDEWALLS

WHETHER for remodeling or new work, consider WEATHERBEST Stained Shingles. No other sidewall material will give their beauty of appearance, their saving of labor and time, their saving of paint and repair.

The WEATHERBEST process of hand-dipping 100% edge grain red cedar shingles, cut from first growth timber of inexhaustible supply, assures you best values. Each shingle is evenly stained. At time of repacking, any imperfect shingles are thrown out and replaced by good ones. There is sixteen years’ experience behind this policy: Not to cheapen materials or process to meet price competition.

For 10c (stamps or coin) we will send WEATHERBEST Color Chart and Portfolio of Photogravures in color showing WEATHERBEST homes as they actually appear. Let us also send a book telling you how to remodel old homes with WEATHERBEST Stained Shingles laid right over old sidewalks.

WEATHERBEST Stained Shingle Co., Inc.,
146 Main St., North Tonawanda, N. Y.

Enclosed is 10c (stamps or coin). Please send WEATHERBEST Color Chart and Portfolio of Photogravures showing WEATHERBEST homes in color. Also send book on Modernizing and Reshingling over old roofs and sidewalls, with details explaining your Remodeling Service.

Name
Address
Town
State

Write at once for complete information and our catalog.

The MILES MFG. CO.
Jackson, Mich.

Send me complete information and your catalog.

Miles Manufacturing Co.,
Jackson, Mich.

Complete Miles unit—Block Machine,
Power Tamper and Elevator Feeder.

AMERICAN BUILDER (Covers the Entire Building Field)

AT LOWER COST

W HETHER for remodeling or new work, consider WEATHERBEST Stained Shingles. No other sidewall material will give their beauty of appearance, their saving of labor and time, their saving of paint and repair.

The WEATHERBEST process of hand-dipping 100% edge grain red cedar shingles, cut from first growth timber of inexhaustible supply, assures you best values. Each shingle is evenly stained. At time of repacking, any imperfect shingles are thrown out and replaced by good ones. There is sixteen years’ experience behind this policy: Not to cheapen materials or process to meet price competition.

For 10c (stamps or coin) we will send WEATHERBEST Color Chart and Portfolio of Photogravures in color showing WEATHERBEST homes as they actually appear. Let us also send a book telling you how to remodel old homes with WEATHERBEST Stained Shingles laid right over old sidewalks.
This Trico installation, with an explanatory article on its scientific construction, was displayed on Page 200 of the April issue, American Builder. Refer to it for complete details.

A Sales Argument in Every Room
Your prospects respond at once to Trico Radiator Furniture. They know it reduces cleaning bills, protects walls and drapes, and beautifies rooms. It provides the humidified air they want for themselves and children. They also know Trico as the most widely advertised radiator furniture. Sell or rent your buildings easier with Trico equipment.

Write for Contractors' & Builders' Franchise Plan. Also Trico Book of Interior Decoration, and estimate forms. Write personally to Norman V. Ventris, General Sales Manager.

TRICO, Inc. Subsidiary to Art Metal Radiator Cover Co. 1718 N. Kolmar Ave., Chicago, U. S. A.

THE Fire That Heats the Home
Heats a Plentiful Supply of HOT WATER
when the Excelso is connected to the steam or vapor heating boiler. It eliminates leaky fire box coils; requires no attention.

In all sizes to supply hot water for one family or one hundred families.

Excelso Products Corporation
79 Clyde Ave.
Buffalo, N. Y.
Nationally Distributed by Leading Wholesalers and Boiler and Radiator Manufacturers

Sold and installed by plumbing and heating contractors everywhere.

BEAVER
COMBINATION WOODWORKER

12 MACHINES IN ONE

DOES THE WORK OF AT LEAST FIVE MEN

cuts cutting costs 80%

Write for Free Folder B.A.B-7

HUTCHINSON MFG. CO., INC.
MAIN OFFICE AND FACTORY, NORRISTOWN, PA.

quality lighting fixtures

Complete Outfit for 5-Room House $10

Living Room, Dining Room, Bed Room, Porches, Kitchen and Bath-room; all fixtures completely wired and assembled; we furnish tape, wood screens, fasteners and solder-less connection. Every fixture guaranteed and wired. Artistic design; beautifully finished. Direct sale to you from factory makes this low price possible. We save you ½ to ½ on lighting fixtures.

Write for complete catalog.

AJAX folding metal
SHEATHING AND ROOFING BRACKETS

Protect the roof as well as the workers. The quickest ever; safe as the earth under your feet.

Send for descriptive literature to
Ajax Building Bracket Co.
1551 Rydal-Mount Rd. Cleveland Heights, Ohio
When finish costs Real Money

YOU want Clinton Wire Lath under the plaster.

For then you know that the plaster is permanent. The drawn steel wires woven and galvanized together are as strong...yes, stronger than sheet metal. And a perfect key is provided both horizontally and vertically.

These are days of high land values when apartments are leased from plans, offices rented before old buildings are demolished and occupancy planned to the day. Decorating must be done when the building is finished. There is no time to wait for the building to get through cracking.

With Clinton Wire Lath cracking is reduced to a minimum. It's the lath to use when the finish costs real money.

WICKWIRE SPENCER STEEL CO.
49 East 42nd Street, New York, N. Y.
208 South LaSalle Street, Chicago, Ill.

Trouble Saver Steel Brackets

No Surer Money Maker on the Market

Literally cost you nothing—because they save their cost on their first job.

And they go on, year after year, saving their cost on every new job. Nothing to wear out or give way. Everlasting money makers!

Trouble Saver Steel Products

Money Back Trial Offer

Please send me details on your 30-day free trial offer and full information and prices on Trouble Savers.

Name: ________________________________
Address: ________________________________________
City: ____________________ State: ____________
The only machine that you can fill the table to 4½" without running the guise. Big advantage in pattern work.

S & B-8' COMBINATION SAW: 18 Tools In One GREATEST MACHINE YOU EVER SAW!

Sented to You on 15 Days' Approval

THE S & B 8-in. COMBINATION SAW (18 tools in one) is the ideal machine for the shop, factory or the home; will rip, cross cut, bevel, miter, mitre, groover, drill, tenon, grind, rabble, buff and polish. Meter is mounted on a base that is a part of the machine proper. Run from any light socket, also provides for other purposes when the saw is not in use. Complete with attachments and price includes 1½ H.P. Motor, 60-cycle, 110-Volt A.C. Price $35.00 F.O. B. Chicago. Shipping weight 100 lbs.

Write for Complete Illustrated Folder—Dealers Wanted.

Illustrated Folder—(Planer attachment to fit on table top will smooth the shop pieces up to 2 inches wide, $10 extra.)

SCOTT-BANSBACH MACHINERY CO. 130 So. Clinton St., Dept. 81 CHICAGO, ILL. $35.00 F.O.B. Chicago without Motor

The Best Protection for Any Building

MINERAL WOOL
THE PERFECT INSULATOR

Every speculative builder should investigate the increased value Mineral Wool adds to a building—every individual home builder should demand its use.

Mineral Wool is a sanitary, entirely mineral material indestructible, thoroughly fire-proof, vermin-proof, and sound-proof—and easy to apply.

Mineral Wool keeps out both Summer heat and Winter cold, and reduces the hazard of fire.

The saving it effects in Winter fuel alone will pay for the cost of installation within a few years.

Sample and illustrated booklet will be forwarded upon request.

U. S. MINERAL WOOL COMPANY
280 MADISON AVENUE NEW YORK, N. Y.
Western Connection: Columbia Mineral Wool Co., South Milwaukee, Wisconsin

—For permanence specify the famous

Hodell Sash Chain

Hodell No. 75 Apartment Sash Chain offers the most modest home or apartment building all the advantages of noiseless, permanent, smooth-running sash chain at no greater cost. Neither rust nor pitting. Made from a cold-drawn ribbon of polished steel. NOT STAMPED FROM SHEET; every link is uniform. Seeem Sani's. Ask for A-1 Specification File, Class 27-AI, and No. 75 folder.

THE CHAIN PRODUCTS CO.
Cleveland, Ohio

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
PLASTERING IS 90% OF THE VISIBLE INTERIOR

PLASTER with LIME

Investment builders appreciate the powerful selling influence of beautiful lime-plastered walls and ceilings to greet the scrutiny of the prospective home purchaser. Permanence, lasting satisfaction, evidence of quality building—all for 10% of the total cost. Specify Gibsonburg, Ohio’s Super-Finish—from America’s finest lime processing plant. Uniformly fine.

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

Gibsonburg
Finishing Lime

THE GIBSONBURG LIME PRODUCTS CO., Gibsonburg, Ohio
THE FARRAND RAPID RULE

A Modern Tool for Modern Craftsmen

RIGID and FLEXIBLE

Like a wooden rule, The Farrand Rapid Rule measures flat surfaces, from a few inches to six feet. Instantly available, released by slight pressure on brakes.

Like a steel tape, The Farrand Rapid Rule measures circumferences. Because of its slight concavity and nicked surface, its markings can be read in dim corners.

Rules Now Made in the Following Scales
72 inches with 1/16 inch graduations
6 feet with 1/100 foot graduations

Price $5. Ask Your Dealer or Write H. A. Farrand, Mfr., Room 639A, 149 Broadway, New York City

MYERS SELF-OILING POWER PUMPS

For OPEN or PRESSURE TANK SERVICE

Start at the beginning—go down through the entire list of styles and sizes—where power water facilities up to ten thousand gallons per hour are desired, there is a Myers Self-Oiling Power Pump for the purpose.

Belt or chain drive, with or without motor as pictured, for shallow or deep service, meet depth, volume and motive requirements. If you are interested in running water for factory, home or farm, write us for information and catalog.

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Vertically Drawn Flat Glass

AMPLE capacity to promptly fill the most exacting specifications.

A brand you can depend upon.

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The combination buck jamb and trim eliminates separate wood or steel bucks, jams and trim and thereby reduces erection cost two-thirds as the entire unit is installed at one time.

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Units made for single or double doors, transom openings, etc. Jams reinforced securely and drilled and tapped for application of hardware.

Furnished in prime coat ready for finish painting.

Prompt shipment, low in cost and easy to install.

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Also Manufacturers of Steel Windows, Kalamein Work and Bronze Doors.

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Vitrified clay sewer pipe has no upkeep because it stays down

CLAY PRODUCTS ASSOCIATION
CONWAY BUILDING
Chicago

VITRIFIED CLAY
Sanitary Sewer Pipe

The Peacetime Weapon...

with perhaps a different objective but a similar purpose; it fights cost. It does this successfully by doing the tedious hand sanding TEN TIMES FASTER.

The Super Sander will stand the continuous grind of the busy shop day in day out; its construction is rugged yet it is a handy tool for the hard-to-sand places. The large belt (4") means more coverage, while the new type 1 H.P. motor gives you power to spare.

Excellent for stairs, small rooms, floor edges. Extra attachment enables you to sand BUTT ENDS OF FLOOR WITH THE GRAIN. Handle for floor work can be furnished.

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Here's the weather stripping for you to handle and make money on—Kuhlmann's Metal Weather Strip. Contractors, builders and our representatives are making excellent profits by selling and installing these strips. Any good mechanic can do the job perfectly with ordinary tools. It's easy and profitable.

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SKF ball bearings, carefully protected from dust—Whitney Silent Chain—Roller Pressure Regulator—Force Feed Lubrication—Edge Roller Border Work Eliminated—Steel, not cast iron construction—all dust taken up on forward operation with New Vacuum Nozzle—all working parts inclosed.

The Little Automatic Surfacing Machine is a wonder for removing scratch from desk tops, counters, etc., or for all sorts of new work.

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COLONIAL
Another De Luxe Style

Beautiful — Distinctive.
The mirror entirely conceals the cabinet.
Suitable for the finest bath room.
Made in six sizes. We make five other popular styles.
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The Little Automatic Surfacing Machine is a wonder for removing scratch from desk tops, counters, etc., or for all sorts of new work.

WAYVELL CHAPPELL & CO.
38-40 Jackson St., Dept. Z
WAUKEGAN, ILL.

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
The nail tests which the government made are mighty convincing. Samples of every kind of nail on the market were procured and tried out. Finally the decision was given in favor of the old-fashioned type cut nail.

After all, the verdict is not surprising. When you consider the rectangular, wedge shape of Reading Cut Nails, it is easy to understand why they grip so much better. The ordinary wire nail holds by surface friction only while Reading Cut Nails cling to the wood all along the line. They cut their way into the board, spreading the wood with the grain—not across it—and never split the wood.

More and more builders are using them. All sizes are available for flooring, framing, sheathing, siding and shingling. Send for quotations.

READING IRON COMPANY
Reading, Pa.

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GARDEN
FURNITURE

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After all, the verdict is not surprising. When you consider the rectangular, wedge shape of Reading Cut Nails, it is easy to understand why they grip so much better. The ordinary wire nail holds by surface friction only while Reading Cut Nails cling to the wood all along the line. They cut their way into the board, spreading the wood with the grain—not across it—and never split the wood.

More and more builders are using them. All sizes are available for flooring, framing, sheathing, siding and shingling. Send for quotations.

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Ezy Kling Garden Furniture gives the finishing touch that so increases the value of any property. The irresistible charm and attractiveness cannot be overestimated in their selling value.

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Designs copyrighted June, 1926

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**AMERICAN BUILDER** (Covers the Entire Building Field) [July, 1928]

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For Advertisers' Index see next to last page
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Two men can Binks-spray the exterior of a house in less than one day. Compare this speed and cost with hand painting time. Interiors, too, are Binks-sprayed quickly. Property is ready for occupancy earlier, a big saving is made in the cost and the work is mechanically perfect.

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 Sands, Refinishes, Waxes, Polishes, Scrubs
Eliminates practically all hand work—pays for itself in a short time.

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Write for full size samples and prices
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LESS THAN WHOLESALE PRICES!

Retailers, Builders, Apartment, Hotel and Home Owners—NOW while prices are low is the time to buy your screen wire. Our wire is 99.8% pure copper. Heavier than any other wire made. 3 1/2 to 5 lbs. more per roll.

16 mesh, 16 mesh, 18 mesh, per sq. foot in 100 lineal foot rolls.

4c 5c 6c Widths 18" to 48" every two even inches.

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16 mesh, 5e per square foot in 100 lineal foot rolls. Widths, 24", 26", 28", 30", 32", 34", 36".

We can send cut pieces of wire parcel post. Mail in your list for quotations and save money. Special prices to users who buy 10 rolls or more at one time.

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We have in stock all sizes of wire in the above meshes.

Above Prices F. O. B. Philadelphia

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Send today for our 136-page Catalog. Builders' Hardware, Tools, etc. Every article pictured and priced. Get your copy now.

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All-Steel and Low Priced!

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It has an all-steel construction, ample power, large capacity, rubber tired disc wheels.

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A watertight, long-life, metal building corner fitted to give butted-mitered joint effect...chemically treated to take paint—no "weatherproofing". Practically invisible and will last as long as the building. Save money and time on any siding job.

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No Weights—Springs or Cable are used. Installed by anybody in one-half hour.

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Dumbwaiters
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Electric Power Units, or Attachments, for Hand elevators. Don't fail to investigate this most efficient device.

Our Elevators are time and labor savers, easy to install.

State kind of elevator wanted, capacity, size of Platform, and overall height.

Sidney Elevator Mfg. Works

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BRACE & MACHINE

THE FINEST Tool Manufactured for important wood work.

Specially adapted for Hardwood operations; indispensable to the High Class Carpenter and for Cabinet and Pattern Works.

Manufactured by

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Special Offer

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ELEGANT BEAUTY OF STEEL DESIGN FOR ANY ROOF

STANDARD BOWSTRING STEEL ROOF TRUSSES

WRITE FOR CATALOG

BETTER TRUSSES FOR LESS MONEY

CEG. L. MESKER & CO. EVANSVILLE IND.

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Get a Parks!

$495.00 including 2 H.P. motor

"Carpenter Shop Special." Six necessary units in one compact but convenient machine. 18-inch band saw, 9-inch jointer, 16-inch lathe, 10-inch circular saw, mortiser, shaper. Ball bearings and independent drive on every unit. 2 H.P. motor. Built for real work in every detail.

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Get your Parks order in the mail today!

PARKS
WOODWORKING MACHINES

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Exclusive Selling Agents Wanted

This new building product looks and wears like tile, but costs one-third to one-half as much installed.

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The Wert Tapestry Brick Machine is a Money Maker for the CONTRACTOR and BUILDER. Are built to be operated by either Hand or Power. I also manufacture a Two, and a Three Core Block Machine, operated by either Hand or Power. A Chimney Brick or Block Machine, Well, Cistern and Etc. Made. Hollow Wall Brick Machine. A Floor Tile Machine. Before purchasing any of the above line of concrete machinery, Investigate the WERT LINE.

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Its unusual simplicity makes it easy for inexperienced operator to get accurate results in good time. Can learn in five minutes. Very substantially made; no horizontal turning of telescope, lifting from support or adjustment of screws or bands necessary.

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Manufacturers of White's Improved Surveying and Drawing Instruments.

LIGNINE (WOOD) CARVINGS—UNBREAKABLE


NUMBER # CATALOG—FREE

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in this NEW WEATHERSTRIP SELLING PLAN

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PYRAMID METALS CO.
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Worth more to YOU than 14 cents a day—but that's all it costs

The greatest collection of building construction information ever published.

This great two-volume handbook presents to architects, construction engineers, contractors and builders a body of information on practical construction that has never before been approximated. More than seventeen engineering and architectural periodicals have endorsed this book as a work of incomparable practical value to the architect, the constructing engineer and the contractor.

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Economical Steel Doors
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Fireproof doors for basements, rear entrances, boiler rooms, fire exits, etc., in all buildings and for all uses in warehouses, filling stations, garages and industrial buildings. Reinforced corners, electrically welded. Single or double, slide or swing types. Solid or steel sash panels. Carried in stock for prompt deliveries.

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Growing in popularity every day, the new Reid-Way Vacuum Sander has revolutionized sanding practice. The revolving field motor, exclusive Reid-Way feature, has one moving part. No belts, chains, gears, no friction, no lost power. The only light weight sander using an induction motor—no commutator, no brushes to wear out. Extreme simplicity brings the price within the reach of all.

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All-Steel
Sash Pulleys

Any Style—any size
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Whenever your requirements in Sash Pulleys—Ball Bearing, Cone Bearing, Axle Bearing; drive or face plate types, small, medium or large—they can be filled most satisfactorily from the complete Grand Rapids All Steel line. For instance, in the Grand Rapids Line only can you obtain the large lubricated Cone Bearing Pulley, self aligning and noiseless. Acknowledged the World's Finest, they cost no more than the use of ordinary pulleys. Thousands have used nothing else for 30 years. Sold by all Distributors—Everywhere.

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50 Years Pump Builders

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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
FEDERAL OWNERS ARE CUTTING HAULAGE COSTS

You will too! Even before you buy a Federal truck you will be conscious of Federal's Certified Earning Ability. As you make your selection from 43 chassis, one to 7 1/2 tons capacity, and more than 100 body-and-chassis combinations, you will be conscious that you are getting exactly the truck needed to do your work at lowest cost.

Then, as you receive the story of Federal's ALL-TRUCK construction, and as you hear the experiences of other owners, your confidence in Federal will grow and grow. But your real understanding of "Certified Earning Ability" will come only after you have used a Federal, and known its influence on your profits.

THE FEDERAL MOTOR TRUCK COMPANY, 5842 Federal Ave., DETROIT, MICH.

"Leading Specialists in Commercial Transportation"

FEDERAL TRUCKS

ALL SIZES—FOURS & SIXES

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
KNICKERBOCKER Saw Rigs

Portable woodworkers, carefully designed, sturdily built, to cut the builder's costs.

Built in two models. No. 424 is a stationary arbor, right-hand sawing machine, for lighter millwork — 14" cross-cut saw, 12" rip-saw. Attachments for jointing, mortising, rabbinget, boring, grinding, grooving, sanding, and making moldings.

No. 5 is a swing cut-off and ripping machine—20" cut-off saw, 15" rip-saw. Readily attached Universal Tool Unit mitres, joints, planes, bores, grooves, rabbits, sands and grinds tools.

Ask for Special Woodworker Folder—and for our catalog of concrete, mortar and plaster mixers.

The Knickerbocker Company, Jackson, Mich.
METAL LATH

You will never have a metal lath need which cannot be supplied from the complete North Western line. Flat lath, Corrugated lath, Rib lath, Stucco Bases, Reinforcing for Concrete—cut from Standard Steel, Pure Iron, Copper Steel or Galvanized finishes. All these it includes. And a full line of Plastering Accessories as well.

We gladly answer questions, send specifications and samples, or help you with your lathing and plastering problems.

Most good building supply dealers carry North Western Materials. Or let us put you in touch with one who can quickly supply your needs.

NORTH WESTERN EXPANDED METAL CO.
1203 Old Colony Bldg., CHICAGO

STEEL LOCKERS, SHELVING, ETC.

FEDERAL-NORWEST LINE

A very complete line of Steel Equipment, inviting inquiries because of its high quality, its simplicity, adaptability, its distinctive features and sensible pricing. The FEDERAL-NORWEST line includes Steel Lockers, Shelving, Blue Print Cabinets, Counter Shelving, Tote Boxes, etc. Literature on request.

Engineering Service available. Our experts are ready to advise on your storage problems.

Some Territory Open. The FEDERAL-NORWEST line of Steel Shelving and Lockers and other Steel Equipment is particularly interesting to dealers who wish to branch out. Request our proposition and literature.

NORTH WESTERN STEEL PRODUCTS CO.
Subsidiary North Western Expanded Metal Co.
1203 Old Colony Bldg., CHICAGO
### ADVERTISERS' INDEX, JULY, 1928—(Continued)

**NOTICE TO ADVERTISERS**
Forms for the August number of the American Builder will close promptly on July 10. New Copy, changes and orders for omissions of advertisements must reach our business office, 1827 Prairie Ave., Chicago, not later than the above date. If new copy is not received by the 10th of the month preceding date of publication the publishers reserve the right to repeat last advertisement on all unexpired contracts.

**AMERICAN BUILDER.**
USE THIS TILE ONCE
OTHER JOBS WILL COME

You give your client a roof that will retain its character and charm, without care or attention, down through the ages, when you lay Milcor Pure Copper Spanish Tile. In addition to being a replica of the quaint tile of old Spain this Tile has a patented side-locking feature [Titelock] that affords complete protection against the elements. It is also available in "Copper-bearing" Terne Plate, painted or galvanized, finished in any desired color scheme. Use this Tile once... It will prove a good ad for your business.

MILCOR
MILWAUKEE CORRUGATING CO., Milwaukee, Wis.—Chicago, Ill.; Kansas City, Mo.; La Crosse, Wis.; Boston, Mass.
The Reasons for the Popularity of No. 50 E-Z Garage Fixtures

By providing every convenience to be desired without extra equipment or added cost to the user, Frantz No. 50 "E-Z" Garage Door Fixtures have won the praise of Carpenters and Builders who know from experience that a garage is only as satisfactory as the operation of its doors. These men point out the following outstanding reasons for the popularity of No. 50 "E-Z" Fixtures:

1. Installation: Very simple. The one piece track fastens flat over the opening (no blocking-out or brackets required). Hanger, hinges, foot and chain bolts, etc., require no experience or extra work to install.

2. Operation: Easy. Doors slide and fold clear of the opening and, if desired, can be swung around flat against the front of the building where room for so doing is provided.

3. The Hardware: Combines time and labor saving conveniences with the high quality materials and expert workmanship put into all Frantz Hardware.

4. Packing: The parts of each set—whether for 2, 3, 4, 5, or 6 doors—are snugly packed in strong cartons to assure perfect delivery. All necessary lag screws, bolts, screws and instructions for easy installation are included.

For doors of light construction No. 40 "E-Z" Garage Door Fixtures operate the same as the No. 50 set. And for large and heavy doors, the No. 60 "E-Z" Fixtures should be used. For complete details about these popular "E-Z" Fixtures, write Dept. A-8.

FRANTZ MANUFACTURING CO.
Sterling, Illinois

"No Hardware Is Genuine FRANTZ QUALITY Without the Red Label"