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SUBSCRIPTION RATES—One year, United States, Canada, Mexico, and U. S. Possessions, $2.00; six months, $1.00; single copies, 5 cents. Foreign countries, $4.00.

PROTECTION FOR OUR READERS—The publishers of the AMERICAN BUILDER reserve the right to decline any advertising they believe is detrimental to the interest of its readers; to edit advertising copy and to change or eliminate any statements that reflect injuriously or cast discredit upon other building products, machinery, equipment, supplies or tools. Be sure in writing to advertisers to say: "I saw your advertisement in the AMERICAN BUILDER."

ADVERTISING RATES—Furnished on application. Advertising forms close on the 10th of the month preceding date of publication.

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

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LET

TRUSCON

SERVE YOU

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

TRUSCON STEEL COMPANY, YOUNGSTOWN, O.
Established 1903
Warehouses and Engineering Offices in All Principal Cities
Factories in Youngstown, Cleveland, Los Angeles
The Truscon Laboratories, Detroit, Michigan

The Complete Truscon Line of Steel Building Products includes

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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
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.
DOORS INSIDE

Where they are
away from snow and ice
You Should Have These Free Books

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

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

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

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

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

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

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

Mail Coupon

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

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

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

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

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

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

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Name ..................................................

Address ..............................................

City.................................. State......................
1. Strength and permanence of re-inforced concrete made practical for even modest homes

2. At no extra cost—three to five times the insulation provided in most types of construction

3. Any exterior or interior finish without furring strips, lath, or extra operations

4. Richest architecture—utmost individuality—deep reveals—elegance—without extra cost

5. Greater All-Around Economy than any other substantial construction

That must be true, for nothing else fully combines all the functions of the remarkable building material called Stockade.

Eight times brick size, light as one brick, laid up brick-like—but without mortar—self-bonding Stockade saves time and labor in erection.

The Stockade units form the mold for re-inforced concrete columns, poured as the wall goes up. This structural wall assures the enormous strength of 34 tons resistance per lineal foot on an 8-foot wall—a wall that strengthens with time—never needs upkeep.

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

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

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

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

THE STOCKADE CORPORATION, 228 NORTH LA SALLE STREET, CHICAGO, and 347 MADISON AVENUE, NEW YORK CITY.
Don't Think of CLARKE

Only as a Money Making Sander

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

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

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

Those are hidden profits—that benefit you immeasurably.

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

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

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

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

Send in your request right now for all information.

USE THIS COUPON

Clarke Sanding Machine Co.
Dept. A-211
3815 Cortland St., Chicago, Ill.

Originate, and for over 11 years, Manufacturers of Portable Sanding Machines

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
“and the exterior is of Tidewater Red Cypress”
—-a statement that sells houses

“YOU should never have to spend a nickel for repairs on the lumber in this house.”
That’s what you can truthfully tell a prospect if you build with heart grade Tidewater Red Cypress.

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

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

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

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

specify TIDEWATER RED CYPRESS

THE WOOD ETERNAL

FOR ADVERTISERS’ INDEX SEE NEXT TO LAST PAGE
"Outside Icing"

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

Include it in your blue prints

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

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

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

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

NATIONAL ASSOCIATION OF ICE INDUSTRIES

163 WEST WASHINGTON STREET, CHICAGO
CROMAR lets you do a faster nailing job without fear of damaging the varnished finish

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

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

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

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

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

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

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

See the Cromar Full Page Advertisement in the November 15th issue of The Saturday Evening Post.

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

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

THE CROMAR COMPANY, WILLIAMSPORT, PA.

Pacific Greater West Distributors:

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

CROMAR Factory Finished Oak Flooring

THE OLD WAY

1. Nailing
2. Sanding
3. Hand-mixing filler
4. Filing
5. 1st coat of varnish
6. Fine sanding
7. 2nd coat of varnish

THE CROMAR WAY

Nailing—only

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

The Federal Motor Truck Co.  
5842 Federal Ave.  
Detroit, Mich., U. S. A.  
"Leading Specialists in Commercial Transportation"

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

Certified Earning Ability

Actual Measured Haulage Savings

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

Today Aero is truly "the National Radiator." A host of imitations have appeared. They may approach Aero's distinctive appearance—but they cannot duplicate its record of proved performance. Aero is years ahead.

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

NATIONAL RADIATOR CORPORATION
MANUFACTURER OF RADIATORS AND BOILERS

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
"We're thanking our lucky stars that he passed along the good word!"

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

"It is rather interesting," writes Mr. Gregory, "how Eternits first came to our notice. Mr. J. H. Loughridge, the president of our company, was at the office of James Thompson & Sons, Stapleton, New York. Thompson called his attention to Eternit Asbestos Shingles, telling of the wonderful success he had had marketing them.

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

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

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

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

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

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

Name ___________________________ Street ___________________________
City ___________________________ State ___________________________
Dealer's Name ___________________________

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
THE "TEMPLETON"
—a lavatory design in Genuine Vitreous China by "Standard"
"Standard" has been the first to sense and the first to satisfy the universal desire for individualized plumbing fixtures.

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

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

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

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

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

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

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

PITTSBURGH

"Standard" PLUMBING FIXTURES
Quick Sales and Lasting Satisfaction

A Necessary Convenience

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

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

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

The choice is General Electric Refrigerators because they are "years ahead in design" and backed by the General Electric guarantee; because their quality is known to the public; because their mechanism is sealed in and requires no oiling; because they are up on legs and easy to keep clean; because they are so quiet.

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

Send for Catalog AB-11

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

GENERAL ELECTRIC Refrigerator

"Makes it Safe to be Hungry"

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

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

You buy McKinney Non-Mortis Hinges instead of ordinary hinges. These hinges eliminate mortising of the doors and the jambs. You can leave the chisel in the tool chest. The hinges are applied in the same position as ordinary hinges but there is no mortising. You will find a time saving that will probably far exceed $6 per house. In appearance, the result is perfect. Only the barrels of the hinges show when the door is closed and their fine finish matches the best quality hardware. In addition to the sizes needed for doors several sizes are made for cabinets. The first move toward this saving is to send for the complete Data Sheet on the Non-Mortis Hinge. It shows application photographs, gives a number of uses and carries an affidavit setting forth the time required to hang a door this new way.

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


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

Tiger provides the background that creates desire to buy

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

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

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

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

THE KELLEY ISLAND LIME & TRANSPORT CO.
"World's Largest Producer of Lime"
LEADER BUILDING :: :: CLEVELAND, OHIO
A Brunswick Triumph

In Seat Manufacture!

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

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

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

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

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

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

Fill In, Clip and Mail

Box 313, Seat Department
The Brunswick-Balke-Collender Co.
623 S. Wabash Ave., Chicago

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

Name ____________________________
Address __________________________
City ______________________________ State ________________________

BRUNSWICK WHITE SEATS

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

THE BRUNSWICK-BALKE-COLLENDER CO. · Chicago · New York
Concrete adds speed to permanence

Concrete, the most versatile building material the world has ever known, has scored again.

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

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

And with this extraordinary speed in developing great strength, Prestolith Velo has the advantage of the characteristic elements of portland cement. It is used just as portland cement is used. It has the same setting time. It costs only slightly more—a negligible difference when compared with the value of time saved.

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

It represents an absorbing interest in the improvement of construction methods and materials which has prompted the investment of ability and money in the most exhaustive and conclusive tests of Prestolith Velo in the laboratory and in actual work on a commercial scale over a period of five years.

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

Write for our booklet, "24-Hour Cement."
To build

with this pine tree is to build with assurance

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

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

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

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

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

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

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

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

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

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

"Let the Kitchen Maid Be Your Kitchen Aid!"

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

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

"Let the Kitchen Maid Be Your Kitchen Aid!"
Another Useful Book

**GOOD CONSTRUCTION**

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

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

- Details of Home Building—Basement windows; The outer doorway; Window treatment; Roof lines; The living porch; The fireplace; The house stairs; The kitchen; The Gambrel and other roofs; Below the floors.
- Elements of Structure—Concrete, masonry and stucco; Values in siding; Stuccoed walls; Brick veneer; Hollow tile; The brick house; The stone house; Thatched roofs; Slate and stone roofs.
- There are SIX FULL PAGE PLATES detailing the recommendations of The National Lumber Manufacturers Association for standard mill construction.
- Other chapters deal with Floors of various kinds; Wallboard; Hardware; Electrical and gas equipment; House insulation and its relation to the heating problem; Fire-safe chimneys; The cause and cure for efflorescence; Quick hardening concrete; Plastering, including lime plastering, gypsum plasters and their application on various types; Framing for Stucco construction; recommendations for proper stucco application and Correct heating principles.

**How to Get Your Copy**

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

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

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

Offer good in U. S. and Canada. Add $2.00 to Foreign Countries.
Sanitas covered walls make quicker sales

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

Builders and developers have learned that women particularly respond to the appeal of Sanitas from both the beauty and utility viewpoints.

Instead of showing homes with plain walls, show them decorated with Sanitas, the nationally known fabric wall covering, available in styles for every room in the house.

You can hang Sanitas as soon as the plaster is dry—don't worry about cracks developing—they will not break through the surface of Sanitas.

If you prefer to decorate to suit the buyer, show the Sanitas sample book, and let the purchaser have his choice of styles and colorings.

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

**The Standard Textile Products Co.**
320 Broadway, New York
Dept. 81
Store Front Bronze

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

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

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

Modern Bronze Store Front Co.

ASSOCIATED COMPANIES:
ZOURI DRAWN METALS COMPANY
INTERNATIONAL STORE FRONT COMPANY
STANDARD STORE FRONT CONSTRUCTION CO.
MODERN BRONZE STORE FRONT CO.
ZOURI COMPANY OF CALIFORNIA
ZOURI DRAWN METALS CO., OF NEW YORK, INC.

Factory and General Offices: Chicago Heights, Illinois
LECTRICIANS, Plumbers, Carpenters;—Contractors in any branch of industry where holes must be drilled have found it necessary to supplant their old style hand tools with modern electric tools.

Heretofore the famous Black & Decker Portable Electric Drills, "With the Pistol Grip and Trigger Switch", have been sold individually. For your convenience we now offer several complete outfits, packed in handy Tool Chests. These Electric Tool Chests contain a Black & Decker Portable Electric Drill and an assortment of drill bits, auger bits and hole saws, which enable you to drill holes from 1/4" to 31/4" in diameter. These Electric Tool Chests are reasonably priced and no mechanic who has to "go out on jobs" can afford to be without one.

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

BLACK & DECKER

Toronto, Ontario, Canada

TOWSON, MD., U. S. A.

Slough, Bucks, England

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
You Get This Big New Book Absolutely Free!

"Most Popular Homes In America —VOLUME TWO" is a companion book to Volume One, which has had a phenomenal sale in the past year. Volume One has been repeatedly called the most beautiful and useful home design book ever printed. The new book, "Volume Two", is even more beautiful in appearance and contains 20 more full color plates than Volume One. If you already have Volume One, you will certainly be delighted with Volume Two.

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

15 Sets of Complete Building Plans

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

Clip and Mail This Coupon—NOW!

THE AMERICAN BUILDER
1627 Prairie Avenue, Chicago, Ill., 1928

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

NAME
ADDRESS

POST OFFICE — STATE

☐ Dealer ☐ Builder ☐ Architect ☐ Real Estate ☐ Miscellaneous

How to Get Your Free Book

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

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

OFFER GOOD IN U. S. AND CANADA
Add $2.00 to Foreign Countries
The occupants of the house insulated with INSULITE dread no sort of weather.

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

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

And cooler on the hottest days.

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

These are wonderful points to stress in making house sales.

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

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

THE INSULITE COMPANY
1202 Builders Exchange
Minneapolis, Minn.

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

Please send INSULITE samples and descriptive booklets.

Name: ________________________________

Address: ________________________________

City: __________________ State: __________

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
The Realization of Anticipation

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

**English Thatch**

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

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

First of all, Tapered Amber Asbestos Shingles have the taper of the old wooden shingles. They are ¾ in. thick at the upper end, ½ in. at butt and 20 in. long. They are strong, rigid shingles, not paper or rag felt, never curl or warp, not affected by zero blasts of winter, the heavy rains of spring and the blazing heat of summer year in and year out, for they are made of Asbestos and Hydraulic Cement—Nature's imperishable materials.

**FIRE-PROOF**

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

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

**ASBESTOS SHINGLE, SLATE & SHEATHING CO.**

**FACTORIES—AMBLER, PA., ST. LOUIS, MO.**

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

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

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

Cleveland, Ohio
Milwaukee, Wis.
Detroit, Mich.
Minneapolis, Minn.
TO THE WOMAN WITH DREAMS OF A NEW HOME IN HER HEAD

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

They are a true index of all-round value

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

And any woman knows that oak floors make all the difference in the comfort and livability of a home. Easy to keep clean and glistening. Smooth, dust-proof and quiet. Floors you'll always be proud of. For floors of oak, like fine old furniture, only grow more beautiful with age.

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

Perhaps you own a home that doesn't have oak floors. Why not put them in this season? Ask your architect, contractor or retail lumber dealer to give you an estimate. You'll be surprised how low it is. Much less, for example, than average grade carpet cost. And the oak floors can be put down over your present floors, room by room, in just a few days.

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

Red,etter investment—if you are an investor or building. Should you ever decide to sell, oak floors will add hundreds of extra dollars to the price. Houses with oak floors bring better rents too.

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

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You derive the greatest benefit from Keramic Tiles when the tiles are set by experts. Their skilled workmanship is instantly apparent. Select your tiling contractor on the quality of his work.

Rooms like these bring higher prices for houses...

Home buyers of today want color, beauty, distinctiveness in their interiors. In the interiors pictured here note what Keramic Tiles—real tiles—have done.

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

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

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

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

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

Consult your local contractor for patterns, colors and finishes.

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

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

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

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

FOR ADVERTISERS’ INDEX SEE NEXT TO LAST PAGE
You Can Do 4 Jobs AT ONCE
On this Compact, Labor-saving Machine!

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

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

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

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


AMERICAN SAW MILL MACHINERY CO.
60 Main St., Hackettstown, N. J.

Manufacturers of a complete line of Woodworking and Saw Mill Machinery
We waited two years to tell America about this grainless wood!

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

One of the most fascinating chapters in recent industrial history is the story of Masonite Presdwood, the grainless wood board from Laurel, Mississippi. We have waited two whole years to tell this story; waited until our product had conclusively proved in actual use that it was as good as we knew it to be.

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

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

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

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

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

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

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

New uses discovered almost every day

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

In planing mills and woodworking plants, as in so many other lines of industry, the demand for Presdwood is increasing by leaps and bounds. Breakfast nooks are made of it; so are kitchen cabinets, china closets and shelving. Not forgetting counters, show cases, display booths, work-bench tops!

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

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

Advantages of Masonite Presdwood

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

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

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

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

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

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

MAIL THIS COUPON
COPPES BROS. & ZOOK, Nappanee, Ind.
Gentlemen: Please send me full details on your free architectural service.
I am. [ ] Architect, [ ] Contractor, [ ] Owner.
[Please check square].

COPPES BROS. & ZOOK, Nappanee, Ind.
Detroit Office: General Motors Building
Chicago Office: 308 N. Michigan Ave., Kehn Bldg.
Agents in all Principal Cities

NAPANEE
Dutch Kitchenet
Built Like Fine Furniture

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
ADD security with these locks that enhance Beauty and Convenience—

A new type SPRING LATCH affording added security, attractive appearance, and unsurpassed convenience. Because of its simplicity and compactness it will be welcomed where a bulky rim latch will not do. So moderate in price that it will be preferred to a rim latch and purchased where the cost of higher priced mortise latches would be objectionable. Working parts concealed. Key changes practically unlimited. Master keyed and grand master keyed if desired. Compression coil springs throughout. Handy slide catch for holding back latch. Self-adjusting to all doors 1 1/4 to 2 1/2 inches thick. Reversible for right or left hand doors. Solid brass trim. Standard finishes. Interchangeable with B-100 at any time without altering door.

This SCHLAGE auxiliary lock is recommended either for interior or exterior doors where good appearance and greater safety are required. No other lock on the market can compare with B-300 in giving so much protection in such convenient and attractive form at so moderate a cost. Working parts concealed. The bolt deadlocks itself when extended by turning the key outside or the small metal thumb piece inside. Key changes practically unlimited. Master keyed and grand master keyed to meet any requirements. Self-adjusting to all doors 1 1/4 to 2 1/2 inches thick. Fits either right or left hand doors. Solid brass trim. Standard finishes. Can be interchanged with B-100 at any time without altering door.

Mail this Coupon for Bulletin

SCHLAGE LOCK CO., SAN FRANCISCO, CALIF.

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

<table>
<thead>
<tr>
<th>Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring Latch</td>
<td>B-100</td>
</tr>
<tr>
<td>Dead Bolt</td>
<td>B-300</td>
</tr>
</tbody>
</table>

Name
Address
City
State
Business

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

Manufacturers of SCHLAGE Button Locks

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
TONIGHT

2,000 men are working

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

For address of nearest branch, look in your telephone book

HOLLAND VAPORAIRE HEATING

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

World's largest installers of home-heating systems

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HOW EASY NOW
TO IDENTIFY CHASE
BUILDING PRODUCTS

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

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

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

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

Look for the new Chase-mark—the sign of a dependable
product.
The
True BUY-WORD
in Wallboard

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

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

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

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

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

Sheetrock comes in standard sizes 3/8 in. thick, 32 or 48 inches wide, 6 to 10 feet long.
STEELCRETE Diamond Flat Rib Lath cuts plaster costs, reduces application costs—all because it is a combination of two distinct laths, each recognized for special merit.

The Diamonds insure a positive mechanical bond. The Ribs provide additional strength, acting as a guide for the plasterer and assisting rapid, efficient plastering. Also as stops to prevent plaster squeezing through in wasteful quantities.

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

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

The Consolidated Expanded Metal Companies
Steelcrete Building, Wheeling, West Va.
Atlanta Boston Cleveland Philadelphia Pittsburgh
Chicago New York Buffalo

Sample Offer
You may obtain on request, samples of the Steelcrete Time Tested Building Products described in this advertisement and complete information on other Steelcrete Products, including Arch Lath, Diamond Lath, Rib Lath, Wall Tie, Cornerite, Metal Base Ground, Curved Pocket Base Screed, Metal Picture Frames, Cold Rolled Channel, Corner Bead, T-Fall Bead, Bull Nose Bead and Expanded Bead. Write to us today

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

FOR ADVERTISERS’ INDEX SEE NEXT TO LAST PAGE
Color now added

to the many advantages that floors of Maple bring

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

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

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

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

MAPLE FLOORING MANUFACTURERS ASSN., 1777 McCormick Bldg., Chicago

Guaranteed Floorings

The letters MFMA on Maple, Beech or Birch flooring signify that the flooring is standardized and guaranteed by the Maple Flooring Manufacturers Association, whose members must adhere to the highest standards of manufacture and quality. This trade-mark is your protection. Look for it on the flooring you use.

Floor with Maple

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
A Roof of Winthrops
helps make this duplex different

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

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

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

Winthrops are the only tapered asphalt shingles with the thick butts to lie close, to double the wearing thickness where exposure comes and to cast attractive shadow lines.

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

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

BECKMAN-DAWSON ROOFING COMPANY
1632 Brooks Building, 223 W. Jackson Boulevard, Chicago, Illinois
Factories at Chicago, Ill., Detroit, Mich. and Lockport, N. Y.
Competitive price cutting is ruinous to profits and progress. Eliminate competition and success becomes practically assured.

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

Learned About Duntile

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

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

Buys Out Partner

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

Get the Facts

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

Duntile working specifications in "Sweet's"

W. E. DUNN MANUFACTURING CO.
415 W. 23rd Street
HOLLAND, MICHIGAN
Established in 1899

Special Fall Offer

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

200 BEAUTIFUL HOMES — All for $2.00

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

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

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

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

Take advantage of this offer today

KEITH CORPORATION
100 No. 7th Street
Minneapolis, Minn.
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 rent have to be paid upon it.

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

MURPHY DOOR BED COMPANY
New York City . . . 19 W. 44th St.  
Chicago, Ill. . . . 173 W. Madison St.  
Atlanta, Ga. . . . 59 Luckie St.  
Seattle, Wash. . . Terminal Sales Bldg.  
San Francisco, Calif. . . Crocker Bldg.  
Los Angeles, Calif. . . 1807 S. Main St.  
Denver, Colo. . . 1314 Blake St.  
Miami, Fla. . . 234 Columbus Bldg.  
St. Louis, Mo. . . 315 N. 10th St.  
Toronto . . . 21 King Street, East

MURPHY IN-A-DOR BED
THERE IS ONLY ONE IN-A-DOR BED—THE MURPHY
WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Today buyers are insisting on permanence of beauty as well as of materials. They want lasting color-charm and natural beauty. They want strength, fire-safety, low upkeep and slow depreciation. Consequently the Face Brick house gets the preference. "It sells easiest and gives greatest satisfaction."

Breuninger and Company take full advantage of this preference by building exclusively of Face Brick. In addition to giving their experience in this letter, they introduce a new and interesting feature—the modern daylight basement with Face Brick walls.

You will find many ideas and aids to building and selling in this Association's booklets and house plans. Send your letterhead for information about them.

THE AMERICAN FACE BRICK ASSOCIATION
2163 City State Bank Building, Chicago, Illinois
If you live in Canada please write to 26 Queen Street East, Toronto, Ontario
Big Money For You

Knowledge Brings SUCCESS and PROSPERITY

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Don't hesitate a moment to hold me to this guarantee and notify me within five days, as we want every set of books we put out to remain only in the hands of appreciative and enterprising purchasers, as this price is made with the sole purpose of placing a set in your home to which we may refer later, and with the understanding that you write us your opinion of it to help secure other business at our regular price.

President and Editor-in-Chief.
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decisions. After you have had the
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ever. Furthermore, we will remove the
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on the deal, you have not spent a cent,
you have lost nothing whatever.
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 toll 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.

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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 if you have the distinct understanding that if it is entirely satisfactory, you will write us a letter and assist us in making other sales.

Our special price to you for advertising purposes is only $37.50, and our liberal terms are only Five Dollars down and $3.00 per month until the amount is paid. We give you five days to look the books over and see if they are entirely satisfactory. If you conclude not to keep them, we will refund your money and pay the express charges both ways. Order today. Fit yourself at once to increase your earning power.

The Radford Architectural Co., 1827 Prairie Avenue, Chicago, Ill., U. S. A.

Pin Check, Money Order, Draft or Currency to this Coupon and Mail Today

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 $5.00 deposit which you agree to return if I decide not to keep the books after examination. If I keep the books, I will pay $3.00 a month until the special price, $37.50, is paid, otherwise I will notify you within five days after receipt of books.

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

Name
Street
Town
State

West of Rocky Mountains and Canada, $10.00 with this order. Full amount must accompany all Foreign orders. A.B.-11-28
PURE LEAD—most beautiful and enduring of materials—is now available for Metalwork in Inexpensive and Workable form

PROFIT by this DISCOVERY!

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

The Best Test

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

An additional investment of about ten dollars will equip the average house with Superior Lead-Sealed metalwork. Being soft, level and of high ductility, it is readily formed into flashing, conductor pipe, eavestrough, gutters, etc., without breaking or peeling of the protective lead. Any competent sheet metal worker can install it.

Adds Known Value

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

THE SUPERIOR SHEET STEEL CO., Canton, O., Division of Continental Steel Corp.
—Makers of Super-Metal, Galvannealed, Galvanized and Long Terne Sheets.
SELL OVERHEAD DOORS because they are convenient, sell them because they are beautiful, and sell them because they are on the crest of the wave of popularity. Overhead Doors always work. No matter what the conditions—snow or ice, rain or hail or sleet, sun or wind—they operate easily, smoothly, perfectly, opening UP out of the way, closing tightly at top, bottom and sides. They can’t bang with the wind, they can’t come open when they should stay closed, they can’t pull off their hinges. They can’t and don’t do any of the things that have made ordinary garage doors a nuisance for a generation. They always—work—perfectly! Is it any wonder that the demand is growing, and growing and GROWING?

The perfect door for the home garage, and as perfectly adapted to warehouses, public garages, factories. When open, full height and width of opening is available. Space savers, time savers, labor savers, temper savers.

There’s an Overhead Door Company in your state; a reliable representative in your community, thoroughly versed in door engineering.

OVERHEAD DOOR CORPORATION
DEPARTMENT 324
HARTFORD CITY, IND.
THERE'S REAL PROFIT IN
STORE FRONT SPECIALIZATION

THE vital part of every retail merchant's establishment—the one thing that contributes most to his success is his display frontage. These men can afford to pay well for the services of an expert in store front planning and construction. The business streets of your city hold unlimited opportunities for you.

If you'll mail the coupon below we'll help you get started in this profitable, uncrowded field of specialization.

THE KAWNEER COMPANY, 3226 Front Street, Niles, Michigan
I'm interested in STORE FRONT SPECIALIZATION, Send your Book of Store Front Suggestions and Full Size Construction Details.

Name:
Address:
How The
AMERICAN BUILDER
HELPS YOU

The habit of reading AMERICAN BUILDER advertising is educational. Part of the purpose of the AMERICAN BUILDER is to give names and other valuable information concerning the best products which are useful in the Building Industry. Listed on the advertising pages you'll find the reliable products, the new ideas, material, etc., which lessen labor, increase your profits and enable you to lead the field in your community.

Products Advertised in The American Builder Should Have Your Preference

A manufacturer does not spend great sums of money advertising a product unless he has faith that it is of exceptional value and use in its field. When you see an article extensively advertised—you can bank on its value.

The American Builder Magazine itself has maintained a high standard of service and integrity for twenty-three years. During all this time it has never knowingly taken an advertiser whose product was not all their advertisement claimed for it. Therefore, you can buy any AMERICAN BUILDER advertised product with a firm conviction that it is as represented.

Do You Get Your Share of the Business of Your Community?

One or more new machines, the use of a new material or an improved method of estimating may be just what you need to increase your profits over last year. If you are interested in any kind of building materials, contractor's equipment and machinery, power shop equipment, heating systems, plumbing supplies, water supply systems, lighting systems, elevators, school, church or theater equipment, farm building equipment, building hardware, home conveniences or anything that is used in constructing or equipping any kind of building—we will help you get all information.

Keep Informed

One method of keeping vital information at your finger tips is to maintain a complete file of catalogs.

FREE

TO AMERICAN BUILDER READERS

If there is some article which you want and lack the proper information regarding it, print or write your name plainly in the coupon below, list the articles and check your occupation. We urge you to take advantage of this great opportunity to procure valuable information.

AMERICAN BUILDER, 1827 Prairie Ave., Chicago, Ill.

Gentlemen: Please put me in touch with manufacturers whom you know to be reliable and can furnish goods promptly. I am in the market for the following items:

Name:
Address:

Please check your occupation.

Building Contractor □ Dealer in Building Materials □ Prospective Home Builder □ Architect □

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
For English, Spanish, Colonial, or homes in any style of architecture, Sargent Hardware is a profitable building investment

For builders as well as home owners, Sargent Hardware of solid brass and solid bronze is the soundest hardware investment that can be made.

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

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

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

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

These new Sargent “Catalonia” pieces are of solid white bronze, shaped and finished in resemblance of hand-forged wrought iron. “Catalonia” is a new Sargent design for homes in the Spanish or Mediterranean style, and for English and American cottage style. The entrance handle (ask for No. 1621ck) has a thumb-latch, and connects directly with the Sargent cylinder lock. The doorknob (No. 1621ck) has an appropriate escutcheon and keyplate. (There is another doorknob, No. 1620ck, for interior use.) The popular lever handle with cylinder lock and the H and L hinge plates excel for homes built in the Early American manner. The strap hinge plate and the knocker are a delightful finishing touch to entrance doorways; ask for Sargent door knocker No. 5ck, strap hinge plate No. 3ck. The Sargent booklet lists other designs.
"We Used ARCH LATH as the Plaster Base for Walls and Ceilings

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

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

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

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

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

WHEELING CORRUGATING COMPANY, Wheeling, West Virginia

For Weather-proof Roofs of Distinction—Wheeling Spanish Tile

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

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

Write for full information

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
There's a yellow replacement guarantee label on the bottom of every genuine Laminex door. The Laminex guarantee is backed by the largest door manufacturer in the world—the originator of the guaranteed door. The success of Laminex doors, (millions in satisfactory service today), has tempted other manufacturers to offer veneered doors, outwardly resembling Laminex doors. These doors, however, will not stand the famous Laminex soaking test because they lack the moisture-resistance that only Laminex waterproof cement can give.

For your own protection, insist on doors that bear the yellow replacement guarantee label and the name "LAMINEX".

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

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

Learn how the principle of stress neutralization is used in Laminex construction.
Every Builder will PROFIT by reading this new book on heating costs

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

A Money Saving Handbook for Builders

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

Facts You Will Want To Know

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

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

In fact, you will find all the information you have needed to give home owners the maximum heating comfort at minimum cost. This bulletin gives you facts that will help you sell houses.

Lumber Consultants at Your Service

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

Use the Coupon Now—Book is Free

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

NATIONAL LUMBER MANUFACTURERS ASSOCIATION
WASHINGTON, D.C.
FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
Instructions
A commercial traveler held up in Orkney by a storm telegraphed to his firm in Aberdeen (Scotland)—"Marooned here by storm, wire instructions."
The reply came: "Start summer vacation as of yesterday."—The California Lumber Merchant.

Petrified
Horace—"What did your wife have to say when you came in at four this morning?"
Maurice—"Didn't have a word to say."
Horace—"Smatter, tongue-tied?"
Maurice—"No, I put cement in her beauty clay."—Gage Readings.

An Eye for Business
A West Virginia darky, a blacksmith, recently announced a change in his business as follows:
"Notice: De copardnership heretofore resisting between me and Mose Skinner is hereby resolved. Dem what owed de firm will settle with me, and dem what de firm owed will settle with Mose."
—Barrow's.

Admiring the View
Country Cousin (after prolonged inspection of building operations)—"I don't see the sense of putting statues on the top of your buildings."
City Cousin—"Statues? Those aren't statues. They're bricklayers."—Hardware Age.

Tactful
Customer—"I'm sorry, but I have no money to pay my check."
Manager—"That's all right. We'll write your name on the wall and you can pay it the next time you come in."
Customer—"Oh, don't do that. Everybody will see it."
Manager—"No, they won't. We'll hang your overcoat over it."

A Good Business Venture
Her Father: "Do you think you can support my daughter in the style to which she has been accustomed?"
Her Boy: "I don't know, sir, but I can certainly save fifty per cent of her present cost to you."—Ex.

Demonstration Needed
Rastus—"How done yo'ah ole lady like de new washin' machine you done buy foah her."
Sam—"She jes can't get used to it foah some reason. Why ebbry time she done get in it de paddles knock her down."

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

A Fair Question
"Are paint brushes made from pig's bristles, father?"
"I believe so, my son."
"Well, what part of a pig do the pigments come from?"

Tried it on the Boss
A well known official of the telephone company was rudely aroused from slumber by the ringing of the telephone. After falling over a chair or two he reached the 'phone.
"Hello," growled he.
"Are you an official of the telephone company?" asked a friendly voice.
"If I am," said he, gruffly, "what can I do for you?"
"Tell me," said the voice at the far end, "how does it feel to get out of bed at two o'clock in the morning to answer a wrong number?"
THE LOVELIEST OF ALL BATHROOMS

The bathroom will be the home owner's most cherished possession if the walls are of Vitrolite—the vitreous slab material. For Vitrolite offers endless variations in color, decoration and texture. The most beautiful and distinctive effects may be obtained whether it be in the ultra-modern or the earlier period treatments.

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

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

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

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September Is a Record Month

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

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

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

Insulating the Windows

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

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

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

The experiments further developed that the proper humidity is evidenced during freezing weather by a heavy coating of frost on the unprotected windows and this is the reason most people reduce the moisture content in their heat. They do not want the windows frosted as this frost often melts on the glass, ruining costly draperies and drips on the sill, damaging the finish and streaking the walls below. It also rots the bottom rail of the windows and sill, making expensive repairs necessary in an unreasonably short time.

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

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

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

Water Systems for Fire Control

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

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

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

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

Welding Success in Construction

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

Commenting on the list, Prof. McKibben says that it "shows that this process is no longer in the experimental stage, but is a means of fabrication so extensively used as to warrant the attention of all structural engineers and architects."
High-Early-Strength Universal Concrete Makes Winter Building More Practical

1. Shortens time of protection against freezing

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

2. Makes permanently stronger cold-weather concrete

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

3. Assures more durable concrete in winter as in summer

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

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

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

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

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

In the stock market today the big gains have gone to the fellows who were willing to go in after the careful investors had sold out on the theory that the top had been reached. The officers of hundreds of corporations disposed of the securities of their own companies a long time ago and are now speculating in the stocks of other concerns. It is fatal at present to know too much about the earnings and prospects of any enterprise that you want to play for a rise. Preaching is of no avail when human nature decides to show its independence of arbitrary rules and laws. In 1913 we took steps to protect our nation against the excesses of people cursed with the mania to get rich quick irrespective of all consequences. The Federal Reserve Board was created to prevent the use of money and credit in any way that might create inflation and bring about a business depression or a money panic. Now we discover that the traffic in money is about as hard to control as the traffic in liquor. A stiff money rate, while serious to the investor, means nothing to the gambler out for a quick killing.

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

"Making Money in Wall Street May Be Highly Dramatic, but the Profits Piled Up on Main Street Are Far More Tangible and Enduring."
Capital has poured into Wall Street from all over America and from abroad. The Federal Reserve Board has learned that although it can control the banks, it cannot prevent individuals and corporations from loaning their money to gamblers.

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

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

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

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

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

In hundreds of lines big business is profiting at the expense of the little fellow. The powerful corporation backed by a large surplus can finance research and do things on a grand scale. Prosperity will be spotty and worries of business upsets.

Progress can only be purchased at a price. We can no more advance upward on a straight line than we can possibly suspend the law of gravity. Success is always accompanied by perils. The automobile is a boon to humanity, but the exhaust gases from millions of motor cars fill our narrow streets and are spread by stairways and elevator shafts to the remote corners of the rooms in which we live and work. In many cities the residents inhale a tablespoonful of soot and dirt every 24 hours. In New York City there are 11 rats for every person, and aside from other damage, these rodents consume $55,000,000 worth of food a year. The toll of several serious diseases is higher than ever before, and we are shouldered with a hospital maintenance charge of $3,000,000 a day.

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

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

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

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

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

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


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

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

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

A Heavy and High Powered Cutting Machine—in This Case a Carbon Columbium Disc—at Work on a Huge Slab of Granite, which requires little dressing.

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

The lessons of the Cathedrals of the Old World, which, built of stone, have lasted through the centuries, virtually unimpaired, have been accepted by the builders of New York's Cathedral of St. John the Divine; and that structure will be unique among modern buildings, in that as well new wood will be used in its construction. Granite is the stone that is being used for the edifice, the famous light brown New York state granite. An old quarry, unworked for years, the Mohawk, at Peekskill, N. Y., was reopened to supply the stone for the cathedral. All stones are shipped from the quarry by auto truck to the cathedral site.
THE influence of an attractive, conveniently arranged, and artistic modern home on the lives of its occupants is dramatically contrasted with the downpulling effects of a shabby, "run-down," and antiquated dwelling, in a new two-reel motion picture, "Transformation." This picture was produced by the American Farm Bureau Federation with the cooperation of the National Lumber Manufacturers' Association. It will be released shortly for presentation to farm audiences all over the United States as a means of fostering the modernization of rural homes.

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

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

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

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

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

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

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

by the American Farm Bureau Federation and the National Lumber Manufacturers

Advantages of Modernization as applied to the American Farm Home

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

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

Announcements of the contest, rules, etc., will be distributed to audiences seeing the picture. There will also be a screen announcement of the contest. All of the prizes, a first of $300, a second of $200, and 100 of $20 each, will be in the form of orders directed to local dealers to deliver the amount of lumber equivalent to the award of the prize winner. Suggestions as to the ideal farm home must be in the form of a sketch of the floor plan with an accompanying letter describing the details of the house.

The house which was the modernization subject of the film is located on a farm about four miles from Elgin, Ill. This farm was purchased recently by C. A. Rehm, secretary of the Atlas Educational Film Co., which produced the picture. The materials for the house were delivered to the new home by the retail lumbermen of the county of the American Farm Bureau and the National Lumber Manufacturers' Association. The ideal farm house was designed by the co-operation of the American Farm Bureau Federation and the National Lumber Manufacturers' Association, the Run-Down Farm House Was Truly Transformed Into a Thing of Modern Beauty and Comfort Which Every Member of the Family Was Proud to Call Home.
With the Work of Modernization Once Well Under Way, the Entire Family Watched the Job and Gradually a New Interest in the Home Developed.

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

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

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

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

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

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

While the mere improvement of a building from an architectural standpoint is a desirable thing and would undoubtedly enhance its value, nevertheless it is not logical that in the average modernizing job the owner could be persuaded to go to the expense of raising a roof or changing its pitch if there were any possible way by which it could be avoided. It was necessary, therefore, to treat the building as it stood. Probably 10 or 15 preliminary sketches of possible schemes of modernizing this particular house were developed before a satisfactory one was decided upon.

M. Berthelet, the director of the production for the film company and R. G. Kimbell, the architect, as follows:

Very charming and attractive results were represented by some of those schemes but each had a flaw. Some part of it involved a structural change which should be avoided or necessitated the expenditure of money which would hardly be justified. The picture of the old house contrasted with the new illustrates how simple and natural a solution of the problem came from these studies. A small independent dormer without elaborate ornamentation, combined with, the altered appearance given the mass of the building by cutting off the old eaves and changing them from mere carpentry to a true artistic relationship with the balance of the building, produced the pleasing appearance shown in the picture.

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

Two Porches Were Added to the House, Giving the Owners the Full Advantage of a Commanding View of the Surrounding Country from the Hilltop Location.
The Rehm farm house was an extremely old building, structurally substantial, but for many years prior to its purchase by Mr. Rehm it had remained unpainted. It was obvious that for a building which should be suitable for use for many years to come that merely repainting of the outside would not be sufficient. Consequently it was decided to overcoat the house with new siding. The old siding was left in place as they did not wish to waste it. Vertical fur- ring strips were placed over it and the new siding nailed to these strips and the thickness of the new siding—an appreciably increase to the insulation value of the exterior walls of the house.

“How many times one sees those awkward, shed roof and box-like extensions fastened on to the end or side of a building when a housewife has discovered the marked convenience that a little breakfast room offers. A breakfast room added to the Rehm farm house certainly gives no appearance of not being a part of the main building. The main east corner of the kitchen was extended and, as the full width of the kitchen was unnecessary for breakfast room purposes, a porch was left open for use as a rear entry landing. The rather unusual vertical panels above the small mulioned windows at the kitchen end of the building is a treatment which gives relief from any possibility of monotony in exterior wall surfaces, but is still sufficiently reserved in character as not to detract from the beauty of the building as a whole. Instead of using a straight mulioned window or a window with a pronounced bay in the wall of the breakfast room there was used instead a frame which had a very slight projection. This changed what otherwise would have been a very ordinary wall into what is really an architectural gem. Only those who saw the

It was the Daughter of the Family Who Enlisted the Aid of the American Farm Bureau Federation and the National Lumber Manufacturers’ Association in the Home Modernization Pictured in the Motion Picture “Transformation.”
Steel Frame Construction
Perfected for Homes

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

By TYLER S. ROGERS

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

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

The house was designed by Lyon & Taylor, architects, of New York, to meet the owner's particular requirements for his future home. The supervision of construction as well as much of the development of the use of other building materials with this improved type of steel framing has been the work of Mr. L. Brandt, housing engineer of Pittsburgh. The frame was detailed, fabricated and erected by one of the most prominent of the great steel companies, and the house is being built by a Pittsburgh contractor—the L. O. Maines Construction Company.

The chief interest is the fact that the owner was able to plan his house without being restricted in its arrangement or style by limitations which heretofore have encumbered the economical use of steel as a framing and structural material. The architects were able to carry out the owner's plan and space requirements and to design the architectural features with the same freedom and facility to which they have been accustomed in designing masonry or wood frame houses. This feature alone represents a real advance; for heretofore all...
Domestic construction have been centered around the idea of standardized units or designs in order to achieve the necessary economy in fabrication. Any dimension which the architects require can be met under this present system within a maximum difference of two inches; and with slight extra care exact dimensions can be satisfied to a fraction of an inch where special details make it necessary.

The second important feature is that the complete frame for this specially designed house was fabricated at the mill and delivered to the job site ready to erect with the use of ordinary tools; a wrench taking the place of hammer and saw. No cutting and fitting, or welding and riveting was required at the job site; hence the frame was erected in a relatively short time, especially when it is realized that every partition, every door and window frame, and every other structural member, no matter how small, was completed at the same time. In ordinary wood construction the structural frame rises rapidly, but carpenters must spend a great deal of time putting in the secondary members after the frame appears to the layman's eye to have been wholly completed.

The third point of interest centers around the fact that other standard materials employed in fireproof construction have been used in conjunction with the steel frame with no more difficulty and with no greater cost than when they are employed with solid masonry walls or a wood frame. Mechanics wholly unfamiliar with this new system of construction are completing the house without preliminary training and with only the normal amount of supervision after the special methods which have been developed were once demonstrated by the supervising engineer.

How these advances have been accomplished is an exceedingly interesting story that can only be briefly outlined here. The frame itself is built up of standard steel sections, employing light steel angles for studs, corner posts, lintels and around openings. The horizontal members, including sills, girts and plates are built up of standard channels. The floor joists are light steel I-beams and the roof rafters are channels. With the exception of the floor joists, all of the members are perforated along the flanges with %\(\frac{1}{8}\)-inch holes on 2-inch centers. This perforation is
The principal structural units are then taken from stock and the few special units are quickly fabricated from elements in stock that simply require cutting to length and the attachment of end clips or connections. The degree to which these units have been developed is responsible for the simplicity with which the framing can be rapidly fabricated while meeting the special requirements of each individual building. The assembled structural units are then properly marked and delivered to the job where they are put together in the normal sequence of operations employed for wood framing, merely substituting bolts for nails. Here standardization has been carried to the point of efficiency. It reduces the amount of labor required for fabrication by substituting machine methods; it permits carrying standard structural units in stock; it gives the architect full freedom in design; and it enables the builder to follow erection methods that have already become familiar to him through the use of wood framing.

Since the frame of a dwelling represents only from 10 to 20 per cent of the cost of the completed house, even greater importance is attached to the methods of employing other standard building materials in conjunction with the structural steel framework. In this house the exterior walls are reinforced brick faced, employing a new type of reinforced veneer construction. Over the exterior surface of the framing members a welded mesh reinforcing fabric that has a heavy waterproof backing is applied by means of ingeni-
This Impressive Display Board Stands Outside the Shaffer Demonstration Home in Pittsburgh. Very appropriately this sign, including the lattice work below, is all steel.

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

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

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

The interior walls and ceilings are plastered on a third type of reinforcing fabric with waterproof backing which is slightly lighter in weight than that employed on the exterior walls. In this case the reinforcing wires are embedded in the plaster, forming a perfect mechanical reinforcement for the plaster, which assures the sturdiest type of wall.
Special provision is made in the steel frame for pipe chases, the smaller pipes being carried within the stud space and the larger soil pipes which will not go in normal 4-inch partitions being carried in special enclosures in the manner ordinarily employed in wood frame construction. Electric conduits, either of the pipe or flexible armor type, are readily carried through the walls in the normal manner and may be run between the floor slab and the ceiling beneath as required. Before plastering is started, ordinary wood grounds are attached to the steel frame to receive picture moldings, baseboards, door and window trim and other finishing details in the usual manner.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The most important thing of all about this record sale of concrete masonry is the fact that the order will show a decent profit for the manufacturer.

And that's not all. There is a repeat order in this story. The Fuller Construction Company, general contractors for the Integrity Trust Building, are entirely satisfied with the quality of the product and the service that is being rendered in connection with their delivery. This had much to do with the fact that the Bouvier Apartments, a 23-story structure which will soon be built in Philadelphia by the United Engineers and Contractors, will also have concrete masonry back-up and steel fireproofing to be delivered by the Philadelphia Partition & Building Block Co. Approximately 165,000 masonry units and 1,150,000 concrete brick will be used in the exterior walls alone.

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

Philadelphia has always been an important center of the concrete masonry industry, and many millions of units are used annually in construction of all kinds in this region. However, it was not until contracts for these two structures had been let that concrete building units were specified for structures of greater height than 10 stories. This sale establishes a precedent which, it is expected, will win wider recognition for this material.

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

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

Once again a storm, of hurricane proportions, passing over a portion of the state of Florida, has demonstrated the value of sound construction and the wasteful economy of skimping and poor construction. One report of the damage to buildings in the storm area states that "penny-wise economy, a flare for fashion and the unsound structural engineering accounted for at least half the property loss. . . ."

Well built houses of both lumber and masonry construction and modern office and hotel structures withstood the storm, but in addition built since original construction and in those portions of these buildings in which unsuit materials and improper construction were permitted, the hurricane wrought havoc."

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

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

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

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

(2) The wind got under the eaves of the roof, forced there by the necessity to go somewhere, and, the roof was taken away from the top plates or jarred loose so that it was easily moved. The preventive to be applied is that of actually tying the roof to the upright framing instead of merely toe-nailing at the point where rafters meet the top-plate. Another method is to place a piece of 2 by 4 on the top-plate, spiking it to the top-plate, and after placing the rafter at the end of the 2 by 4, nail through the rafter. The strength of such a tie is almost immeasurably greater than the simple toe-nailing of rafter to top-plate.

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

(4) Walls caving inward or outward. Usually this does not happen until after the roof has been lifted. The preventive is a general one throughout the building, that of building into the structure as many triangles as possible—bracing studs at corners, cross-bracing above windows and doors, bracing between studs, whether these studs be in outside walls or inside partitions.

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

In explaining the manner of transmission of force by the hurricane to the different parts of the buildings, the engineer's report continues:

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

But we have not ended here. Let us build a means for the transmission of the force by cross-bridging all joists. Thus we build up a resistance so that
Proper Bracing of Studding, Tying of Sills to Foundation and Second Story to First Protect the House Against Storms of Unusual Violence.

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

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

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

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

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

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

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

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

On the other hand, if this structure be diagonally sheathed, the boards pass across from one story to the other, ready to break at the top-plate of the first story. We not only build in a great number of triangles to withstand strains from two directions in a wall, but we so completely fasten the upper and lower parts of the building that a strain brought against the upper part is transmitted downward through the diagonal sheathing where it is met by more and more triangles.
THE ice industry is now a billion dollar industry. It is selling more ice today than at any time before in its history, in spite of, or, it might be said, because of the competition of substitutes for ice. Vigorous competition has not only awakened the industry to a more alert merchandising of its product, but it has made the public "refrigeration conscious," more convinced of the need of proper refrigeration. And facts brought out in national ice advertising are convincing the public that the ice is giving excellent refrigeration at extremely low cost.

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

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

There is no form of refrigeration as dependable as ice in a well-insulated ice box. Melting ice keeps the foods cold enough, but not too cold; dry enough, but not too dry; moist enough but not too moist. Cold air driven constantly from the ice and in falling it pushes the warmer air upward. When it comes in contact with the ice it is cooled and the cycle of air circulation is repeated. Odors and impurities are dissolved in the film of water on melting ice and carried out through the drain. Ice works automatically.

With an outside icer the housewife enjoys the utmost convenience. Wherever outside icers are installed they are giving satisfaction and proving popular.

They help to rent or sell apartments and houses easily. All ice box manufacturers build boxes equipped for outside icing and sell them at prices but little higher than regular models. Some manufacturers keep icing models in warehouse stocks, while others build them to order. All furnish blue prints to architects and contractors to show them just how they are installed. The catalogs of all ice box manufacturers contain illustrations, descriptions, prices, etc., on ice boxes for outside icing.

As all architects, contractors and builders know, outside icing ice boxes differ from regular models only in that they provide an opening through the wall of the building for receiving ice from the outside. This opening is protected by a door opening outside. Usually, behind the outside door is another door opening into the ice chamber, although some models have but one door. That opens to the air and gives direct access to the ice chamber. Doors and joints are well insulated against the warmer air outside of the ice box.

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

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

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

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

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

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

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

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

The particular point of interest about this apartment building is the fact that it is adapted to a type of location which is sometimes a problem for the apartment designer, that is a very shallow lot. The problem has, here, been worked in a manner which is worthy of study. Not only has the shallow lot problem been solved in a most satisfactory manner but a group of three and four-room apartments, with four and five-room efficiency, have been developed and will provide excellent examples for the planning of modern, small, efficiency apartments.

Photograph and Floor Plan of Inexpensive Yet Good Income Building on North Lockwood St., Chicago.
Bernard L. Roos, Architect.
Walnut Park Plaza is Typical of the Best in Modern Apartment Design

Stetler and Deysher, Architects

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

Beauty Achieved by Omitting Ornate Features

BERNARD L. ROOS, Architect

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

This Apartment Building, Recently Erected on North Hamlin Ave., Chicago, Is the Sort of Dwelling Which Is Being Built in Large Numbers in All Parts of the Country and It Represents What Good Architectural Design Can Do with a Simple Treatment Adapted to This Unpretentious Type of Building.
1263 Pratt Boulevard Apartments

In Chicago's North Shore Residential District

RISSMAN and HIRSCHFELD, Architects

Two, Three and Four Room Apartments Have Been Provided in the 1263 Pratt Boulevard Apartment Building with the Idea of Affording Spaciousness, Comfort and Convenience in the Compact, Modern Type of Apartment Home.
Memphis is Proud of This New Investment Bank Building

HANKER & CAIRNS, Architects

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

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

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

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

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

The Interior of the New Marx & Bensdorf Building Is Finished in Missouri Rose Marble, Cain Stone and Ornamental Plaster and Furnished in Walnut.
An Ideal Platoon School

The Robert J. Vance School, New Britain, Conn.
Warren Homes-Powers Co., Architects,
By E. A. MARTINI

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

WHAT constitutes an ideal school?

A fireproof building substantially constructed assuring perfect safety from destructive elements?

A building amply lighted, well ventilated, with comfortable seating arrangement?

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

A school with perfect deportment where everything runs like clockwork?

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

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

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

The Robert J. Vance school at New Britain, Connecticut can be called "ideal" and is a typical example of a platoon school. The Architects, the Warren Holmes-Powers Company, have planned it in strict accordance with all modern ideas pertaining to school buildings and their needs. Every minute item which tends to further educational interest has been considered.

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

This Building Was Constructed Under the Holmes Unitable System, Making It Economical to Build and Adaptable to the Changing Needs of the Community.
This View of the “Activity Room” Shows How the Interchangeable Cases Are Built Into the Walls of Each Room to Meet the Special Requirements of the Department.

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

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

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

When the piers are set at ten foot intervals this arrangement allows an 8 by 3 foot space between them which instead of being wasted is utilized. Where exit doors and their recesses do not occur, class room or corridor cases, exhibit cases and teachers closets are built. Each class room case is designed for the needs of the specific subject taught in the room. Each one serves its purpose.

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

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

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

This school is constructed under the Holmes Unitable system. This system makes it possible to build an entire structure in sections similar to those in sectional book cases. The main part of the building is erected in units which are identical in size, each one being ten feet wide and the depth of class room and cir-
The illustrations here show a small Masonic Lodge building that is not only very attractive in architecture but has an especially well-arranged interior. It is the home of Eagle Rock Lodge No. 422, A. F. & A. M., of Eagle Rock, Calif., and was designed by Edward E. Rust, architect, of Los Angeles.

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

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

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

The building has a width of 57 feet and a depth of 85 feet. It contains, on the ground floor, a large reception and stairway hall, ladies' room, library, lounge, dining room, billiard room, kitchen, kitchen pantry, toilets and a small storage room. On the second floor is located the lodge room, as well as a number of small rooms used for lodge-meeting purposes.

A number of details in reference to the interior planning are especially deserving of study. The reception hall, 21 by 25 feet in dimensions, provides direct access, in each
instance, through double doors, to the ladies’ room, the library, the dining room and the lounge; and from it, to right and left, rise two separate stairways. Underneath these stairways, and opening into the hall, are two general utility closets, and in the landing hall of the second floor there is a long built-in seat.

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

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

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

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

CHARLES ALMA BYERS.

An Ideal Platoon School

(Continued from page 93)

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

If it is necessary to change classrooms or their dividing partitions in the future the actual construction remains intact as these partitions are not bearing ones and can be made whenever the new conditions require. Provision is made in the original construction to support such a partition between each unit by placing an extra joist in the floor. This standardization naturally reduces the cost of construction to a great extent. Standard size lumber used in the construction of the piers can be reused when one part of the building is completed. The outside brick walls are carried up while the concrete is poured. As all dimensions are identical in each unit little time is wasted taking measurements. A contractor experienced with this class of construction can figure a large part of the building by counting the units and multiplying by the cost of one.

In proportion to the growth of a community schools must be enlarged. In ordinary construction it is not practical to build an addition to a school unless provision has been made in the original building. The system used in the Vance School provides for future expansion by extending the two rear wings, when necessity demands it. The same style of architecture can be carried out, which will improve rather than impair the appearance, the final result will be a harmonious structure rather than a patchwork of several buildings connected by corridors. This latter condition can be seen all over the country and modern school planners are endeavoring to prevent recurrence. Their aim is to build schools with exteriors which are a pride to the community.

Will Standardize Refrigerators

T HE establishment of national specifications for domestic refrigerators to permit their purchase on the basis of quality and performance is to be undertaken by a technical committee representing manufacturers, dealers, purchasers, government departments and all other interests concerned. It has been announced by the American Engineering Standards Committee, under whose auspices the work will be conducted. A general conference of all interests concerned with domestic refrigerators, voted unanimously in favor of standardization.

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

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

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

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

Dan is an ingenious cuss. Nothing ever stumps him. He always knows the way out when he runs into a tough problem out on the job or in the office. Dan is editor of this Department and will pay $2.00 each for every good idea he can use here to show and tell other builders "how to do it." Send him a rough sketch and a short description of what the tough job was and how you handled it.

Address Dan-Do-It, care of American Builder, 1827 Prairie Avenue, Chicago, Ill.

$2 for an Idea

Building the New Roof First

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

C. J. Miller, Fayetteville, Pa.

Cuts Bridging with Square

IN recent issues of the American Builder I have seen several methods of cutting bridging described. I use a method which is not entirely original with me, but which may not be known to many who would prefer it, as I do, to other methods. This method is by means of the steel square alone. It cannot be used if the joists are more than 16 inches deep or spaced more than 24 inches on centers. Up to this size and spacing it is most satisfactory. Place the square as shown in the sketch, the width of the joists on the tongue and the distance between joists on the blade of the square. Notice that the width of the joist is on the lower side of the bridging and the distance between joists is on the upper side of the blade.

Nils O. Fagerstrom, 150 9th St., San Francisco, Cal.

A Handy Gluing Method

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

W. C. Hambright, 915 Pine St., Chattanooga, Tenn.
**To Square a Tapered Column**

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

L. B. Anderson, Preston, Idaho.

+ **How to Cut a Ventilator Sill**

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

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

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

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

RALPH COK, Route 4, Fort Payne, Ala.

+ **Fitting Door Locks**

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


+ **A Convenient Roofing Knife**

*The accompanying illustration shows a knife which I find to be a very efficient and practical tool to use in putting on asphalt shingles and roll roofing, when it is necessary to cut the roofing material. To make such a knife, first obtain an ordinary putty knife. Take it to a grindstone, carborundum or emery wheel and grind the blade down, using a tooth about the size and beveled shape of the cutting tooth of a cross-cut saw, but bevel all four sides. This makes a knife which is much better than a pocket knife for this work and which can be resharpened easily with either a file or stone._

JAMES F. Fail, 105 3rd Ave., Meridian, Miss.
“You Can Pay the Cashier”

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

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

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

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

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

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

The Builder and His Bank

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

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

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

Whereupon the manager demanded payment from the customer.

“I paid my account by check,” the customer protested.

“And the check was dishonored,” the manager pointed out.

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

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

The Disregarded Instructions

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

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

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

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

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

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

Figure 1
This finish calls for plastic paint tinted a light blue-green. The colors-in-oil used are medium chrome green and Chinese or Prussian blue.

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

Producing the Crumpled Roll Effect

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

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

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

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

Figure 2
To produce this effect, first put on a ground of plastic paint tinted a cream with medium chrome yellow. This done, draw a graining comb down the paint to give the series of regularly spaced lines. Next tamp a wad of crumpled paper lightly against the paint here and there. This breaks down the comb lines at the places
Figure 3—Here Again Is a Texture Made with Simple Tools, Just the Two Sticks Held as Illustrated Below.

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

Figure 3

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

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

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

Figure 4

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

Apply the plastic ground in the usual manner and cross-

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

Figure 4—An Unusual Effect but Very Simple to Produce with the Curved Back of a Serving Spoon.
plunging with the same brush that was used for the plastic.

The next step is to execute the swirls or circular figure- 
ation. Use a ball of cheesecloth for this purpose, simply
moving the hand in spiral fashion.

The straight lines across the swirls can be produced
with any blunt tool such as a stick with a rounded end
or a knife handle. For fine lines, a clothespin will serve.

To vary the effect, employ vertical lines as well as hori-

tzontal lines as illustrated.

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

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

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

Figure 7

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

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

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

This accomplished, place a straight edge (which may
be a ruler or a specially designed tool for the purpose)
against the paint. Hold the straight edge at one end
and then give it a quarter turn with the wrist. The
result will be a scrapping of the paint into straight ridges.

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

Figure 8

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

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

Figure 5—This Ship Design Is Produced in a Second Coat
of Plastic Paint, Traced in Outline with a Knife Point and
the Second Coat Around the Edges Cut Away.
more ornate designs are not suitable for small interiors, but may be used to advantage in large interiors such as are found in public buildings.

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

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

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

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

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

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

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

For Panel Treatments
Many effective panel treatments are possible with plastic finishes of modified texture.
Insulation for 80 Below Zero

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

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

One of the most important was the problem of providing quarters for the expedition so thoroughly insulated against the extreme temperatures of the Antarctic as to enable the men to live in comparative comfort during the two years that they will be conducting experiments and making scientific research in a heretofore unknown region. These houses had to be built here in sections. From the expedition’s ship “New York” they will have to be carried by sled over the Antarctic wastes to the base camp, where they will be erected by the members of the expedition as a permanent home. On the authority of tests by the United States Bureau of Standards and other nationally known refrigeration authorities, Byrd specified that the walls of these houses should be insulated with a material, itself the result of scientific research in the high duty insulation field.

The walls of these houses are 6-ply insulated, a combination of wood fibre board and a fibrous filling, as shown in the photo. These walls are 5 1/2 inches thick, 4 inches of which are of this fluffy insulating material. According to the engineer responsible for the research which resulted in the selection of this material, its extreme lightness—it is one-seventh the weight of cork—and its superior efficiency, made it the ideal insulation for this, the most extreme requirement in the history of practical insulation.

Incidentally, it brings to light an odd circumstance, for this material is obtained from the pods of the Ceiba tree which grows in the tropics. Several years ago it was found these extremely light, minute tubular fibers, when “grained” so that the fibers lie perpendicular to the line of heat flow, produce one of the most efficient insulations ever introduced into commercial use. It has proved of particular advantage as an insulation material for refrigerating bodies, refrigerators and cabinets for holding perishable foods at low temperatures. These fibers are also highly averse to moisture, this being one of the reasons why it is chosen for the Byrd portable houses. Commander Byrd expects this insulation and its “seal” to relieve him of the task of chopping ice from the inside of his shelters, as there will be no inside condensation.

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

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

The Gambrel Roof
By JOHN T. NEUFELD

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

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

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

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

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

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

Fig. 4 shows how the cuts for the rafters and collar beams. The upper rafter has a rise of 36 inches. The run is 4 feet 6 inches, or 4½ feet. The rise per foot run is 36 ÷ 4½ = 8 inches. The length per foot run is 14.42 inches. The length of the rafter is 14.42 × 5 = 64.89 inches. The numbers for the cuts are 12 and 8.

Fig. 3 shows how the cuts for the studs are taken from the numbers 15 and 12.

The upper rafter has a rise of 36 inches.

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

The rise per foot run is 36 ÷ 4½ = 8 inches.

The length per foot run is 14.42 inches.

The length of the rafter is 14.42 × 5 = 64.89 inches.

The numbers for the cuts are 12 and 8.

Problems

1. Assume a roof similar to the one given in the illustration with the following dimensions:
Run of lower rafter, 5 feet 0 inch.
Run of upper rafter, 4 feet 6 inches.
Rise of lower rafter, 6 feet 3 inches.
Rise of upper rafter, 3 feet 0 inch.

Find the lengths and cuts for the rafters.

2. Assume a roof with the following dimensions:
Lower rafter, 16-inch rise per foot run, with a run of 8 feet 0 inch.
Upper rafter, 7-inch rise per foot run with a run of 5 feet 6 inches.

Find the lengths and cuts for the rafters.

Answers

1. Rise of lower rafter is 6 feet 3 inches, or 75 inches.
Run of lower rafter is 5 feet 0 inch.
Rise per foot run is 75 ÷ 5 = 15 inches.
Length per foot run is 19.21 inches.
Length of rafter is 19.21 × 5 = 96.05 inches.

To change to feet we divide by 12. This gives 8 feet and .05 inch.
The .05 inch may be changed to sixteenths of an inch by multiplying by 16. This gives .05 × 16 = .80. This is ½ sixteenths, or, in other words, almost one-sixteenth of an inch.

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

2. Lower rafter has 16-inch rise per foot run.
The length per foot run is 20 inches (from tables).
Length of rafter is 20 inches × 8 = 160 inches, or 13 feet 4 inches.
The cuts are 12 and 16.

Upper rafter, 7-foot rise per foot.
Length per foot is 13.89 inches.
Length of rafter is 13.89 inches × 5½ (the span) = 76.395 inches, or 6 feet 4½ inches.
The cuts are 12 and 7 inches.
Some Drawings Illustrating the Correct Method of Framing a Gambrel Roof.
FURNACE HEATING

Heating Commercial Buildings

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

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

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

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

Carpet drying has become a technical business. The dirt first is beaten and shaken out by mechanical beaters and huge tumbling barrels. Next a compressed air stream forces out the remaining dirt. Then comes scrubbing with soap and water. Last, the carpets must be dried. There are two processes. They may be laid out in the sun, wherein drying requires several days if the weather is fair; or they may be slung on poles, placed in a drying room and a current of warm air passed over them. If a warm air furnace is used, with a mechanical fan, they may be dried in six hours.

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

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

In the center of the room there is a partition and on either side a square, floor register. A 33-inch diameter firepot furnace is located on the floor below and four 20-inch diameter ducts connect the bonnet to the four heat registers. Thus there results a vertical and horizontal flow of warm air which, joining, moves at moderate velocity towards two, low, exhaust grilles in the rear. Here two 14-inch diameter electric exhaust fans pick up the moisture-laden air and discharge it into the atmosphere. Under normal operation the
openings in the exhaust ducts are located six inches above the floor, but they may be raised to 12 inches by telescopic sleeves in the outlets. The use of warm air heaters for industrial applications as just described is by no means new, for warm air propelled by mechanical fans is generally regarded as ideal for drying most all kinds of loose material.

A type of commercial structure much in evidence in late years is the garage and repair shop combined. Such places often are the dry rooms for new models. Here carbon monoxide gas from the exhausts of automobiles must be removed and heat supplied for personal comfort. Some manufacturers offer, for heating buildings of this nature, what are known as unit heaters which employ gas, oil or coal as fuel. When these units are not direct-fired, that is, fueled at the heater itself, steam coils are the heating medium and the boiler is located in a separate room. Direct-fired unit heaters are nothing more nor less than warm air furnaces with modifications and a different name.

One garage recently noted has a warm air furnace located in a small room in a corner of the storage floor. There are short leaders, or snouts, and a duct connected to the office. Warmth is delivered to the office through plain grilles about seven feet above the floor. Sometimes heat is supplied through baseboard registers. In this instance there are also two bell-mouthed diffusers faced toward the car storage room for heating. The entering air is about 110 degrees and of sufficient velocity to blow the heat at least one-third of the distance between the heater and the most remote corner. The remainder of the room air will become warmed by convection.

When there is a display room added the installation of the heater would be much the same but with a heat leader to the display room. In the absence of car storage space in such buildings the heater would be placed in the basement as in a residence. Heat leader ducts should extend to floor or baseboard registers in the office, display, spare parts and other rooms. It goes without saying that in garages outside air supply is preferable to recirculated air because of the impurity of the interior.

Many tire shops today are of good size, especially whole-sale places like those maintained by leading manufacturers. Unless there is positive circulation through such rooms the atmosphere becomes charged with rubber odor. The putrid air sinks to the breathing area and the non-charged air, endangering health. It is wise to remove such odors as they are generated. A warm air plant is excellent for odoriferous places of any kind because of the circulation which keeps the interior air moving. If there is a mechanical fan a pressure condition is built up and the odors forced out. Such an installation is shown in Fig. 3.

Dye plants especially require warm air in circulation. As dyed materials are removed from huge vats considerable steam fills the rooms. Unless there is circulation of the air the steam rises, strikes the cold roof and walls, condenses and drips onto workers and materials. It is most unhealthful to work under such conditions and thousands of dollars worth of goods will be spotted by condensation.

Scientific clearing of the air in dye houses specifies blowing in a large supply of warm air, discharging it near the floor and along the walls. The capacity of warm air to hold moisture in suspension is appreciably greater than cold air. Hence, when warm air is supplied, it will pick up moisture and the saturated air may then be removed through vents in the ceiling or by exhaust fans, usually placed overhead or high in exterior walls. When a warm air furnace is used for installations of this nature mechanical fans become a practical necessity.

Another kind of industrial structure where the warm air heating idea may be carried forward is in large, high-ceilinged areas like car shops, metal fabricating plants and roundhouses. Unit heaters are much used here because it appears desirable to provide warmth for the breathing area, say from the floor to 10 feet above it at least. The object is to make the personal activity area comfortable regardless of other heating considerations. To warm the ceilings and exterior walls of such buildings would require extra fuel and costly equipment, whereas local heating achieves the prime object sought.

Sometimes in storage warehouses and metal stock sheds great saving may be obtained by keeping stock conditioned. Rust is easier kept off ferrous metal while goods are easier to handle. It is not desired to have high temperatures in such places, rooms being maintained, say, at 50 degrees. A warm air furnace with short distributing nozzles is admirable for this purpose.

Not long ago the author's attention was directed to a successful furnace installation in a railroad locomotive repair house. Here the doors were opened frequently to permit entrance and exit of locomotives and, needless to mention, the doors were large. A current of warm air, under fan pressure, was directed towards the doors, hence when they were opened cold air did not filter in to any extent.

In the rear was a small engine room which furnished electric lighting power to a large building some distance away. A warm air connection was led to the engine room, about eight feet above the floor and warmed delivered there through an open duct end. Both rooms were comfortable in the most severe weather. An important factor in accomplishing good heating is the quick warm-up afforded by a furnace. When dampers are opened in heaters of this type added heat is immediate. The furnace has no long "wind-up," but starts to pitch from the shoulders.

In factory heating, installers are at variance as to whether unit heaters should be placed beneath the roof or on the
Selecting Proper Colors

The same rules of color harmony that apply in other decorative work also apply, of course, to textual finishes. The color scheme best suited to a particular interior is governed by the use to which the room is put, its size, furnishings, location, lighting etc. It may be said in general, however, that plastic paint should be tinted a little lighter color than would be the case if the work were to be done in a smooth, flat finish. This is desirable as the texture of plastic paint breaks up the light so that shadows are cast on the surface, making it appear darker than it is actually.

Law for the Builder

(Continued from page 98)

secure the chattel mortgage; the buyer gave a chattel mortgage to a third party; the contractor lost the unpaid balance, and sued the bank for damages in the Kansas courts.

"A national bank has no authority to act as agent for other parties under these circumstances, and consequently the bank is not liable for damages," the bank contended.

"If that's the case, you should have returned both the papers to me, but when you undertook to do the business, and did not carry out my instructions, you are legally liable," the contractor retorted, and the Kansas Supreme Court so ruled in the recent case of Bock vs. National Bank, 225 Pacific Reporter 68.

"A national bank cannot act as an agent or broker for others in dealing in stocks, bonds, mortgages or other securities, and especially in guaranteeing them; nor can it act as a broker in lending the money of others. Nevertheless, where a bank has lawfully received money or property, it must account for the same or its proceeds, notwithstanding an ultra vires agreement in this respect," the court said.

R. G. THACKWELL

Motion Pictures Sell Contractors' Equipment

To produce a convincing demonstration of the work that is being done by road building and contractor's machinery equipment of his firm, Tom W. Harron, president of Harron, Richards and McConne, San Francisco, has worked out a motion picture sales story.

"I use a Filmo hand camera with an arc light in taking inside pictures of machine tool manufacture and of the woodworking end of our business and am getting results."

The manufacturer of concrete machinery uses films to tell the story of its machines. One reel shows a paving mixer working on a 20 per cent grade in San Francisco, a steam shovel on drag line work in Los Angeles, and a shovel working in a railroad cut 65 feet deep near Valley Spring, Calif.
Ten thousand painters MUST be right!

Remember that wartime song "Fifty million Frenchmen can't be wrong"? Well, neither can the ten thousand Master Painters using Johnson's Permacote. We wish we could reproduce their whole chorus because it is the greatest advertisement in the world. But just listen to a few stray notes:

"We find your Permacote the best flat paint we have ever used. It covers perfectly, spreads over a larger surface per gallon, and works easy. Also we are not bothered with any odor, as is generally the case with flat paint."
ONTONAGON, MICH.

"Your flat white cannot be beat for quality; the best I ever used."
CHICAGO

"I first tried your flat paint on old walls formerly papered. After applying your size mixed with flat paint for the prime coat, I had no trouble in finishing the job with another coat of flat paint (stipple finish) and it proved to be better than I had ever experienced. It was a perfect job."
NEW YORK

"The best I ever used, and I have tried nearly all of them."
CEDAR FALLS, IOWA

"Your Permacote is something I can use the year around. It's the only flat paint I ever used that gives a good finish on wood. I have used it in ceilings and on beaver board, on sheet rock, and on plaster, and I consider it has no superior."
EAST SPENCER, N. C.

"I have had considerable trouble and loss through trying to get a good flat paint, but now my 'flat' troubles are over as your Permacote is what a flat should be."
PIKESVILLE, MD.

"I did a large job three years ago, using your Permacote, and it is standing up so well that I have been recommended for several jobs."
WASHINGTON, D. C.

"Permacote the best flat I ever used. It covers extra thoroughly, works well under the brush, goes farther and looks better. Great stuff."
MCKUNE, KANS.
America's Oldest Homes Were Built of Pine

Ever since the Pilgrims landed in 1620, Pine has been universally recognized as the nation's home-building material.

The Barker House, said to be the first house in America, was constructed of Pine in 1628 at Pembroke, Massachusetts. The nation's oldest home now standing is the Fairbanks House, built in 1636 at Dedham, Massachusetts. Its unpainted Pine siding has stood exposed to the severe New England climate for almost three centuries.

"Certified by Centuries of Service"

There are scores of old Colonial homes built of Pine long before the
Revolutionary War which are as livable today and as sound in timber and beam as the day they were built.

The Wetherald House pictured on the opposite page was built of Pine in 1752 at Deerfield, Massachusetts and is an excellent example of the middle colonial period when a definite American architectural manner began to assert itself.

Today It Is Shevlin Pine

Down through the years, the true American home has been of Pine in colonial design. Today it is the real American home of Pine that is once more gaining favor. And today, Shevlin Pine is the nation’s home-building material.

Shevlin Pine owes its pre-eminent position to its smooth texture and fine grain, its ability to stay put under exposure, its durability and resistance to rot, its easy-working qualities and its ability to hold paint.

Abundant Supply Available

The home of today can be built as substantially as the home of colonial days. There is no shortage of the tested wood of our ancestors. Sufficient stands of carefully selected Shevlin Pine are available to supply the nation for decades.


Learn More About Pine

The booklet, “Specify Shevlin Pine”, contains information which we believe will be of interest to you—the uses of Pine, its characteristics, physical properties, and other information. Just send us the convenient coupon below.

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.
A Highly Efficient Insulation

A NEW insulating material, which has stood the test of more than 20 years’ extensive service in European countries, has recently been introduced in this country and is now on the market. Dried peat moss, the basic material used in the manufacture of this insulation, was long known as an excellent insulator. Extensive scientific research and experiment by a prominent German engineer perfected the transformation of this natural product into a material suitable for building insulation.

As now marketed this material is in the form of sheets 19½ by 39 inches and from 1 to 6 inches thick. Its weight is less than one pound per board foot and it can be cut with a knife or saw, making its application very simple. On the other hand, because of its fibrous content, it will not break easily. It does not rot and, as it contains no bituminous binder, it provides a permanent insulation against heat and sound.

The manufactured material is of a dense, finely pored texture, the pores being smaller than 0.004 inch in diameter. Scientific experiments show, it is stated, that the thermal conductivity of air pores 0.2 inch in diameter is 82 per cent greater and the thermal resistance correspondingly less than in pores of only 0.004 inch. Because of this the thermal conductivity of this material is exceptionally low, 0.27 B. T. U. per square foot, per hour, per degree of Fahrenheit temperature.

The thermal conductivity of any material also depends greatly upon the moisture content of its pores and, since the conductivity of water is about 20 times greater than air, low moisture content reduces thermal conductivity. This material is impregnated against water absorption, which is a guarantee of the permanency of its insulating quality. For this reason it can be used with wet mortar in connection with concrete, or laid as a roof insulation in wet weather.

Rigid tests have shown this material possesses a high degree of resistance to compression. Its compression in one inch under a load of 1,764 pounds per square foot is only 0.03 inch. It is not only an efficient heat insulator, but as highly efficient sound-absorbing material, and its use for this purpose has been extensive. It is free from harmful odors and has been used with entire satisfaction in storage plants where food is stored, in refrigerator cars and refrigeration boxes. It will not harbor vermin of any kind, being completely sterile. It is a fire retardant, as it has been thoroughly impregnated against rapid ignition and may be used as a heat insulator up to 230 degrees Fahrenheit.

Cold Water Paint

A N exterior, cold water paint, suitable for application with a hand brush or spray gun, has recently been announced by a well known company as the latest product of its research laboratories. This paint, it is stated, is suitable for application over any clean, masonry surface that is in good condition. The material itself is a white powder. Water is added on the job. Any shade of color can be obtained by mixing in limeproof colors. This paint will be distributed through a representative dealer organization that has been built up for the sale of this company’s products.
A Frame for Every Kind of Building

Build homes for Beauty...

and to last

Andersen Frames come in styles and sizes suitable to the finest architectural effects. They are made with genuine, soft, white pine sills and casings, have exclusive weather-tight features, and can be easily and quickly converted for any kind of wall construction—yet they cost only a few cents more than ordinary frames.

Let us tell you the whole window frame story—it will interest you if you are building homes for beauty and to last. Let your Andersen dealer show you, or fill out and mail the coupon below.

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Andersen Distinctive Features

1. Patented, noiseless, long-wearing Andersen pulleys used exclusively.
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5. A Frame up in 10 minutes.
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National Building Material Dealers

Set of illustrated folders describing construction and uses of various Andersen Frames.

"How to Make Your New Home More Comfortable"—an illustrated booklet of interest to all home builders.

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W I N E WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
What's New?

A Handsome Mail Box with an Illuminated House Number

The accompanying illustration shows the handsome entrance to a fine modern home. How often is such an entrance spoiled by a cheap and flimsy mail box hung beside it, one which is entirely out of harmony with the house from the start and which soon rusts and becomes more unsightly than ever. But such is not the case with the entrance shown here. As will be instantly observed, the mail box is something very much out of the ordinary. Its artistic appearance, with graceful supporting brackets, will add to the appearance of any home.

Not only is its appearance an ornament when first installed, but it will remain so, for it will never rust. The supporting brackets are not for beauty alone, but are designed to hold securely, newspapers, magazines and other bulky mail which will not go into the box. The door for removing mail can be placed on either side of the box, according to whether it is to be installed at the right or left side of the door.

But these are not the only things which recommend this mail box to the discriminating home owner or the builder who is on the lookout for those refinements which make a window shade rolls up. In this way it is always in place when wanted, and is fully out of the way, but fully protected when not wanted. It is not necessary to repair and repaint the screens each season, it is not necessary to provide a storage place for them during the winter. It is not necessary to put them up, with the usual fitting and bother, and take them down each season. The company making this screen has now brought out another screen which is like its original product except that it covers only the lower half of double hung windows and is installed on the outside, instead of the inside, of the window. It, too, can be installed on either new or old construction without alteration of the standard window frame. It is inconspicuous and affords a minimum amount of obstruction of the window opening.

This screen is made of lead coated terne plate metal which offers a perfect bond for paint, so that it may be painted to harmonize with the building. The screen cloth is a 16-mesh cloth woven of an aluminum alloy which is almost invisible and will not sag or bag. It is stretched by the tension of the spring in the housing and is held at the sides of the jaws of the guides which grip lugs on the edges of the screen. The construction insures proper alignment and operation and slotted holes in the guides allow compensation for shrinking or swelling of window frames.

The method of holding the screen cloth in the guides prevents damage by a blow. In case of a blow hard enough to tear or bag the ordinary screen, the lugs are released at the sides without injury. Upon pulling up the released lugs, raising the screen and again lowering it, the lugs automatically re-enter the guides and the screen is kept in its normal position. When lowered, the screen is automatically locked to the sill by latches accessible from the inside only. These screens are made to fit openings from 1 foot 4 inches to 4 feet 7 inches wide, by variations of ½ inch and heights up to 3 feet by variations of any fraction of an inch.
SANDS MY FLOORS
THREE TIMES FASTER
THAN MY OLD MACHINE

And
Gets Me More Work Than I Can Do

That’s What
THE
AMERICAN
HIGH PRODUCTION
FLOOR SANDER

Is Doing for A. J. Florey of Brownwood, Texas,
and That Means Exactly Three Times the Profit

This wonderful new ONE MAN floor sander should do the same for you, in fact, do the same for anyone who is willing to be shown. If you have a sander now, you can’t afford to continue using it, unless it is an American High Production Floor Sander. If you don’t have a sander, you can’t afford to be without this new “ONE MAN” machine.

A One Man Machine—For Any Size Job

On the big jobs THE AMERICAN HIGH PRODUCTION FLOOR SANDER will produce for you on a truly High Production basis with quality work that brings you big profits. Likewise in the small cramped spaces this machine saves you both time and money.

Don’t Buy It Until You Try It

It makes no difference what the machine is, you are entitled to try it before you buy it. There is no reason why you should put your money in the hands of any manufacturer until you have proven to your own satisfaction that you want to buy the machine.

“Easily Carried by One Man”

Our “On Approval Plan” gives you that opportunity and you can secure the complete information, by mailing the coupon TODAY, as well as many definite reasons why it will pay you to investigate and learn the FACTS about this great machine.

Mail the Coupon Now—Find Out How

The AMERICAN Floor Surfacing Machine Co.
515 South St. Clair St., Toledo, Ohio

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The A. R. WILLIAMS MACHINERY COMPANY, Ltd.
CANADIAN REPRESENTATIVES:

Toronto Winnipeg Montreal St. John’s
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Gentlemen: I’d like to find out how I can see the American High Production Floor Sander in operation without obligation. Please send me literature and prices, too.

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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
An Adaptable Floor Machine

HERE is a floor machine which is adapted to a wide variety of uses. It can be used for scrubbing any kind of a floor and will handle such work without the least splashing. It is also used for applying floor wax, to polish waxed floors and for scrubbing off shellac, or varnish and for light sandpapering. When used for scrubbing cement floors, where it is necessary to remove oil and grease, a steel wire brush is supplied at a slight additional cost.

The standard equipment of this machine includes a ¾ H. P. motor, 40 feet of rubber covered cable, one polishing brush and one scrubbing brush, each 13 inches in diameter. The weight of the machine, with one brush attached, is 52 pounds. The brush operates at 150 R. P. M.

All moving parts can be readily inspected without taking the machine apart. The motor is mounted with four bolts to an aluminum casting, in a horizontal position. The gear housing has an aluminum cover which prys off easily and permits instant inspection of the gears and the quantity of gear grease. Ordinarily it is necessary to replace the grease only once every six months. The use of the steel bevel gears makes the machine noiseless in operation and permits it to be used for scrubbing and polishing of floors without any annoyance to those about.

Modern Electric Ranges

WITH the many modern appliances which are now going into the up-to-date homes and apartments of this country, household drudgery is rapidly becoming a thing of the past. Standing over a hot kitchen range is one of the things which is being done away with through the development of the modern electric range such as the one illustrated in the accompanying photograph.

This range is made in two styles. The deluxe model has either three or four surface burners; a large oven, 16 by 18 by 14 inches; a broiler; food and plate warmer; a utility drawer; a convenience outlet and a broiler pan. The oven can be washed out, in either model, without removing the bottom oven burner. Both models are furnished in color combinations of black and white, gray and white, and green and white, in either the three or four surface burner style.

The console model has the broiler and broiler pan in the top of the oven, which measures 16 by 18 by 12½ inches. Either model may be had in plain, full or semi-automatic styles.

These ranges are substantially constructed throughout, rugged and will not twist or get out of line. The range itself is rigid and firm. They are economical of electricity and fast in operation. They may be obtained with either open or closed type burners and with the oven on either right or left side.

With the automatic control it is possible to place a meal in the oven, set the control to start and stop at certain times, leave the house and come back to find the dinner ready cooked.

A Water Heater Control

IT is possible for the home owner to have hot water when he wants without having to run up and down stairs to light his water heater and turn it off. This is made possible by an electrical device which can be attached to any gas water heater in any home. With it installed, it is possible to turn on the heater by pressing an electric switch in either the bathroom, kitchen or laundry, and to turn it off in the same manner from any of the switches.

While the heater is going, small red indicator lights in the switches act as a reminder so that one will not forget to turn it off. In addition there is a thermostat attached to the heater which automatically shuts off the gas when the water is hot so that there is no danger of overheating or wasted gas even if the heater is forgotten.

This device can be installed easily, in a few hours, neatly and with all wiring concealed. It operates from the regular house current and is attached to whatever form of gas heater may be in use also, of color or size. It adds one of those conveniences which makes the difference between a truly modern home and one which is out of date, which conserves the time of every member of the family, relieves the burden of housework, and aids the investment builder in the sale of his houses.
Carney Cement Mortar
Has a Fine Winter Record!

If you have a job of winter masonry, you won’t go wrong with Carney Cement for the mortar. Time after time Carney Cement has been put to the acid test of winter construction and has come through flying. Scores of the country’s important structures bear testimony of Carney’s winter record—among them such recent examples as the Cleveland Union Terminal, the Standard Oil Company Building, Chicago, and the Minneapolis Municipal Auditorium.

When you select Carney Cement for winter work, you can do so with a confidence inspired by nearly fifty years of practical demonstration.

THE CARNEY COMPANY
DISTRICT SALES OFFICES
CINCINNATI  CHICAGO  DETROIT  ST. LOUIS  MINNEAPOLIS

NOTICE—Regardless of the binding material used for brick mortar, it is always advisable to heat the sand and water thoroughly in freezing weather. It is also important that the mortar be used as soon as possible after mixing.

Specifications:
1 part Carney Cement to 3 parts sand.

Cement Makers Since 1883

Carney Cement
for Brick and Tile Mortar

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Another Weyerhaeuser
trimmed square at both ends.

The Mark of 4 SQUARE Lumber

Packaged and Guaranteed

These stems can now be purchased under the 4-Square label. Each carefully manufactured for the particular purpose for which it is intended.

FINISHING LUMBER
BEVEL SIDING
COLONIAL SIDING
DROP SIDING
SOFTWOOD FLOORING
CEILING AND PARTITION
SHELVING • STEPPING
CASING • BASE • MOULDINGS

WEYERHAEUSER FOREST PRODUCTS
General Sales Offices: Weyerhaeuser

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FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
achievement - Wasteless Lumber!

packed · · · ready to use · · ·

Now 4-Square Lumber
beats "low bidders"

This new packaged lumber helps the honest builder to maintain his reputation.

It strips all mystery and uncertainty from the buying and selling of lumber. It is sold in attractive packages with the species and grade plainly printed on the label and guaranteed by Weyerhaeuser.

By this easily recognized identification of values your bids will stand on quality quite as much as on price. Competitors will have to meet not only your price but your quality as well.

4-Square Lumber is more than a competitive advantage. It is better lumber—thoroughly seasoned—milled to precise dimensions—cut to exact lengths—perfectly squared and smooth at both ends—packaged for protection of face and ends and ease in handling—labeled with the grade and species to avoid substitution.

Leading builders everywhere are praising this new achievement because with it they can effectively combat cut-throat competition and dishonest practices.

Local Lumber dealers have 4-Square in a wide variety of items and sizes. Ask your dealer about it or if he is unable to supply it, write to us.
Practical Small Incinerator

This little incinerator is described as differing from the conventional type unit in that it employs an offset principle. The value of this construction is that falling refuse does not go through into the grate line. Instead the impact is absorbed by the curvature of the stack which then throws off loosely into the combustion chamber. The grate of this unit is a cast iron basket suspended within the masonry and the rocking grate is carried within the grate basket. A special stack is not required for this unit. In either old or new homes it may be installed in the general service chimney or the heating plant chimney, provided either of these chimneys pass up through or near the kitchen wall. The feed door should be located within the kitchen. Tests have proven that this incinerator actually enhances the draft if the smoke stack is of sufficient size to carry the heating plant or other service, the manufacturers claim.

The Offset Principle on Which This Incinerator Is Based Is Its Outstanding Feature.

This unit employs a principle which serves as a forced draft during burning. While the incinerator is cold the oxygen is admitted to the combustion chamber at a very high velocity generating the refuse mass, evaporating moisture preparatory to burning. The reason for this high velocity through the air port is that its area is approximately one-twelfth of the flue area of the incinerator and the motion within the flue will cause oxygen to enter the ports very rapidly. This incinerator is of 6.72 cubic foot capacity, large enough to handle any residence or two family or four family apartment. It is comparatively inexpensive and can be furnished in metal at only a slightly higher cost. It can be installed inside or outside a building and in either gas or gasless type. The gasless type can be converted to a gas type at any time with but a few minutes’ work.

Copper Coated Steel Wire

After an extended period of laboratory experiment, field research and actual test service, a new copper coated steel wire has been introduced as a material for residential, industrial and institutional fences, according to an announcement from the manufacturers. This new type of fence is available in both ornamental and chain link constructions.

In making this wire a thick layer of ductile copper is molten welded to a steel core. This is done by heating a steel billet to a welding, white-hot heat, after which it is surrounded with a layer of molten copper. The process is illustrated, in principle, by the accompanying drawing which shows the operation of pouring the molten copper around the steel billet that has been centered in a graphite mold.

Ordinarily this round steel billet is seven inches in diameter and 48 inches long. After having been thoroughly cleansed and fluxed the steel billet is centered in a mold with uniform spacing on every side. The mold is then sealed and placed in a furnace where both are heated until the surface of the unoxidized steel reaches its melting point. Molten copper is then poured into the mold, filling the space between the white hot billet and the inner wall of the mold. This liquid copper, coming into contact with the liquid surface of the steel, forms an absolutely continuous weld which, it is claimed, neither bending, twisting, hot-rolling, cold-drawing, forging or sudden temperature changes will destroy. This ingot, which is now nine inches in diameter, is first hot-rolled into a rod ¾-inch in diameter, after which it is cold-drawn into wire of the required size. The combination copper and steel ingot rolls and draws as one metal, the original proportion of copper and steel remaining the same through all stages of fabrication, it is stated. It is claimed that the copper exterior affords almost indefinite life to the wire by reason of its rust resisting qualities. The wire can be colored to any desired shade of green, or brown, merely by the application of acids.

New Porcelain Light Unit

This new lighting unit is made of genuine porcelain and is one of the easiest devices to install that is on the market today, yet it sells at a low cost and in a standard package. A deep recess in the back makes it possible to install this device over almost any box or outlet, including a stud. It will fit over boxes that are set flush with the surface of the wall as well as over a stud box that is set close on the surface. For this reason it should be especially attractive to the wireman.

This new bracket may be had in the pull-chain or keyless type with or without the convenience outlet and also with a porcelain ring for exposed lamps, or with a 2½-inch shade holder for glassware. Both of the latter two models are shown in the accompanying illustrations. Glassware is, of course, not supplied.

Because these brackets cost less, yet are applicable to such wide use and are so easily installed, it is expected that they will prove highly popular.
A Bath of the Future
The Combination Bath Tub

Regular Bath, Shower Bath, Seat Bath, Foot Bath, Child's Bath. All in one piece, Patented
Semi-Vitreous Porcelain and Enamel Iron Ware

COMBINATION BATH
PLATE 10-E
Enamel Iron Ware, 44x30 inches to tile in recess only. Enamed white front. Waste in foot section either right or left hand end.

COMBINATION BATH
PLATE 11-E
Enamel Iron Ware, 44x30 inches to tile in right or left hand corner. Enamed white all exposed parts. Same as Plate 10-E except for corner installation.

COMBINATION BATH
PLATE 30-E
Semi-Vitreous Porcelain Ware, 44x30 inches to tile in right or left hand corner, or in recess. Glazed white all sides.

The COMBINATION BATH is an entirely new departure in the development of modern sanitary comfort, comprising, as it does, a SEAT, FOOT, SHOWER and CHILD'S bath, all in one.

It possesses many essential common sense features not found in any other types. For instance, it is more comfortable and less wasteful of water; it is possible to bathe and treat the feet without the removal of all clothing, by having only a small amount of water in the foot section. The legs on the end and both sides of the foot section. The legs on the end and both sides of the foot section allow ample space for the feet when dimensions of the foot section allow ample space for the feet when the foot section is to be treated. The infant can be bathed in the water filled foot section, and then, if desired, dipped in the water filled foot section, and then, if desired, dipped in the water filled foot section.

Remember, when you are considering the length of the COMBINATION BATH in comparison with other kinds of tubs, that you do not assume a half reclining position when using the COMBINATION BATH, but instead a sitting position; so that your length from the knee down does not count in the length of the space required as it does when using the ordinary bath; also that the uncomfortable, cramped position assumed in the latter case is entirely removed and supplanted by a natural, comfortable posture, such as experienced in a chair with just as much room in every direction as a person would have in using the ordinary bath of greater length.

Furthermore, when the COMBINATION BATH is used as a shower bath it is equal to any standard type shower receiver. The arrangement of the seat head or body shower bath permits the taking of a bath without wetting the hair. This combines it, and a feature which should not be too lightly regarded, in fact, we strongly recommend installation of a shower in connection with the COMBINATION BATH. When one desires to get out of the COMBINATION BATH, he can do so without the aid of grip-rails or even the use of his hands, by merely standing up—just like arising from a chair.

Water can be turned on and off without changing from a sitting position, instead of being obliged to slide along the bottom of the tub, in order to reach the valves, as is necessary when using any other type bath.

In planning bath rooms, space saving is oftentimes a most important problem, which can be readily and satisfactorily solved by the adoption of the COMBINATION BATH. This is all accomplished without encroaching on the space required for persons weighing as much as 250 pounds to an extent that comfort is sacrificed in any degree.

The mother or maid can bathe a child in the COMBINATION BATH. This is all accomplished without encroaching on the space required for persons weighing as much as 250 pounds to an extent that comfort is sacrificed in any degree.

When writing advertisers please mention the American Builder.
Small Heavy Duty Speed Trucks

The manufacturers of this truck state that there has long been a demand for a small, heavy duty truck for compact, heavy loads, to look and go like a snappy speed truck, with frame and springs to stand all kinds of punishment and with gear reduction such that the engine power can be used down to the last ounce when a heavy load is caught in hard going. This truck was designed to meet that demand.

This new speed truck has six forward speeds and two reverse speeds. The transmission has three speeds forward and one reverse and a two-speed, spiral, bevel rear axle, of new type, provides two axle reductions for each transmission speed. There are, thus, two ranges of speed, one an extra low range, ordinarily found only in some of the big, heavy duty trucks. This low range, with its three speeds, is for rough roads, mud, fields, hills, wherever the going is tough. Then there is the high range, with its three speeds, for fast hauling where the roads are good.

This new truck has unusual flexibility, it is stated, as well as speed and utility. It is reported that sections where this truck was released six months ago are now taking it in dozens of trainloads requiring a production schedule far ahead of any other model made by the company.

Portable Rotary Motion Unit

A UNIT described as the only tool of its kind, the only application of flexible shafting with a gasoline motor, is shown in the illustration. The manufacturers, well known makers of flexible shafting for industrial purposes, state that this machine is one which can be used to advantage by builders, contractors and construction firms in metal, wood, marble, brick and floor work, at isolated points or wherever steam or electric power is not available.

The unit is portable, its net weight being but 176 pounds, with a domestic shipping weight of 252 pounds. Assembled and boxed it measures but 27 by 27 by 32 inches. The gasoline engine is a full 2.2 H.P. unit with adjustable speed from 1,400 to 2,200 R.P.M. It is equipped with a flexible shaft with metal case, length 10 feet, for an eight by one-inch wheel.

In This Machine There Has Been Made an Application of Flexible Shafting with a Gasoline Motor Which Will Be Found Useful by Builders.

Artificial Daylight Units

According to the manufacturers of the lighting fixture shown here it is a fact that the lighting in a majority of offices and industrial plants is lacking in "quality," although the "quantity" may be ample or even excessive. And also that the users are seemingly satisfied because they do not know, as a rule, that a better quality light is available at a low cost, and that making this light adjustable to all requirements of the individual greatly increases its effectiveness.

This company has specialized on the manufacture of lighting units producing a high quality of artificial daylight (white light) that is very beneficial to the eyes and retains true color value. These units may be used as drops or in combination with a complete line of adjustable fixtures and portables, for office or industrial use. These units consist of reflectors with special lenses which produce a very white light which is close to actual daylight in quality.

Paint Gun Has Complete Control

The new paint spray gun shown here has two important additions as compared with this company's older models. These features are a dialed head and a series of indicator numerals on the paint valve plunger. The dialed head gives numerous different spray adjustments, from a circular spray to a fan of a wider field than was formerly possible. The dialing permits the operator to obtain any desired spray instantly without first making tests.

In connection with the indicator numerals, a pointer is operated as the operator turns the adjustment button. Just as the dial in the head produces the exact spray wanted, so the indicator numerals on the paint valve plunger provide the exact volume desired without the necessity of losing time by testing. The operator, having found that a certain class of work is best performed when the indicator points to a certain figure, makes the proper adjustment before beginning to spray.

The new improvements calibrate all operations and enable the operator to "tune in" instantly on the proper adjustment for perfect operation. They also substitute scientific accuracy for "rule of thumb." These improvements are also available to the owners of older guns as the new parts have been made interchangeable and can be inserted in the older gun bringing it up to date.

Paint Gun Has Complete Control

What's New? [November, 1923]
No other flooring is more suited to office buildings — beauty, permanence, comfort, economy

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

The cost is but little higher than regular strip oak flooring; less than many perishable floor coverings. Each block is a complete unit, three or more oak strips, full 13/16" thickness, joined by a steel spline. Laid in EVERBOND (a non-setting cement, sound-deadening and moisture proof) directly over concrete or wood subfloor, without nails, as rapidly as strip flooring. Squeaking is eliminated. *CELLizing, a deep-cell chemical treat, protects each block from distortion by moisture, resulting in a smoother and more perfect hardwood floor. The treat also permits a richer, more lasting finish, with less finishing material. Insect and decay proof.

When a building is planned for *CELLized oak blocks, there is a reduction of approx 2 1/4" in height per story, without loss of headroom, eliminating screeds, cinderfill and wood subfloor. The total saving exceeds the cost of the design floor, laid and finished.

In remodeling, lay *CELLized oak floor blocks in EVERBOND, over old worn floors.

*CELLized oak floor blocks are sold through lumber dealers everywhere; manufactured by

THE LONG-BELL LUMBER CO. . Kansas City, Mo.
ARKANSAS OAK FLOORING CO. . Pine Bluff, Ark.
TENNESSEE OAK FLOORING CO. . Nashville, Tenn.
NASHVILLE HDW. FLOORING CO. . Nashville, Tenn.
E. L. BRUCE COMPANY . . . . . . Memphis, Tenn.

Oak Floor Planks, and strip flooring also obtainable *CELLized

*CELLized Oak Flooring Inc.
MEMPHIS — TENNESSEE

Write for the name of the Approved Flooring Contractor nearest you.
HERE at last, is the simple, practical system of steel house framing for which every progressive architect and building contractor in the country has been looking for many years—a system that makes the modern house truly firesafe, stormsafe and at a cost comparable to ordinary wood construction.

The complete steel frame is fabricated at the mill and delivered to the job site ready to erect with the use of ordinary tools. The wrench takes the place of the hammer and saw with this construction. Any competent building craftsman can assemble and erect a "STEEL FRAME HOUSE"—no specialized skill is required.

STEEL FRAME HOUSE COMPANY
A Subsidiary of McCLINTIC-MARSHALL CORPORATION
OLIVER BUILDING
PITTSBURGH, PA.
This is the Steel Frame for the Shaffer House—pictured in colors on the Cover of this month's issue of the American Builder

**THIS STEEL FRAMED HOUSE** was designed by Lyon and Taylor, Architects of New York, to meet the particular requirements of the owner, Mr. W. H. Shaffer, Jr. of Pittsburgh, and illustrates the unlimited possibilities of "Steel Framing" as applied to any architectural design, large or small.

**INVESTIGATE** this modern method of house construction. Send for your copy of our booklet "Steel Framing for Dwellings"—you will find it extremely interesting and profitable.
**What's New?**

**Complete Telephone Booths**

The telephone booth illustrated here is one of a line manufactured by a company specializing in the production of telephone booths which has recently made arrangements with the Bell interests by which it is now allowed to sell its booths anywhere. Certain portions of the country show a surprisingly small number of public phone booth installations and a wider use of this convenience would open up a new source of revenue to owners of stores, shops and buildings.

These booths are available in four types, a folding door type, a receding door type, a swinging door type and a folding door type for group installation. The latter is furnished with unfinished sides and separators are used between the units of the installation and finished panels at the ends of the group only.

Both the folding door types are of the same size, 80 1/2 inches high, 29 inches wide and 30 1/2 inches deep, but in different finishes. The inside is lined with metal, shelves are furnished in the separate booths and wiring chambers in both types. Lighting equipment is furnished only when specified. These types require only three inches in front of the booth for opening the door.

The receding door type requires six inches in front for opening the door.

The dimensions are slightly smaller. The swing door opens outward requiring a large space for opening. All of the booths are shipped knocked-down, in a substantial crate, ready for easy assembly. The finishes, varying slightly in the different types, include plain oak with medium finish and birch with dark or light mahogany finish.

**Long Lived Non-Tilting Mixer**

This 7-S, non-tilting, concrete mixer, on four wheels and with a spring hung chassis, is the latest announcement from a well-known manufacturer of concrete mixers. Its mixing time and time for charging and discharging are the same as for another, one bag trailer, introduced by this company a year ago, which has established a reputation for its speed.

Longer life for the mixer and saving of wear on tires, due to the new spring mounted construction, are features of this machine which are emphasized by the manufacturer. Being built of steel, this machine also combines an estimated 50 per cent extra strength with a saving of 1/2 ton in weight. The rollers and countershaft are ball bearing and the steel, disc wheels are roller bearing.

The price on the standard model, which is stated to be considerable reduction under the present market, includes an automatic skip shaker, an accurate measure water tank, and a two-cylinder, Le Roi engine. It is also built in low charge type.

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**Dependable Panic Bolts**

The illustration shows one of a line of panic bolts which have been developed with the idea of simplicity of construction, sturdiness and ease of installation. Only the best of material and workmanship goes into their production. The installation shown is a combination used on double doors, one model on standing leaf and another on active leaf.

This combination, the manufacturers state, is the best they have ever designed for use in connection with panic bolts. The working parts are cut to a minimum and only one spring is used, the one spring required for ejecting the bolt. The parts are so constructed as to withstand all of the heavy shocks to which panic bolts are subjected. The bolt is so simple as to make it almost impossible for any part to get out of order, it is claimed, and should require no attention after it is once installed.

**New Efficient Sump Pump**

Here is an efficient, dependable sump pump for draining cellars, pits, basements and other places where water will accumulate without the natural means of gravity drainage. It is fully automatic in operation. The electric current is controlled by an automatic float switch of positive action. The manufacturers of this pump state that, from an engineering standpoint, its design and construction embody superior and advanced improvements and developments in sump pump engineering.

This equipment is very easily installed. It can be used either in a permanent installation or as a portable pump for draining ditches, pits and open cellars. It is especially adaptable to the uses of a construction engineer. It can either be supported by pipes screwed into the three connections on the motor, which would rest on the top of any size pump, or it can rest on its base, which is sufficiently large in diameter to support it solidly. The electric connections are easily made. The dimensions are 42 inches by 12 inches and the shipping weight is 105 pounds.

“What About the Supply of Oil Fuel?” is a booklet published by the Oil Heating Institute, 420 Madison Ave., New York City, which aims to establish that, despite increasing demands for petroleum products, our petroleum reserves should prove ample for generations to come, in contradiction of various prophecies of its early exhaustion.
The house is beginning to take shape. The steel frame is erected, the brick veneer is being set up over STEELTEX for Stone or Brick Facing.

America's most talked-about house uses STEELTEX

Like a page from the Arabian Nights is the story of America's most talked-about house, now building at Mission Hills, Pittsburgh, Pa. Here, at last, is the fireproof home, built by skyscraper methods using steel girders and steel framing, yet brought within reasonable cost. This result is due largely to STEELTEX. This modern reinforcing material is now repeating in this new field the success it has had in over a quarter million homes, apartments, etc., of standard wood construction.

STEELTEX makes it possible to use economical brick facing, reinforce it with steel, have an absolutely moisture-proof wall, and with the same material, add insulating and sound-deadening qualities. In fact, this construction in a steel frame house is endorsed by the Common Brick Manufacturers' Association of America.

STEELTEX guards the plaster-walls with completely embedded steel reinforcing — minimizing the crack hazard and bringing added insulation and sound-deadening. STEELTEX leaves a 4-inch sealed air space around this house to prevent the passing of winter's cold and summer's heat.

There are several forms of STEELTEX, all alike in principle. They consist of welded steel fabric attached to a tough, fibrous backing. Between steel and backing is a space for concrete, stucco, or plaster, which is thus spread under and over the steel. Different weights of steel and different backings are required for different types of services. STEELTEX is the time-tested product used in over a quarter of a million installations. You will want complete details about STEELTEX. Write or send the coupon today. Please indicate which information interests you.

STEELTEX
FOUR TYPES — SAME PRINCIPLE — SAME PROTECTION

for plaster...for stucco...for floors and roofs (concrete and gypsum) for stone or brick facing

STEELTEX

STEELTEX for Floors comes in rolls. It is quickly cut, laid and fastened. Usable with any type of wood or metal beam or joint. Concrete is poured directly onto STEELTEX for Floors. The obvious advantages include maximum construction speed, elimination of forms, saving of dropings, uniform reinforcement, etc.

STEELTEX for interior Plaster, attached to the steel framing, gives automatic back-plastered, reinforced construction, plus insulation and sound-deadening. The V-shaped STEELTEX attachment bar has flexible metal ties welded to it at regular intervals. In woodframe construction, STEELTEX is nailed to framework in sheets.

STEELTEX for Brick Facing provides a thick reinforced cement slab, cast in place as the bricks are laid, forming a monolithic, moisture-proof wall of brick, steel and cement. Well sides, hooked to the STEELTEX, are embedded in mortar.

The National Steel Fabric Company, 3111 Union Trust Bldg., Pittsburgh, Pa. Without obligation send information about material I have checked.

Pittsburgh Steel Co.

When writing advertisers please mention the American Builder.
Pilot Lights Save Electricity

ONE of the many interesting and practical wiring device installations now on the market is an arrangement of warning lights in one of the front hall stair risers. These pilot lights have red and green jewels and are so wired that, should the owner forget a cellar light after fixing the furnace, or perhaps the back vestibule light, or leave the garage without remembering to turn the switch when he retires for the night, he cannot miss the bell's eye which warns him from the stair riser. He knows, if either of these lights are burning, that he has forgotten some light downstairs and he can stop this waste of current by turning the switch at the head of the stairs.

There are many combinations of these warning lights, but the one described and illustrated here, though exceedingly simple, is effective and valuable. It is but one of many practical and convenient electrical installations described and illustrated in a 16-page bulletin which gives front elevations, floor plans and views of each room in a model house. This model house is completely and economically equipped from the standpoint of wiring device installation, and the architect or contractor can secure many helpful ideas from it.

An Oil Burner for Small Homes

MODERN, oil burning, heating equipment for the small home of five to 10 rooms, is provided by the system illustrated. This sturdy, simplified equipment is adaptable to all types of furnaces, steam, hot water, warm air, vapor and pipeless. It can be installed in a few hours without any change of the furnace already in use and is said to be absolutely noiseless in operation and dependable at all times.

Both its silent operation and dependability are attributed to the fact that it is a gravity feed system entirely independent of outside supply, as electricity or gas, and with no moving parts. This freedom from moving parts also reduces the need for servicing. The principle on which it operates is very simple, depending upon heat from the burner to vaporize the oil and the draft of the chimney to mix the required quantity of oil to form a combustible gas. This burner uses furnace oil, which is obtainable from any of the oil companies in any quantity desired. The oil is fed to the burner from the tank by gravity and the supply is governed by an automatic valve operated by a thermostat control of well known make. The thermostat is placed in the living room, hall, or wherever desired, and assumes the entire work of tending the furnace, keeping the house at the desired temperature.

There are no motors, blowers, or mechanical parts to get out of order. The equipment supplied with the system includes the thermostat control with clock, automatic base valve (listed as standard by the National Board of Fire Underwriters), and a 275-gallon tank for the basement. The manufacturers guarantee that their heating system will furnish satisfactory heat without soot or carbon to the rated capacity of the heating plant in which it is installed. This system is priced at a level which makes it available for any home.

Drum Sanders Improved

A WELL-KNOWN and popular line of 24-inch single drum sanders and double drum 36-inch sanders has recently been improved by the addition of a steel bed plate, permitting first-class sanding of material as thin as 3/8 inch and as short as 7 1/2 inches. This improvement provides this line of low price sanders with a capacity for first-class close work equal to all woodworking requirements of carpenter shops and retail lumber yards, it is stated.

The sand drums are accurately lathe turned, 19 inches in diameter, made up of kiln dried strips, covered with Brussels carpet and bolted to three cast iron flange pulleys and mounted on a 1 3/4-inch, cold-rolled steel shaft. The feed rolls are cold-rolled steel, all power driven and adjustable up to 4 1/2 inches with two speed feed change. The bed plate on the bottom feed rolls is ground and polished level and true to handle material as thin as 3/8 inch and as short as 7 1/2 inches, with perfect alignment and even pressure.

An oscillator improves the sanding finish and keeps the sandpaper clean. The sander operates at a speed of 300 R. P. M. The power is supplied to the single drum by a three H.P. motor and to the double drum by a five H. P. motor.

What's New?

[November, 1923]
Results for the Contractor in Dollars and Cents

Contracting on a profitable basis requires something more than simply hiring and firing men. Making a profit today includes the choice and use of building products that have the "stuff" built into them — products that are widely recognized — products that can cut erecting time — and products that have a wide distribution.

The Kalman line of building products will carry you from basement to roof. It will carry you through a line of building products, the qualities and economies of which can substantially cut your building costs.

They are the kind of products you'd want in your own home or building — the kind that boosts your "rep" with the architect and building owner. Kalman products give you these advantages.

Check the Kalman line below for the products you need — then go after the nearest dealer, or, if necessary write, phone or wire our nearest office — you can always get prompt delivery.

Kalman's Line of Products for Building

- ⅝" Rib Kalmanlath
- Diamond Mesh Kalmanlath
- Cup Kalmanlath
- Trowl Sheet Kalmanlath
- Flatrib Kalmanlath
- ⅝" Starrib Kalmanlath
- Gold Rolled Channels
- Hot Rolled Channels
- Pencil Channels
- Box Channels
- Expanded Corner Bead
- Perfection Corner Bead
- Wing Bead
- Rail Bead (With Clips)

- Coal Chute Doors
- Ash Dumps
- Ash Pit and Flue Cleanout Doors
- Basement Windows
- Structural Steel Angles for Lintels
- Elmgard Metal Furring Hanger Rods
- Tie Wire
- Staples
- Nails
- Hot Rolled Flats
- Hot Rolled Angles

Kalman STEEL COMPANY

Chicago Detroit Pittsburgh Philadelphia Kansas City Youngstown
New York Boston Syracuse St. Paul Dayton Columbus
Buffalo Baltimore Milwaukee Houston Cleveland

KALMANLATH

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Tool Cuts Stone at the Job

While the desirability of stone for house building has long been recognized, stone houses have been few and far between. This was largely due to the fact that stone was considered too expensive for home building. The expensive reputation of stone was due in part to a mistaken idea of its cost and in part to the labor costs involved in stone construction. This latter disadvantage has been, in a large measure, eliminated by the tool which is illustrated here.

This tool was first used for cutting tile and dressing mill stones, but one of the largest companies producing building stone "discovered" it and, by experiment, proved it adaptable to the working of building stone. With this tool it is a comparatively simple matter to cut and bore stone right on the job.

The machine comes in two sizes, the smaller adapted to work with Indiana limestone and the larger for use on marble and hard materials. It is fitted with a variety of wheels to meet all requirements of this type of stone work.

For cutting limestone a narrow groove is cut by the tool, free hand, along a marked line, the back of the stone is tapped with the hammer and a neat break is obtained. This scoring can be done in various widths for various purposes and window sills may be grooved with drip grooves using a beveled wheel. Drilling for anchoring stone facing is equally simple. For grooving window sills a special attachment can be obtained. Another attachment, a track and carriage, may also be used for cutting slabs of marble on job.

Improved Radiator Vent Valves

One of the principal causes of inefficiency in steam radiators has been overcome by the recently perfected air valve shown in the illustration. When the new type radiation is used on one pipe steam jobs, the steam has a tendency to short circuit through the top nipples and close the air valve before all the air has been vented. This trapped air greatly reduces the heat output of the radiator, often to such an extent that additional radiation is used. This is needless for the real trouble is caused, not by insufficient heating surface, but by trapped air, incomplete venting.

The valve designed to overcome this difficulty is made in two styles. The first of these prevents short circuiting and assures complete venting by means of a baffle disc that fits tightly into the nipple connection of the last section. This forces the steam to travel up the last section and drive all the air out ahead, before it can come in contact with the valve and close it. The heavy spring on which the baffle disc is mounted allows for variation in design, threads or casting, and thus insures a positive blocking off of the last section at the top of the nipple.

The valve fits all new type radiators made by the leading manufacturers, it is stated. Its threaded plug is 5/8-inch I. P. S., and is made of brass so that it can be made up tightly in the correct position with the arrow on the name plate pointing straight upwards. The operation of this valve is based on a thermostatically charged float used success-
Steel House Frames

This fire-proof, lightning-proof and permanent type of steel home construction is rapidly growing in the favor of the home-buying public.

Simplified Erection—The construction of Walter Bates Steel House Frames is now simplified and perfected. Complete sets of steel erection drawings (these are furnished with each steel frame) show the steel studs by numbers with which the steel itself is marked, therefore making for very simple erection. The steel is shipped completely measured, cut, punched and painted. With the supervision of some one familiar with building construction, any laborer can bolt the steel members of the frame together. The application of other building materials is in keeping with standard lines of construction.

Catalog—Our 24-page catalog “Walter Bates Steel House Frames” shows stock designs for four, five, six, seven and eight room houses. Also construction details are shown in this catalog.

Be the first one in your community to erect and sell a Walter Bates Steel Frame House. Get started, a new industry is here!

WALTER BATES STEEL CORPORATION
GARY, INDIANA

TYPICAL CONSTRUCTION DETAIL—Showing the simple method of assembling the steel members.

Write us for a copy of our catalog.
Showing Fenestra Steel Casements in the Steel Frame House Company's demonstration house now under construction at Mission Hills, Mt. Lebanon, Pittsburgh. 
Architects: Lyon & Taylor, New York City. 
Housing Engineer: Louis Brandt, Pittsburgh, Pa. 
Owner: W. H. Shaffer, Jr., Pittsburgh, Pa.
steel frame house

Fenestra of course!

"I find Fenestra Casements were installed in this steel frame house at a lower labor cost than that required for installing any other kind or type of residence window that I have ever seen."

LOUIS BRANDT,
Housing Engineer.

Nothing else but a steel window could be used in a steel frame house—and naturally the builders of this Pittsburgh demonstration home, the Steel Frame House Company, a subsidiary of the McClintic-Marshall Corporation, chose Fenestra because—

— they wanted a nationally known steel casement window that had country-wide distribution.
— they wanted a steel casement that would fully meet the requirements of steel frame construction.
— they wanted a steel casement that could be easily installed—delivered complete, frame and sash assembled—with hardware ready to attach—little work on the job.

—and because they wanted windows that would appeal to home buyers—flood the house with daylight and fresh air—open easily without sticking—close tight against storms—wash easily from the inside and lend themselves to practical screening.

Builders everywhere are choosing Fenestra Casements for these same reasons. Try them on the next houses you build. Consult the local Fenestra dealer today.

DETROIT STEEL PRODUCTS COMPANY
2304 EAST GRAND BOULEVARD, DETROIT, MICHIGAN
Factories: Detroit, Michigan and Oakland, California
Convenient Warehouse Stocks

Fenestra
Casement Windows
ARCOFLASH is the new creation in heating; a Boiler-Radiator Heating Unit. It consists of a new Arcoflash Boiler with "American" Corto Radiators in any size or height as desired to suit the requirements of the 5 to 8 room home.

The announcement of this Heating Unit represents another forward step in the fulfillment of the American Radiator Company's promise to bring the health, comfort, the cleanliness and the economy of radiator heat within the reach of every home in America.

Unparalleled Low Prices

Arcoflash is the result of the combined efforts of America's finest engineers to embody in a home-heating system efficiency, operating economy and beauty of appearance. And because of our enormous volume production and perfected manufacturing methods, we are enabled to offer it at unparalleled low prices.

The boiler is fully equipped with automatic regulation (steam or water boilers) and all accessories.

Its beautiful red enameled jacket is lined with one inch improved asbestocel to prevent radiation heat loss.

Designed with large grate, large fuel carrying capacity, and ample heating surfaces, it insures to the owner quick heating and a minimum of attention with an excellent degree of fuel economy.

"American" Corto Radiators In All Heights and Sizes

The world famous "American" Corto Radiators are supplied with the Arcoflash Unit, from
the 20 inch 3 tube to the 38 inch 6 tube, as well as Corto Window Radiators 5, 6 or 7 tube, in any height you specify.

**Arcoflash Will Help Sell the Houses You Build**

As a complete heating unit—made and guaranteed by the world’s largest manufacturers of heating equipment—Arcoflash will prove a tremendous factor in selling the house in which it is installed. Your prospects will appreciate that you are offering them the best that can be made—and they will have added confidence in the house throughout.

**Undivided Responsibility**

The reason for this confidence is clear. When a man is about to buy an automobile he does not think of selecting each component part. He wants a car whose parts are designed by specialists to function as an efficient unit. So it is with the heating plant. “Arcoflash” enables you to show your prospects a heating system backed by Manufacturer’s Undivided Responsibility. We manufacture the Arcoflash in its entirety—a fact that is certain to create a favorable impression on the prospective home buyer.

Beginning in December, we will tell more than 30,000,000 people about the new Arcoflash Heating Unit through four color advertisements in the Saturday Evening Post and many other leading national magazines. This great advertising program, together with a heating plant that will materially increase the permanent asset value of the house, affords you an unprecedented opportunity to increase home ownership in your community. Let us tell you more about the Arcoflash. Mail the coupon for details.

**SPECIAL FEATURES**

1. Completely equipped—Water and Steam Boilers—with automatic regulation and all accessories.
2. Metal Jacket finished in beautiful red enamel and lined with one inch improved asbestos.
3. Large grate area and fuel carrying capacity insure long firing periods and ease of attention.
4. Ample heating surface and reverse flue travel, especially designed for household boiler, insure quick heating responses and an excellent degree of fuel economy.
5. Large steam dome and disengaging area insure dry steam generation.
6. Two way smokehood.

**TAPPED FOR EXCELSO HEATER**

---

*AMERICAN RADIATOR COMPANY, Amer. Bldg., 40 West 45th Street, New York City.*

*I would like to receive complete information about the new Arcoflash Heating Unit and what it can mean in helping me to increase my present business.*

*Name.*

*Address.*

*City.*

*State.*
Effective New Door Holder

This new door holder consists of a highly tempered, semi-circular steel spring, combined with a cold-rolled steel leg with a pure rubber shoe or foot attached to the lower end. This shoe is reinforced with a steel member, which also serves as a means of attachment to the leg. The spring is provided with a rubber bumper at the extreme end, which prevents the holder or the door knob coming in contact with the wall.

The leg and spring are assembled by means of a single steel rivet and the shoe is attached by means of a single machine screw, so that replacements are readily and easily made, if necessary.

The end of the spring, which is attached to the door, is provided with a ½ inch slot, permitting of vertical adjustment. All metal surfaces are ground, polished and bronze plated.

When this door holder is once placed in contact with the floor it will hold the door in any desired position and function automatically. This door holder offers no resistance to the opening of the door, but immediately holds the door as soon as the desired position is reached. To close the door again it is only necessary to exert sufficient pressure on the knob to overcome the action of the spring of the door holder.

Without touching the door holder the door may again be opened and the holder will check it at any desired position. In fact, the holder will continue to function continuously without adjustment until the leg has been disengaged from the floor, which is done by tipping it up with the foot.

Bench Type Electric Shaper

This electric spindle shaper is a new machine designed to meet the demand for a convenient bench type shaper suitable for use in cabinet shops and woodworking plants. It is a sturdily built and efficient unit which can be used for making screen mouldings, quarter round, half round, picture moulding and for forming the edges of table tops, bases, doors and many other jobs.

A distinctive feature of this new shaper permits the removal of the entire ball bearing spindle assembly. This allows easy oiling and adjustment and, on work requiring different knife set-ups, two or more spindles can be used on one machine. The changing of spindles requires but a few seconds.

This machine will take knives up to 2¾ inches wide in the regular collars supplied with the machine. The cast iron table is 18 inches in diameter and is finished smooth and level. It can be raised and lowered 1¾ inches and locks in position. The spindle is ¾ inch diameter through the bearings and ¾ inch diameter above the collar. High grade ball bearings are mounted in a one-piece housing with large oil chamber and the bearings are easily replaced.

Two sets of knife collars are furnished, 1¾ inch and 2¾ inch diameters, and two spacing collars are furnished. No knives are included with the machine, but bevel edge knife steel or finished knives can be supplied. The motor is a heavy duty, ½ H.P., induction-pulse type for alternating current. Motors for ordinary current can also be supplied.

The motor is controlled by a snap switch on the base. The height of the machine is 19 inches over all. The base measures 16 by 25 inches and the weight, complete, is 160 pounds.

Breakfast Nook Equipment

Even the small house or apartment may have the benefit of the breakfast nook which of late years has become so deservedly popular because of its convenience. Where space is too limited to permanently devote any portion of it to a breakfast nook it is now only necessary to install one of the units shown in the accompanying illustration. This unit is remarkably compact and, when not in actual use can be folded and pushed out of the way.

The manufacturers emphasize the fact that this equipment, seating four people quite comfortably, has only four legs in place of the 20 legs which would be necessary for a table and four chairs. Sixteen surplus legs are done away with. The unit is, however, very strongly built so that the four legs offer ample support and the seats are comfortably large.

Four models are offered, two seating four persons and two seating two persons. The “commercial” model is the largest, measuring, when open, 48 inches wide, 66 inches long and 37 inches high. Folded, it measures but 6½ inches wide by 66 by 37 inches. It is available in either mahogany, walnut or enamel finish, as are all the other models.

Besides their use as breakfast nooks these units have been found very desirable for many other home purposes, such as card tables. In restaurants, cafes and ice cream parlors they have won an acceptance which has already made them widely used. For such purposes they greatly increase the capacity of the available space, making it possible to handle a much larger volume of business.
The (A)rchitect wants strength. The (B)ricklayer wants a smooth, easy-working mortar. The (C)ontractor wants to save time, labor and money. One part BRIXMENT, three parts sand will satisfy all three! Costs less to buy, less to mix, less to use. No lime. No slaking. No portland.

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

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

DISTRICT SALES OFFICES
1610 Builders Building, Chicago
602 Murphy Building, Detroit
1015 Chestnut Street, Philadelphia
301 Ross Building, Cleveland
National Gypsum Buys Lime Plant

FOR the purpose of providing the building industry with a complete line of building materials under its Gold Bond name and guarantee, the National Gypsum Company of Buffalo, N. Y., has purchased the entire plant and quarries of the Luckey Lime & Supply Company, near Woodville, Ohio. This company's holdings were selected to round out the National line because of the high grade deposits in the Luckey holdings, said to assay 99.24 per cent pure gypsum rock.

The Gold Bond line, protected by the company's regular guarantee, will be produced in the newly purchased plant, which with its equipment, is valued at more than half a million dollars. This plant is equipped with the most modern machinery and is ready to produce in large volume under exacting scientific control. Obtaining these properties has enabled the National Gypsum Company to enter the lime market on the same basis as if its plant had been in operation for years.

Black & Decker Absorbs Domestic Electric

A N announcement has been made of the merging of the Domestic Electric Company, located at 7223 St. Clair Ave., Cleveland, Ohio, with the Black & Decker Mfg. Co., of Towson, Md. The Domestic Electric Company is financially, a strong organization and has during the past 15 years built up a substantial business in the manufacture of fractional horsepower motors, for all types of electrical tools and appliances. Through the acquisition of this company the Black & Decker Mfg. Co. becomes a self-contained unit, manufacturing, within its own plants, practically all parts and materials entering into the construction of its line of portable electric tools.

The Plant of the Luckey Lime & Supply Company Which, Together with the Company's Quarries, Has Been Purchased by the National Gypsum Company.

only the BEST would do ...so they selected

NEW MIAMI CABINETS were selected as the BEST and MOST ECONOMICAL... four beautiful styles are being shown. We'll be glad to send you full details and tell you the profit-story which you can turn to advantage for yourself

Write today for details and the new Miami Catalog

The MIAMI CABINET Co.
Middletown, Ohio
$100 for a Smoke-proof Fireplace

An owner of a magnificent home recently said, "I'd give $100 if the hand-carved, marble fireplace of mine were smoke-proof. As it is, we cannot use it at all."

We examined the gentleman's fireplace and found many fireplace construction rules violated. It will probably cost more than $100 to make it smoke-proof. Yet it could have been built right in the beginning without extra cost. It was a matter of proper construction and equipment.

To prevent troubles such as those given above, we publish "The Donley Book of Successful Fireplaces"—a volume that tells how to prevent fireplace ills. This book also shows 59 designs in many materials and describes Donley Fireplace Equipment. Every builder should have this book. Send 25c to cover cost of mailing your copy.

The Donley Brothers Co.
13910 Miles Avenue • Cleveland, Ohio
A Marble-Like Wall Finish

THE quiet dignity of marble, its durability, its wonderful variety of color and beauty have always been an ideal in luxurious decoration. The cost of marble has, however, been its one serious drawback and has prevented its more extensive use as a wall finish and decoration. Now, however, there has been produced a new material which, in appearance, closely resembles marble and rivals it in beauty and durability. Its cost is not an obstacle to its use, comparing favorably with other wall finishes. Its application is simple and inexpensive.

This new material is an asbestos wallboard with a finish that is a remarkable reproduction of marble in its various forms. This board is produced in sheets either 32 by 48 inches or 48 by 48 inches and \( \frac{3}{16} \) inch thick. It is packed in crates 10 sheets to the crate. Trim 48 inches long and \( \frac{3}{4} \) inch thick, with grooved profiles, is also supplied. Three colors are available, black and gold, verde antique (green), and light Italian.

This material is fireproof and waterproof, it will not crack or warp, it is entirely sanitary and cleans easily. It is admirably adapted for walls of bathrooms, hallways, foyers, kitchens, theaters, clubs, restaurants, churches, lodges, offices, salesrooms and storefronts. It is quickly installed with ordinary carpenters' tools, either directly on the studs, or with furring over old walls. It is attached to studs or furring by means of screws which are furnished with the board. It may also be installed attached to concrete or brick walls with furring strips or with a plastic compound which is spotted onto the surface and holds the sheet in a firm grasp, yet sufficiently elastic to give with the settling or shrinking of the building and prevent cracks.

Modern Concealed Radiation

ON the theory that the old fashioned radiator has no place in any scheme of interior decoration, several companies are now producing new types of radiators which, when installed, are completely out of sight. They can be placed in the walls, under the stairs or beneath the floor. One radiator of this type and the method of installing it is illustrated in the photographs reproduced here.

This new radiator completely eliminates the problem of how to cover the radiators because they are completely out of the way. This radiator is only one-fifth the size and weight of an equally rated, old fashioned radiator, according to the manufacturers, and it can be used with any steam, vapor, vacuum or hot water system.

The heating unit is made of brass and, unlike ordinary radiators, never needs painting or attention because it cannot rust. Not even freezing can harm it, it is claimed, as it is too solidly constructed to burst or leak. This solid rustproof construction is dependable insurance against damage to interior decorations.

These radiators are assembled on the sectional plan in one or two horizontal tiers. Each section is made up of two stamped brass side plates, electrically welded together in pairs. They are welded around the edges and twice down the length to form three separate steam or water ways. This brass radiating plates, or fins, are mounted at right angles on the sides of the sections thus formed. These fins control and accelerate the passage of air over the heated surfaces. The velocity of the heat flow given off causes positive circulation of the heated air in the room. Because of its design, this radiator gives off practically no lateral, radiant heat to be lost through the adjacent walls.
DeVILBISS leadership served at the introduction of spray-painting and spray-finishing into every industry and group now using this new and better method of applying protective and decorative coatings. And today the most recent new economies and efficiencies in all such operations have their source in DeVilbiss leadership.

The present comprehensive magnitude of the DeVilbiss organization, its vast manufacturing capacity, its unequaled engineering experience, and its firmly established responsibility to the purchaser of its products, are all the results of a continuous progression of DeVilbiss leadership in service to all users of spray-painting and spray-finishing equipment.

The individual painting or finishing problems of each class of users are specifically studied and served by specialized DeVilbiss installations, methods and devices. The best practice known today in the field in which you operate, and the most efficient and modern equipment for your particular use, are DeVilbiss methods and equipment. This experience and knowledge will save you money and time, and earn the good-will of your customer. Use it freely. We will esteem it a privilege to put it at your disposal.

THE DeVILBISS COMPANY
238 PHILLIPS AVENUE TOLEDO, OHIO

New York Chicago
Philadelphia Cleveland Detroit Indianapolis
St. Louis San Francisco Windsor, Ontario

Direct factory representatives in all other territories

DeVilbiss
Spray-Painting System

DOES THE WORK OF FIVE MEN
Built-in Folding Breakfast Nook

This folding breakfast nook equipment has recently been taken over and is now being marketed by one of the leading manufacturers of built-in equipment. The patented design of this nook makes for easy operation and provides, in the single unit, a roomy, rigid dining table which comfortably seats four people. When not in use it occupies no floor space, the table and seats folding up in a single operation as a complete unit on a wall or door, or in a wall recess or cabinet.

When lowered both the table and seats are completely rigid. Each joint is permanently secured by \( \frac{3}{4} \) by 3-inch spiral grooved dowels, such as are used in fine furniture. Extra heavy gauge piano hinges are solidly rabbed into the table and seat supports. Two powerful, concealed wire coil springs, of 280 pounds tension, make raising and lowering easy and hold the unit in a rigid vertical position when not in use.

All hardware is heavily nickel plated. The table and seat tops are five-ply hardwood, \( \frac{3}{4} \) inch finished thickness (poplar core with maple cross banding and birch or maple veneer surfaces). The standards and stretchers are solid hardwood.

The unit is smoothly lacquered in olive green or mandarin red, with gold striping and antique shading, five coats, producing a charming and enduring color harmony. It is also finished in early American maple, antique shading, with green trimming, or is furnished unfinished for any special lacquer or paint application.

Improved Type Electric Cable

Several years ago one of the leading manufacturers of electric cable was faced with the demand for a new type of cable. A well known utility engineer had felt the public clamor that many lines go underground and had experienced the wrecking, by storm, of many miles of overhead lines. He asked for a new cable which would withstand the rough handling of installation, resist penetration of stones, tools and the like, but—

1. It must, like parkway cable, be designed for installation in shallow trenches but must be lighter to ship, easier to handle and easier to splice.
2. The protective sheathing must be tough enough to withstand the rough handling of installation, resist penetration of stones, tools and the like, but—
3. These sheaths must be wholly non-metallic, to overcome typical weaknesses of metal sheathed cables, such as rust, crystallization, induced sheath losses, trouble from stray currents, etc.
4. Protection against moisture, acids and earth alkalis must be present throughout the structure and not dependent upon a single, easily punctured sheath, as in lead covered cables.
5. Finally, the new cable must be less expensive than available forms, both to buy and install.

This New Type of Underground Cable Has a Number of Features Which Are a Marked Improvement Over Former Types.

This represented a difficult problem and it was not until wholly new materials had been developed that a cable was finally designed that would comply with the requirements. The new cable illustrated here does comply, however, it is claimed, and the claim is backed by three years of careful check tests and adoption by many leading utility engineers.

This new cable is manufactured in two types, a power type and a control type. The same principles of construction are followed in the two types and these principles are fully described in an illustrated booklet published by the manufacturer. This booklet both describes and illustrates each layer and material combined to form the completed cable.

Versatile Floor Machine

This machine is a new scrubber, waxer and polisher which has been perfected to such a high degree that, in addition to its scrubbing and waxing services, it is also highly applicable to sanding and surface work and is used by many contractors for refinishing and touching up old floors. It will remove the varnish and stain and prepare the floor, in every way, for presentation to the owner in 100 per cent spick and span condition, it is stated.

This machine, which is the most popular of this company’s models, is driven by a \( \frac{3}{4} \) H.P. electric motor and is equipped with five brushes of kinds to meet every floor maintenance requirement, as well as attachments for sanding, grinding or resurfacing and wax polishing. The brush ring, which is driven at a speed of 175 R.P.M., has approximately 35 pounds of pressure directly over the ring. The drive is of the worm type, gears are precision cut and the machine is Timken roller bearing equipped throughout.

There is a water can attachment which may be used for distributing paste or liquid wax or for scrubbing solutions. Fifty feet of rubber-covered cable enable the machine to be plugged into any lighting circuit and it operates on approximately the same amount of current as a 100-watt light.

It is claimed that this machine is equally efficient for scrubbing, waxing or polishing and will do the work of three to ten operators. For grinding it may be equipped with carborundum discs or aloxite paper and do the work of three to five men, depending on the character of the floor material upon which it is used.

For Scrubbing, Waxing, Polishing, Removing Varnish and Fully Preparing Floors for Refinishing This Machine Has Proved Efficient.
"You can’t paint a house with APPLESAUCE!"

...gains more recognition every day

Here is more strong backing for builders and contractors who like to build their reputations on “quality” jobs.

The powerful Fall drive of Sherwin-Williams “SWP vs. ‘cheap’ paint” campaign lists “cheap” painter with “cheap” paint. Down they go together. Business gets worse for these waste-ful “Applesauce Twins” every day.

Now in four brilliant colors—more picturesque, too—this powerful advertising is making millions of home owners think. And when they think they know that fine old SWP, the “quality” house paint, and a master painter gives the most economical job in the world.

That is why home buyers approve of SWP on the houses you build for them. They know the quality of SWP—it gives them confidence in the quality throughout the home. Makes selling it easier.

All through the house, whether it is paint, lacquer, varnish or enamels you will find that a Sherwin-Williams finish wins the average buyer’s appreciation.

Call on our technical staff to help you plan your painting specifications. They are glad to help you. Address—

THE SHERWIN-WILLIAMS CO.
601 Canal Road, N. W.
Cleveland, Ohio

SHERWIN-WILLIAMS SWP HOUSE PAINT

PAINTS • VARNISHES • LACQUERS • ENAMELS

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Comfort for Customers


Comfort is just about the main thing all home buyers want. Of course they want beauty too.

But nobody wants beautiful uncomfortable homes.

Cabot's Quilt built into the walls insures summer and winter comfort, and at no extra first cost to you.

We can prove this—

Just send in the coupon (Roll of Quilt) for full Quilt information. No obligation.

Cabot’s Quilt
Resists the Passage of Heat In and Out

FOR ADVERTISERS’ INDEX SEE NEXT TO LAST PAGE
Amazing New "Blue Print Way" Led Them Quickly To $4,800 to $12,000 A YEAR

These men---and hundreds more like them---have unmasked one secret of quickly making money. But there is nothing mysterious or uncanny about their unusual success. They are just ordinary men like yourself---except for one thing. They sent for these income-raising Blue Prints! That was the turning point of their careers.

NOW FREE TO YOU!

Yes, without one penny of cost or obligation; you can now take the same easy step that has led others to the top in the "head work" side of the gigantic business of Building. At once, a tremendous new field will open to you. An uncrowded field where opportunities are unlimited---amazing. Where there is a constant call for trained men, and still more men, to fill the jobs now open. And these thousands of big-pay jobs are open only to men with practical Blue Print training—the very training that is now offered you right here.

Mastered in a Few Short Weeks

Nowhere else can you get training like this. Nowhere else are so many openings paying $4,800 a year and up as with Contractors, Builders, Real Estate Firms, Banks, etc., or in business for yourself. Nowhere else are so many big-pay jobs begging for trained men to fill them as in the "head work" side of building. Yet see how easily you can master this training by the practical Blue Print Method. See how quickly you can learn to run even the biggest building jobs, read plans, estimate costs, and supervise the entire construction of a building.

Learn at Home—Quickly

We teach you at home in spare time with real Blue Prints and lessons as easy to read and understand as your newspaper. Everything is explained and worked out for you by practical building experts. No complicated text books. No grinding study. It's like playing a fascinating new kind of game—almost as easy as A-B-C.

Chicago Technical School for Builders

CHICAGO, ILL.

If You Live Nearby

Visit our big day or evening school attended by over 1,000 Builders. You get the same training at home by mail—same plans, lessons, and instructions.

If You Live Far Away

Simply mail the coupon below for a complete set of real prize-winning Blue Prints and big book, "How to Read Blue Prints." Now sent to you absolutely FREE. Get these facts before you. Learn what fun it is to learn Building the practical way. See what fascinating opportunities open up for you in the seven billion dollar Building Field.

Don't wait or delay. Act now. Simply mail the coupon.

If You Live Near By

Visit our big day or evening school attended by over 1,000 Builders. You get the same training at home by mail—same plans, lessons, and instructions.

If You Live Far Away

Simply mail the coupon below for a complete set of real prize-winning Blue Prints and big book, "How to Read Blue Prints." Now sent to you absolutely FREE. Get these facts before you. Learn what fun it is to learn Building the practical way. See what fascinating opportunities open up for you in the seven billion dollar Building Field.
Ryerson Buys
Business

JOSEPH T. RYERSON & SON, Inc., of Boston, New York and Chicago, has acquired the plant, merchandise and good will of the E. P. Sanderson Company, at Third, Binney and Monroe streets, Kendall Square, Cambridge, Mass. The Ryerson company has been operating on leased property at 675 Concord Ave., Cambridge, since May 1, 1926. This move will give the company a large increase in plant facilities and tonnage. By the combination of the Ryerson and Sanderson organizations and the addition of new lines, the Ryerson company will be in a much better position to give a broad line of service. The Sanderson plant is said to be the largest and most complete of its kind in the New England territory.

Van Dorn Personnel Changes

THE following changes in its sales organization have been announced by the Van Dorn Electric Tool Company, of Cleveland, Ohio: E. J. Phillips, who has been selling Van Dorn products in Detroit, has gone to San Francisco to take over that territory for the company. His place in Michigan will be filled by his brother, George Phillips. J. F. Spaulding has been transferred to the Baltimore territory to fill the vacancy resulting from the transfer of Jack Beggs from Baltimore to the headquarters office in Cleveland.

Farm Buildings," by W. A. Foster and Deane G. Carter, published by John Wiley & Sons, Inc., New York City, has been revised to conform with the latest knowledge in the field of farm structures and a second edition published. The book treats of the location, planning, construction and repair of farm buildings in a manner to serve as a text book for schools and information for the farmer. Price, $3.00.

"Steel Framing—The Modern Method of House Construction" is the title of a new bulletin, No. 11, published by the Steel Frame House Co., a subsidiary of McClintic-Marshall Corporation, Pittsburgh, Pa. It is a "Steel Framing Manual for Architects and Builders—Containing Complete Instructions and Tables for the Construction and Application of Steel Framing." It has been gotten up in form for filing under A. I. A. filing system and will make a valuable addition to the files of all architects and builders.

The Michigan Retail Lumber Dealers' Association, Mutual Building, Lansing, Mich., has prepared a complete blue print of a model log cabin which it is distributing to its members at the cost price of $1.00, and which it now offers to anyone interested in the building of log cabins.

Bommer

Spring Hinges are the best

Millions and Millions of People are Pushing Them whenever they open a door

Follow the line of least resistance

Use Bommer Always

They are the best

Bommer Spring Hinge Co., Brooklyn, N.Y.

SUPERCEDAR, 90% or more red heartwood, with 100% oil content, accurately manufactured with tongue-and-grooved sides and ends, costs no more to use than unknown brands, and women prefer it.

Sold by all dealers in boxes like this. No loss or damage, no waste on the job.

It costs no more to use this superior cedar closet lining

Made Only By

GEORGE C. BROWN & CO.
World's Largest Manufacturers of Tennessee Aromatic Red Cedar Lumber
MEMPHIS, TENN.
Spend Less Time Estimating

Use the Modern Up-to-Date HoltBid Service Method

A building starts with an estimate. An estimate means tedious hours of labor, trying to anticipate the cost. Figuring, checking, counting. Listing dimensions, pieces and prices. Countless chances for mistakes and omissions. Uncertain of this and doubtful of that. Is the bid too high? or, Are my costs too low? The relief from all this grief is HoltBid.

No long tiresome hours with HoltBid system. Simple, easy to use and absolutely accurate.

Can be applied in eight hours. No study, no problems in mathematics or rules to memorize.

No complicated specifications. HoltBid is complete—Includes all structural material and labor costs.

HoltBid will give accurate building costs on Homes, Apartments, Flat Buildings, Stores, Barns, Garages or any other ordinary building in less than an hour.
"If I only

HOLT BID
solves estimating problems in a hurry
had time

That's a Poor Excuse

When HOLTBID will take care of your estimating and leave time for recreation

There is time for enjoyment when you use the HoltBid method for figuring your costs. You can add extra hours to your day.

Think of it! One third of your time to spend as you like without injury to your business. Only 30 to 50 minutes are required to estimate ordinary buildings.

There is no need to spend your leisure hours getting out estimates for "hurry-up" prospects. With HoltBid you can save from three to five hours on every job you figure.

You owe it to yourself to use HoltBid. The tiresome evenings spent over material lists and specifications are wasted. These could be your "play time" hours and still you could make more money—do more business—if you were a HoltBidder.

HoltBid enables you to make a detailed accurate bid in a fraction of the time it requires to figure the same total by the old methods of estimating.

It also enables you to change your bid in a few minutes if the customer wants to alter the original plans or selects an entirely new plan.

HoltBid will give you unsurmountable advantage over competitors—it will save your time—it will save your money—and it will banish the uncertainty that goes hand in hand with every bid.

HoltBid will enable you to get the bigger—and more profitable job. HoltBid will increase your ability to discuss building problems—clients will come to you more and more for consultation.

The successful builder knows how to figure costs. The low bidder loses the profit—the high bidder loses the job. It's the man who is competent that lands the job every Builder wanted.

HoltBid is for the man who is ambitious to be an authority on construction costs in his community—for the man who conducts his business systematically—for the man who wants to divert his tedious hours to pleasure.
My Personal Guarantee

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.

WILLIAM A. RADFORD, President
The HoltBid Service Company

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.

Guarantee

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Books, Bulletins and Catalogs for You

The literature and publications listed here are available to the readers of American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

"Real Estate Questions and Answers," by Israel Flapan, LL.B., published by Prentice-Hall, Inc., 70 Fifth Ave., New York City, is a new and valuable book prepared to help the layman to understand real estate problems, to serve as a ready reference for the real estate broker, and to aid those who desire to pass an oral or written examination, where such examinations are required to procure a real estate broker's or salesman's license. The question and answer form is used because of the fact that "specific questions and answers stand out indelibly and graphically in the mind of a layman and are more readily digested and understood than the subject matter usually found in textbooks." Price $5.00.

"White Lead and Oil Plastic Finishes" is the title of a new booklet, published by the National Lead Company, 111 Broadway, New York City, describing and illustrating the method of handling this type of wall treatment and illustrating in colors the results obtainable.

James B. Clow & Sons, 201-299 N. Talman Ave., Chicago, offer a new booklet under the title, "Economical Gas Heating—For the Smallest Room or the Largest Building."

"New Achievements in Lighting" is the title of a booklet issued by the O. C. White Company, 17 Hermon St., Worcester, Mass., presenting its system of daylight lighting units.

"A House or a Home" is the title of an interesting booklet just published by the Penn Metal Company, presenting the advantages of the use of this company's products in home construction.

The Weatherbest Stained Shingle Co., Inc., 141 Main St., North Tonawanda, N. Y., has published a folder containing a group of colored prints of homes finished with its stained shingles and including floor plans.

The Sedgwick Machine Works, 154 W. 15th St., New York City, has published a booklet under the title, "The Sedgwick Automatic Brake Invalid Elevator," covering the subject of the special equipment this company manufactures for this purpose.

The Eller Mfg. Co., Canton, Ohio, offers a complete new catalog, No. 28, covering its line of steel ceilings and related products.


The United States Radiator Corporation, Detroit, Mich., offers two new booklets on its "Capitol Radiators" and "The Capitol Red Cap—Masterpiece of Round Boilers."

The MacAndrews & Forbes Company, 200 Fifth Ave., New York City, has prepared a series of six booklets on its insulating material, Maftex, under the titles: "Maftex—What It Is and What It Does; Maftex—Data on Uses and Installation; Maftex—Roof and Wall Sheathing; Maftex—Plaster Base and Lathing Material; Maftex—Sound Deadening; and Maftex—Decorative Effects.

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Frames that Make Satisfied Customers

THE Builder who uses Bradley-Miller Frames is certain of lasting satisfaction. The quality of material and workmanship assures unusual long life. Home seekers realize the importance of these essential items of construction.

Bradley-Miller Frames are made of genuine Michigan White Pine—the wood that is free from splitting, warping and rotting.

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Free information on request
Write today

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Demonstrate Electric Tools

TO further acquaint their distributors with the many applications and uses for Portable Electric Tools, Black & Decker have held working demonstrations in practically every one of the larger cities in the country. As these clinics were demonstrated their complete line of portable electric tools and attachments. As a rule these clinics lasted for ten days or more and as many as 146 jobbers'

This Demonstration Layout Is Typical of the "Clinics" Which Black & Decker Has Been Conducting in All the Large Cities of the Country.

salesmen and executives were in attendance at one time. In addition, a good many consumers were brought in by jobbers' men and quite a few interested individuals dropped in to learn more about portable electric tools.

Straub Patent Held Valid

THE United States Circuit Court of Appeals has recently decided three cases which involve the validity of the Straub Cinder Block Patent, all sustaining the validity of this patent. This decision is one of considerable importance to the cinder block industry, an industry which now comprises close to 100 plants and produces, probably, close to 50,000,000 cinder blocks each year.

The patent was issued to Francis J. Straub, of New Kensington, Pa., and is now owned by Crozier-Straub, Inc., a subsidiary of the National Building Units Corporation, 1600 Arch St., Philadelphia, Pa. In these suits Crozier-Straub, Inc., was the plaintiff, pleading infringement of its patent. The Circuit Court of Appeals held that the Straub Patent is valid and that the defendants have infringed. It is believed that this decision of the court eventually settles the status of the cinder building unit industry as far as the Straub patent is concerned.

To Lecture on Welded Buildings

A LECTURE tour covering a large part of the United States is to be made by Professor Frank P. McKibben, well-known consulting and bridge engineer, in response to invitations from various societies throughout the country. The lectures will be on the application of electric arc welding to the noiseless construction of buildings, based on the experience of the General Electric Company and other pioneers in this field. The General Electric Company has already erected one large building and a few smaller ones by this method and a number of other structures are now being welded by other companies. Professor McKibben's talk, "Electric Welding of Steel Buildings and Bridges" takes about an hour for delivery and a discussion of from one to two hours usually follows. The lecture is illustrated with the stereoptican and with blackboard sketches.
Books, Bulletins and Catalogs for You

The literature and publications listed here are available to the readers of American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

The Badger Wire & Iron Works, 1100 Cleveland Ave., Milwaukee, Wis., has published a new catalog, No. 8, on the ornamental iron and wire work which it manufactures. It is very fully illustrated with both photographs and drawings.

The Stone & Tar Products Co., 97 S. Sixth St., Brookly, N. Y., offers two booklets, "House Owner's Repair Catalog," listing various patented materials for general repairs, and "Made to Order" Ready Mixed Paints," also circulars describing its Mural-Coat wall finish and damp-resistant cement paint.

The Lawton-Stephens Co., Inc., 427 Marcy Ave., Brookly, N. Y., offers a pamphlet listing its products which include hollow metal doors, drawn steel moldings and sheet steel specialties.

"The Saw Keri," the periodical publication of E. C. Atkins & Co., Inc., Indianapolis, Ind., contains, in the Summer Number, a number of interesting and useful articles on the subject of saws and their use.

The Long-Bell Lumber Company, Kansas City, Mo., has issued a pamphlet on its doors showing their construction with solid or veneered stiles.


The Exchange Sawmills Sales Co., Kansas City, Mo., has published a booklet under the title, "Esco Cal Pine (Common Grades) for Interior Finish," containing a number of fine illustrations of this material and its application.

"Fenestra Airplane Hangar Doors" is a new booklet from the Detroit Steel Products Company, 2304 East Grand Blvd., Detroit, Mich., illustrating the application of this company's equipment and including specifications.

"Water Systems Sales Bulletin" is a periodical published by the Delco-Light Company, Dept. R-118, Dayton, Ohio, covering subjects of interest to those concerned in the sale of water systems.

The Armstrong Cork & Insulation Company 24th St. and Allegheny River, Pittsburgh, Pa., has issued two pamphlets, "Summer Heat—A Suggestion of a Practical Means for Increasing Comfort and Efficiency During Summer Months" and "Condensation—Its Cause, Effect and Prevention."

The Clarke Sanding Machine Co., Dept. A-29, 3815 Cortland St., Chicago, has issued a large circular under the title, "Painting the Way to Greater Earnings, Big Savings, Real Profits with FlorKraft."

The J. Roemer Heating Company, Cleveland, Ohio, offers a new booklet containing very complete information on the subject of its Humidair system of automatic humidity control.

"Distinctive Garage Door Hardware" is a new catalog, No. 55, published by the Richards-Wilcox Mfg. Co., Aurora, Ill., giving full information and illustrations of the extensive line of garage door hardware which it manufactures.

The David Lupton's Sons Company, 2203 E. Allegheny Ave., Philadelphia, Pa., has published a new catalog, No. P-50, covering 50 sizes of its standard steel windows, each made in four types.

The Crouse-Hinds Co., Syracuse, N. Y., has published, under the title "Jewels in the Sky," a bulletin, No. 2118, which contains a series of color illustrations of buildings of the skyscraper type showing the lighting effect at night.

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Give the SYNTRON Motorless Hammer every use and abuse—watch it perform day in and day out without wear or tear—drilling, chipping, channelling through all sorts of material and under all kinds of conditions. And not only does the SYNTRON work tirelessly for you but it also saves for you—it saves 90% of time, work and money.

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I want the facts! Send me complete literature, prices, etc.; also explain your rental plan. No obligation to me.
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BASEMENT-FED KERNERATOR

A Typical Basement Installation Utilizing the Regular Chimney. Can also be located at distance from chimney and piped to it.

Garbage and Waste Disposal for Homes Already Built

For years, the convenience and advantages of the Kernerator have generally been limited to new homes.

Now we announce two types—the well known Chimney-Fed and the new BASEMENT-FED. New buildings should still have the Chimney-Fed Kernerator, and should provide for a flue of suitable size.

But there are thousands of homes already built and being built in which a suitable flue for the Chimney-Fed Kernerator was overlooked and where the BASEMENT-FED Kernerator is most ideal. The advantages over “gas-fired” incineration are many:

- Lasts a Lifetime — Masonry won’t rust or burn out and the BASEMENT-FED Kernerator will last as long as the building.
- Less Attention — The large ashpit requires cleaning out only 3 or 4 times a year.
- Larger Capacity — The combustion chamber of the smallest model for 5 or 6 room residences holds 6 bushels and accommodates not only garbage and combustible waste but all rubbish and non-combustibles like tin cans, bottles, etc., as well. Broken up wooden boxes, fibre cartons, etc., are deposited through the large fire door.
- Less Expensive — The first cost is about equal to the portable gas-fired incinerator of about half the capacity. The savings in gas alone pay back the first cost of a Kernerator in a few years time, and from then on pay dividends that mount up to a surprising total.

Write for complete information and prices. Or phone your local Kernerator representative. Offices in 89 cities.

KERNER INCINERATOR COMPANY
754 East Water St. Milwaukee, Wis.
Immediate Access to the "Works"

This final step makes concealed heating the universal style of tomorrow.

Almost every builder is enthusiastic over the modern heating methods which do away with radiators entirely by placing a copper heating element between the walls. Saving in space, more beautiful rooms, greater freedom in arrangement—these advantages have a universal appeal.

But despite the success of installations by the thousands, some have hesitated to place this heating element out of reach behind plastered walls. The new Trane Under-Window Concealed Heater removes this objection and takes away the last excuse for the intrusion of a radiator in any room. The front panel of this new model comes off when you loosen a few screws. The entire heater is completely assembled when you buy it; your heating contractor merely mounts it in the metal wall box furnished with the heater, and attaches the front panel. Mail the coupon for complete facts.

Clay Products Association
Conway Building
Chicago
You Don’t Need a Truck to Move It

Here is a high speed floor sander that does fast smooth work, yet is not too heavy for one man to carry. With motor removed the machine weighs only 75 pounds, but for short moves one man can carry it without removing the motor. This combination of LARGE PRODUCTIVE CAPACITY and LIGHT WEIGHT is found only in the Speedmatic “8.”

Smooth finish is assured by static and dynamic balance of the high speed “floating” drum (surface speed 2300 feet per minute) which sands a strip eight inches wide.

The small drum operating at high speed has less friction surface between the drum and floor. This eliminates clogging, dragging and excessive wear on the abrasive and results in clean, fast cutting with low abrasive cost. Dustless operation—runs off wall plug.

See the Speedmatic “8” before you buy.

Eliminate Hand Scraping and Hand Sanding

The Speedmatic “8” will sand within 1/4 of the base board. For sanding butt ends with the grain, the SUPER-TAKE-ABOUT Sander with Edging Attachment will sand right up to the quarter round, giving a smooth, ripple-less finish. 

PORTER-CABLE MACHINE CO. 1721 N. Salina St. Syracuse, N. Y.

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The cost of a Binks Portable Spray Painting Outfit will prove the best investment in equipment you can possibly make today. The Binks Spray Gun is easy to operate, even for a beginner.

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A New and Better Sump Pump
for Builders

The design, construction and materials of the new Duro Cellar Drainer embody important and advanced improvements in Sump Pump engineering. Here you have a great time-saving and money-saving convenience—a new and better sump pump for draining cellars, pits and basements. The new Duro Cellar Drainer can be used in a permanent installation or as a portable pump for draining ditches, pits and open cellars. It is especially adaptable to the uses of the building industry. The Duro Cellar Drainer has a capacity of 2500 gallons per hour at 8 ft. lift. Completely automatic, the electric current is controlled by an automatic float switch of positive action. Bearings are protected from grit and foreign matter, and the filter box completely protects the pump from heavy waste materials in the water.

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A super-electric hand saw that has 2¼" cutting capacity, weighs only 24 lbs., has one H.P. motor. Wide adjustable and tilting base makes rafter cuts on the steepest roofs where up to 2" rough lumber is used. Approved safety guard makes sawing by electricity safe—absolutely.

This Super-SKILSAW is much handier than the table saw and cuts ten times faster than the old hand saw. It cuts and rips with terrific speed! A photograph does not show how fast SKILSAW cuts wood—how accurately it cuts—how smoothly and safely it cuts, BUT

A DEMONSTRATION WILL!

We will show you, right before your own eyes that SKILSAW can save you time, money and muscle in sawing.

Just fill out the coupon and mail it to us.

SKILSAW INC.
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Means Better Construction

BETTER CONSTRUCTION MEANS GREATER SALES AND BRINGS HIGHER PRICES.

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GAY, ARTIFICIAL COLORS ALONE, NO LONGER ATTRACT. IT’S THE CALIBRE OF MATERIAL THAT CLOSES THE SALE. AND WHERE IS A ROOFING MATERIAL SO WIDELY KNOWN FOR DURABILITY AS NATURAL SLATE?

LITERATURE on our Special “Quarry Cleft” Slate as well as standard varieties will be mailed upon request.

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INCORPORATED
EASTON, PENNSYLVANIA
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There was a time when a glassed-in sun porch was a novelty and a sales maker. That time is largely past, as you know.

But a small attached greenhouse or conservatory is another story. The Garden Club idea has taken hold with a bang. You don't have to "sell" a greenhouse as part of your layout. It sells itself and helps you sell the house. Sell it at an increased valuation more than twice what the greenhouse costs you. Try it and see.

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The cost of installation and operation is small and it will add greatly to the comfort of your guests and self.

Kimball Elevators have beautiful cabs built to beautify and carry out the design of your home—and the machine is compact, efficient and easily installed.

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This is the oldest face-down block machine on the market. It has stood up under the test of time and come through with flying colors. With its attachments it will make any size or shape of concrete unit required in modern building.

The hand-operated machine shown here is the ideal machine to buy as a starter. As the business grows production can be stepped up and labor decreased by adding our power tamper, core actuator, conveying feeder, scraper and finisher.

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CONCRETE MACHINERY

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The new Ideal Batch Mixer is positively the fastest, most thorough and longest-lived product plant mixer on the market. There's no wear-out to it. Send for Mixer Catalog.
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"The Steel Backbone for Concrete"

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Good-looking jobs are your best advertisements. Experienced contractors are specifying and using American Steel & Wire Company reinforcing fabric—Triangle Mesh or Electric Weld. Made of cold drawn, high tensile strength steel—the kind that can be depended upon for concentrated binding strength over the longest period of time. Supplied in rolls or sheets for any kind or size job. Write us for complete information.

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Build the Home Around the Heating Plant!

THRUSH SYSTEM

--- will help you sell any home!

FACTS:

Uncontrolled heating fluctuates wildly because the home owner cannot, or will not give the proper attention to firing.

Uncontrolled heating not only wastes fuel, but endangers health as well. Hot Air or Steam Heating is less desirable than Hot Water for homes, because extremes of temperature and dry air conditions produced which are difficult to control and are unhealthy.

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It maintains that mild summery warmth, without extreme fluctuations of temperature, regardless of weather conditions. It costs little to install it on old or new plants. Mail the coupon now for more information.

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For Advertisers’ Index See Next to Last Page
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Let us arrange for a demonstration on your job. And be sure to send for Working Cost and Estimate Sheets.

DeWALT Wonder Worker

The Economy Wood Worker

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(outside)

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(inside)

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NOTICE TO ADVERTISERS

Forms for the December number of the American Builder will close promptly on November 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.
Yes!
They Are Good

EVEN as North Western Metal Lath, each North Western Plastering Accessory has some outstanding advantage for the man who buys or who uses it. Take Nemco CORNA-LATH. Smooth Edged. Painstakingly Packed. No torn hands. No time lost in straightening out bent angles. Then there’s CORNER BEAD. A bit stiffer, a bit straighter—a little better galvanized than most other makes. And STRIPLATH—for reinforcing joints in plaster. Just three “quality” items out of a complete and a “quality” line. Get “better acquainted” with these North Western Plastering Accessories. It is to your advantage. Samples and Circulars? Why of course.

NORTH WESTERN EXPANDED METAL COMPANY
1204 Old Colony Bldg., CHICAGO
No. 500 Door Holder
Holds door open securely against wind. Operation is entirely automatic as door is opened. Folds out of the way when door is closed. Made entirely of steel.

FrantZ Garage Door Equipment Combines Convenience with Long, Satisfactory Service

You will find each item in the FrantZ line of Garage Door Hardware has one or more distinct convenience features—improvements that make doors operate more quickly and easily.

These features are quickly noticeable upon inspection of the Hardware. At the same time, you will recognize the high quality materials and skilled workmanship so evident in the make-up of all FrantZ Products.

Yet FrantZ Hardware costs you no more.

Your dealer will be glad to demonstrate any particular item or explain the many advantages to be gained from its use. He also will mention the guarantee behind this unusual line of Builders’ Hardware.

FRANTZ MANUFACTURING COMPANY
Dept. A-12 Sterling, Illinois

No. 625 Chain Bolt
The case of this bolt is made of cold rolled steel. Bolt itself is of galvanized steel and is operated by a galvanized coil spring. Can be reversed easily. Made in 6 and 9 inch sizes. Packed with necessary screws.

No. 630 Chain Pull
As the hand grasps the pull to open the door a slight pressure on the thumb-piece releases the chain bolt. This is an original FrantZ feature. Made entirely of steel. Packed with necessary screws.

No. 680 Cane Bolt
Makes garage door practically burglar-proof. Turning the handle from its rest allows the bolt to drop into bushing in floor. Also can be used as door holder. Easily installed. All steel.

No. 67 Hinge
Offset feature of this hinge throws door clear of opening.

No. 76 Hinge
A strong, heavy gauge hinge, with loose pin for reversing.

No Hardware is Genuine FRANTZ QUALITY Without the Red Label