Vol. 45.
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AMERICAN BUILDER
THE WORLD'S GREATEST BUILDING PAPER

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; Bernard L. Johnson, Vice-President and Editor; Roland D. Radford, Secretary; S. C. Kellenberger, Dealer Service; Charles G. Peker, Eastern Editor; Juan Homs, Export Editor; Delbert W. Smith, E. B. Wolfson, C. R. W. Edgecumbe, L. H. Reich, O. H. Sutter, Cecil W. Blashill, H. P. Sessions, J. J. Dubro, R. E. Clement, Advertising Staff.

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Publication Offices:
Radford Building, 1827 Prairie Ave., Chicago
Telephone: Columet 6719
Eastern Office, 250 Park Ave., New York City
Telephone: Vanderbilt 3185

MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS
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Entered as second-class matter July 1, 1905, at the post office at Chicago, Ill., under the Act of
March 3, 1879. Additional entry as second-class
matter at Binghamton, N. Y.; Columbus, Ohio;
Seattle, Wash.; Los Angeles, Calif.; San Francisco,
Calif.; Denver, Colo.; Dallas, Texas; St. Paul,
Minn., and Kansas City, Mo.

SUBSCRIPTION RATES—One year, United
States, Canada, Mexico, and U. S. Possessions.
$2.50; six months, $1.00; single copies, 35 cents.
Foreign countries, $4.00.

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ADVERTISING RATES—Pamphlet on applica-
tion. Advertising forms close on the 10th of the
month preceding date of publication.

Publication Offices:
Radford Building, 1827 Prairie Ave., Chicago
Telephone: Calumet 4770
Eastern Office, 250 Park Ave., New York City
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MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS
STEEL WINDOWS for Commercial Industrial, Residential and Institutional Buildings. Quality windows, conforming with the most exacting specifications at low cost.

STEEL DOORS in Swing or Slide types. Also Vertical Folding, Vertical Lift, Vertical Lift-Swing, Airplane Hangar and Fire Department types, hand or power operated.

METAL LATH for plaster, concrete or stucco construction. Plastering accessories including Corner Beads, Cornerite, Stripite, Furring Channels, Steel Mortar Boxes.

STEEL JOISTS, all types for economical, speedily erected fireproof floor construction. Come to the job ready for placing, eliminating all form-work and centering.

REINFORCING STEEL. Permanent or Removable Floretyles and Floreforms for all reinforced concrete floor systems. Bars, Inserts, Curb Bars, Welded Steel Fabric.

STEELDECK ROOFS. I-Plates construction, insulated to prevent heat loss and waterproofed with any standard roofing. Weighs not more than five pounds per square foot.
Slidetite. Prevents

Just by glancing at the illustration shown below, you can see how easy and simple it is to open or shut Slidetite equipped garage doors. Instead of being outside, all Slidetite garage door hardware is inside. So Slidetite doors can’t blow shut. They won’t stick or sag. They won’t rust. And because they do away with dangerous center posts, they give an unobstructed, full-width opening.
No matter what weather conditions may be, you can always get in and out of your garage as easily as you enter or leave your house—once you have installed Slidetite. In the most bitter days of winter, as in mid-summer, they respond instantly—even to the light touch of a child. In brief, Slidetite is the very last word in garage-door convenience and efficiency!
Stone Bungalows Quick to Sell

Learn the facts about the new profit opportunities which recent low-cost methods of preparing, handling and using Indiana Limestone open up to the contractor. Plan books free. See coupon.

A NEW profit opportunity has opened up in the building field. Many live contractors have already taken advantage of it.

New methods of preparing and handling Indiana Limestone now make this beautiful, light-colored natural stone practical for all types of residence construction.

Large production and new ways of using the stone make its cost moderate. We ship all over the United States, competing with local stones and even with substitute materials.

Many moderate-cost houses and bungalows have already been built of Indiana Limestone. One is pictured here. We will send you Plan Books showing many others. Or we can send you folder showing bungalows only. Use the coupon.

Used as veneer
For ordinary residence construction, Indiana Limestone Random Ashlar is used as a veneer. The stone is prepared in sawed strips right at the quarry, sawed on four sides—face, back, top and bottom.

INDIANA LIMESTONE COMPANY • GENERAL OFFICES: BEDFORD

Floor plan of bungalow shown above. Our Bungalow Folder contains many other attractive plans.
Indiana Limestone in this form is shipped from the quarries direct to the job. There it is broken, jointed and laid up. A stone mason or a bricklayer can do the work. Stone cutting is reduced to a minimum.

**Jointing made easy**

The stone is now jointed to proper length by a remarkably simple operation. An electric carborundum hand saw is used in place of the old mallet and chisel. This saw cuts a groove in the face of the stone. Then it is turned over and a tap with the mallet breaks it cleanly along the lines of the groove. By this method, one man can keep six stone-masons busy. Your stone-masons spend all their time on the wall laying up stone, instead of on the ground jointing it.

Indiana Limestone used in this way is applied as a veneer to stud-frame walls. Or it may be used as a structural facing over hollow tile or brick. It is secured to frame walls with galvanized metal ties, the same as a veneer of face brick work. This method is so simple that construction goes ahead with maximum speed.

Although the form of stone construction described here is comparatively new, builders are using it in all parts of the country with marked success. The vast resources of Indiana Limestone Company (we have 19 branch offices) make it possible to deliver this Limestone anywhere at reasonable cost.

We are interested in working with live contractors. There is a big demand today for “something different” in homes, especially something substantial. An Indiana Limestone house has a big eye appeal. And owing to its fine weathering properties, houses built of stone retain their good appearance indefinitely and have high resale value. We know that Indiana Limestone offers the biggest single profit opportunity in years to the builder who will act quick. It gives him a chance to get the jump on his competitors. Just one Indiana Limestone house will advertise you as no other type of house construction you’ve ever engaged in before has done.

**Write for plan books**

Let us send you plan books and full information on construction. Without obligating you in any way, we will post you thoroughly on this wonderful building stone.

Write to us today for all the facts about Indiana Limestone. For convenience, fill in your name and address on the coupon opposite, clip it out and mail it today. The booklets and further information will be sent you immediately.
The great change has come in plumbing fixtures. That change has to do neither with material nor usefulness. It has to do with design. Therein lay the promise of finer plumbing fixtures and finer bathrooms.

For years plumbing fixtures have been more practical than beautiful. Styles were standardized. Individuality was priceless because unobtainable.

Then "Standard" designers visioned a way to greater distinction. That way was not to turn from today's ideal materials to the marble slab with cemented-in bowl, rococo and reminiscent of the brownstone fronts of the Eighties. It was to create finer forms, and then to improve manufacturing processes that these forms might be modeled and fired in genuine vitreous china.

So they originated designs, not forgetting simplicity is an art from which beauty springeth—even in Vitreous China Plumbing Fixtures. Plumbing fixtures, yes, but you will very likely think of them as fine bathroom furniture.

Today thousands of women the country over have seen the new "Standard" Plumbing Fixtures pictured in the national magazines. They want these beautiful new fixtures in the homes they rent or purchase. Wise is that builder who caters to this ever-growing demand by specifying "Standard" Plumbing Fixtures and Fittings for his project.
Three 8’s” Sink
Acid-Resisting

under a deep, cheerful window and 8-inch deep sink compartment—deeper by two inches. It is made in several sizes and styles and in several beautiful colors as well as white.

Be sure to specify Acid-Resisting Enamel, as many other “Standard” models are also made in the regular enamel. The trademark “Standard-A-R,” identifying Acid-Resisting Enamel, is impressed in every “Three 8’s” Sink.

Before you build or remodel any home or apartment, be sure to write for the new book “Standard” Plumbing Fixtures for the Home. It contains many ideas and suggestions for the arrangement of kitchen, laundry, and bathroom. This book will be mailed on request.

PITTSBURGH

“Standard” PLUMBING FIXTURES

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
A Ten-Year Test of Outside Icing

Be sure to include "outside icing" facilities in every apartment or home you plan or build. This thoughtful consideration of the future comfort and convenience of owners or tenants will add to your own reputation.

The importance and value of this "outside icing" feature is indicated by the experience of Mr. Lewis S. Thomas, Manager of "The Surf," over a ten-year period.

"The Surf," opened in 1918, was the first fine apartment hotel in Chicago built to offer beautifully furnished apartments with every housekeeping convenience, plus complete, fine hotel service. Mr. Thomas says:

"Every 'Surf' apartment has outside icing facilities, which our ten years' experience proves to be a very great advantage.

"The Surf" has continuously enjoyed almost complete occupancy. Its first guest is still with us as are sixteen of the families who were its original tenants. All are thoroughly pleased with the convenient, efficient and economical refrigeration service made possible by our outside icing facilities. Milk, fresh fruits, vegetables and butter go right on the ice as delivered, regardless of whether or not the occupant of the apartment is there to receive them. They are not left to spoil, wilt or lose flavor by being temporarily held in servidors if the housewife chances to be absent.

"There is always plenty of ice to chip, for use in crisping salads and green vegetables, serving on butter to keep it firm, placing in drinking water, preparing frozen desserts, et cetera.

"A properly designed, well iced refrigerator delivers a perfect service. Ice is a product which cannot be improved upon. It answers every need, not only for the private home or apartment, but for the largest and finest hotel, in a thoroughly adequate way."

Outside icing, which permits the iceman to deliver ice without entering the house at all, can be arranged for, at very slight extra cost, when the building is under construction.

Some of the leading refrigerator manufacturers furnish blue prints which are very helpful to architects and builders in providing proper outside icing facilities.
Amidst the many arguments presented for various sanding machines the buyer's mind is apt to be diverted from the main issue.

But the Sander-wise practical minded man is not side tracked. He knows the work he wants his Sander to do, therefore, his basis of buying a Sander is the work the Sander will do.

He measures the value of the Sander only in terms of the value of the work it will do for him. He wants quality work — he wants quantity work — and he wants low operating cost — for that means profit for him.

If he gets all these qualities, he knows he will have the Sander which will give him the most feet of surface per dollar — and that's what he wants.

He looks around and investigates carefully. As a result, he purchases the CLARKE VACUUM PORTABLE SANDER.

First, it is the only Sander with a definite, positive written guarantee of performance. Assurance that the CLARKE will actually do the work he wants done.

Second, the light, powerful, fast-cutting CLARKE VACUUM PORTABLE SANDER can be carried with one hand and attached to any light socket. Positive evidence that it costs less to take to the job, and less to operate on the job.

Third, the CLARKE principle of light weight, speed and power — as contrasted with dead-weight and slow motion has demonstrated savings in all progressive industries.

Modern buildings, modern automobiles, modern tools, have demonstrated beyond all shadow of doubt, that the day of cumbersome, massive weight must give way for greater lightness, strength and power to stand up under all conditions and do the work.

Fourth, past performance and present day evidence on every hand proves that the CLARKE "answers all calls"—quantity work—quality work—close work—open work—floor work—bench work—all—at the lowest cost per foot.

Those who face and buy on facts, invest in the CLARKE. Get the facts. They cost you nothing, and will save you much.

Do not buy any sander, at any time, at any place, at any price, until you see what work the CLARKE can do for you.

—answers all calls

CLARKE SANDING MACHINE CO.
Dept. A-25
3815 Cortland Street
Chicago, Ill.

For 11 years, Originators and Manufacturers of Portable Sanding Machines
“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. ABS, Jacksonville, Florida.
It saves space, lumber and labor!

HERE is a bed for two so easy to move that it can be rolled about anywhere with one hand. And it is so compact that it can be kept in a small hall closet.

As a result of these exclusive advantages, the Seng Duofold Roller Bed assures you a marked saving in space, lumber and labor.

It does away with closet doors in living rooms and provides larger, more comfortable quarters—at no extra cost. In the construction of big apartment buildings, it sometimes adds an entire apartment to each floor.

Think of all this will cut down your construction costs! Think of how much more profitably you can build! Think of how much easier it will be to sell and rent!

Send today for the full story of the Seng Duofold Roller Bed. It will be mailed to you promptly on receipt of attached coupon.

THE SENG COMPANY
1452 Dayton Street - Chicago
Manufacturers and Patentees

SEND TODAY FOR THE FULL STORY OF THIS MODERN BED FOR TWO

Out of sight in a 31" x 23" closet.
Can be moved about anywhere with one hand.

Simple, ingenious springs make raising and lowering effortless.

Stabilizer holds the Seng Duofold steady in all positions—while opening, closing, and while in use.

Resilient, sagless cable springs accommodate a thick, comfortable mattress and other bedding.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Eternits will sell homes at Asbury Gables, too!

ARE prospective home owners interested in fire-proof roofing? Do they want color? Do they want homes that never need be reroofed? Just ask the men who are responsible for Asbury Gables!

Asbury Gables nestles right on a New Jersey pine ridge. On one side is the Atlantic; on the other the municipal golf course. It is a beautiful setting for these charming homes.

Illustrated here is the Newark Sunday Call Model Home—a sample house. It embodies all the beauty, permanence and safety which the builders of this development are anxious to have in each home.

Naturally, Eternit Asbestos Shingles were chosen for the roof. Here was color that time and sea air could not fade—for Eternits, because of an exclusive new process, are colorfast. Here was variety—five unusually handsome colors and three, instead of two, methods of application. Here was fire safety—absolute protection. Eternit Heatherblends—a combination of the five Eternit colors—were used on the Model House. The added beauty of the blended colors brings favorable comment from everyone who sees the home. Realizing the effective sales story they had there, the Asbury Gables Corporation, in all its folders and prospectuses, stressed the fact that Eternits were used. Certainly this style will help to influence the sale of homes and the choice of roofing for those who build in this resort.

Eternits have become the most popular asbestos shingles on the market. Lay them on new buildings—lay them over old wooden or asphalt shingles; they'll give 100% satisfaction. Give Eternits a trial on your next job. For further information, mail the coupon.

"... and it has

RUNNING WATER"

RUNNING WATER! What a selling point for the contractor or builder. The prospective buyer thinks of a home in terms of comfort. Naturally a building with running water is preferred.

And it costs so little to include a water system in the building. A small expenditure for a Fairbanks-Morse Home Water System increases the value of the property and adds infinitely to salability.

Think of the F-M Water System as a means to beat competition. Prepare yourself for the building season by using the coupon to get full information.

Easy Purchase Plan

Only $20 down with easy monthly payments if you desire. Any Fairbanks-Morse dealer will be glad to explain these convenient terms. Just use the coupon to secure full description and complete information.

Have you a WATER PUMPING PROBLEM?
Our engineers will advise you free of charge.

Manufacturers: FAIRBANKS, MORSE & CO., Chicago, U.S.A.
Branches and Service Stations Covering Every State in the Union

FAIRBANKS-MORSE
Home Water Systems

Fairbanks-Morse Products

"Every Line a Leader"

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Roof against fire, proof against water; proof against wear and roof repair—Careystone Asbestos Cement Shingles actually toughen with age. Asbestos, you know, is everlasting—cement, of course, is imperishable. And the two, combined in a shingle as only Carey combines them, are absolutely impervious to the toll of time.

Laminated shingles, built up layer upon layer! Beautiful shingles, in a range of warm-hued color-tones to suit every taste. Artistic shingles, in either the American type or the six-sided French style. Careystone Asbestos Cement Shingles sell themselves... and they sell houses, too. Write for your samples at once.

THE PHILIP CAREY COMPANY
Lockland, Cincinnati, Ohio
They make

empty rooms appear half-furnished

That is why houses and apartments with Curtis Cabinetwork sell for more or rent better ... and such rooms are always a permanent advertisement for the builder who designed them.

Most new houses or apartments, when completed, are turned over to their first owner or occupant when empty. Their floors are denuded of furniture, their walls are without pictures and their windows without curtains.

Do the houses and apartments that you build look homelike and attractive before they are occupied? Do they make the customer want the place so badly that he signs up without argument or price cutting?

You can make your buildings sell and rent better if you build them with something more than walls and floors and ceilings. Curtis Cabinetwork will help you do it.

Open bookshelves flanking the fireplace or running under and around windows ... quaint corner cupboards in the dining room, charming dining alcove sets with high-back seats like old Colonial settles ... spacious kitchen cupboards handsomely proportioned and beautifully molded — these are things that make women want to own or rent a house or apartment.

And these items of Curtis Cabinetwork cost so little! The price includes nothing extra for their designs — their beauty — which are the work of one of the best architectural offices in the country.

Everywhere builders, realtors and contractors are learning the sales and rental value of Curtis Cabinetwork. And anywhere east of the Rockies these beautiful designs can be obtained from any Curtis Dealer.

The leading dealer in your town is probably a Curtis Dealer, but if he is not, write for full particulars to

The Curtis Companies Service Bureau
855 Curtis Building, Clinton, Iowa

Representing
Curtis Bros. & Co., Clinton, Iowa; Curtis & Yale Co., Wausau, Wisconsin; Curtis Sash & Door Co., Sioux City, Iowa; Curtis, Towle & Paine Co., Lincoln, Nebraska; Curtis, Towle & Paine Co., Topeka, Kansas; Curtis Door & Sash Co., Chicago, Illinois; Curtis Detroit Co., Detroit, Michigan; Curtis-Yale-Holland Co., Minneapolis, Minnesota.

Curtis Companies, Inc., Clinton, Iowa

Curtis Woodwork Display and Sales Office, Room 201, 9 E. 41st Street, New York City.

CURTIS COMPANIES SERVICE BUREAU
855 Curtis Building, Clinton, Iowa

Please send me a FREE copy of your new book with complete information about Curtis Cabinetwork.

Name: ____________________________________________

Address: ____________________________________________

City: ____________________________________________ State: ____________________

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
That's the Way to Saw

There's no trick about it. Just plug SKILSAW in the nearest electric socket, put the blade to the press trigger and ZIP—rips or crosscuts thru 2" dry lumber as fast as you can mark with a pencil. The motor is ½ HP and yet this SKILSAW (the model J) weighs only 10 lbs.

THE PRICE IS $6.50

You don't have to break your back any more with an old fashioned hand saw.

Those days are gone forever. We prove it.

Send us the coupon. We want to try SKILSAW on your own FREE.

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

SKILSAW INC.
3822 RAVENSWOOD AVE.
CHICAGO

Without obligation I will gladly watch a 5 minute demonstration

Name

Address
Plan to include Kelvinator

BECAUSE Kelvinator will help you or your client sell the home you build . . . because your Kelvinator-equipped apartment houses will always be filled . . . because Kelvinator's twelve-year record of economy and reliability justifies your faith, plan to include Kelvinator.

The first Kelvinator ever built . . . the first domestic electric refrigerator ever offered the public . . . is still maintaining the same low temperatures for which it was set up.

. . . and every Kelvinator since has gone out with that same, inherent trustworthiness . . . built into it.

Wherever you build . . . plan to include Kelvinator. There is a size and style for every job. Write us for our Builder's Book of Kelvinator installations.

KELVINATOR CORPORATION
Detroit

★ Approved by the Investigating Committees of Architects and Engineers.
ARE YOU MISSING the Rich Profits of Remodeling?

INVARIBLY the home owner sooner or later asks, "Can you help me remodel my house?"... Are you getting all the profitable remodeling business that you should?

The use of lumber for the reconstruction of old-fashioned or run-down houses offers the builder a most lucrative opportunity. Think of the number of homes which you know are out of date. Their owners would be interested to learn how simply and inexpensively an old house can be transformed with a few alterations.

No man wants to live in an antiquated house—it hurts his standing in the community. Show him the accompanying illustrations and prove to him that by remodeling he not only enhances the value of his property, but also betters his own standing.

Watch this series of advertisements on the use of lumber for remodeling—it will contain many helpful and practical suggestions which will enable you to increase your profits.

In all your remodeling or building operations use only properly seasoned lumber; manufactured to American Lumber Standards, endorsed by the United States Departments of Agriculture and Commerce. Made only by America's best mills. Your retailer has it or can get it for you.
Holland Vaporaire Heating installations are made under direct factory supervision in accordance with triple-checked plans that meet the individual requirements of each home. Heat losses, B.T.U. requirements and all other elements affecting heating efficiency are accurately computed. All guesswork is eliminated. Responsibility is undivided. You deal with a single organization. Satisfaction guaranteed by written bond backed by our entire resources.

The Holland is known from coast to coast. It has more than a million warm friends. Continuous national advertising and the personal calls of thousands of salesmen make it favorably known to home buyers everywhere. Well-known builders install the Holland because it helps sell their homes. You will find it a powerful selling point. Let us give you the facts. They are well worth your attention. Use the attached coupon or telephone our nearest branch.

HOLLAND Vaporaire HEATING
MAKES WARM FRIENDS

Holland Furnace Co., Holland, Michigan

Without obligation on my part please send me your Free Booklet "How To Heat Your Home" Have a Holland Man Call

Name ______________ Address ______________
City ______________ State ______________

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Important Announcement!
Now a Key-Set Sash that Costs No More Than the Direct Screw Pressure Type

Due to the economies of greatly increased production aided by improved design, we are now manufacturing a Key-Set Sash retailing at the same price as the various direct screw pressure types. This has been our goal for many years.

There are many advantages in this type of store front construction:
1. It is the only sash embodying the safety feature of indirect screw pressure, and the use of self-adjusting setting blocks upon which to set the glass (patented).
2. No screws whatever appear in the face moulding to mar its beauty.
3. Rolled from heavy gauge copper or bronze.
4. It can be used as a self-supporting sash independent of the wood backing strip commonly required on direct screw pressure types.

Further details will be furnished without charge upon request.

Zouri Drawn Metals Company
And Associated Companies:

International Distribution
INTERNATIONAL STORE FRONT COMPANY
STANDARD STORE FRONT CONSTRUCTION CO.
MODERN BRONZE STORE FRONT COMPANY
ZOURI COMPANY OF CALIFORNIA
ZOURI DRAWN METALS CO. OF NEW YORK, INC.

Factory and General Offices: Chicago Heights, Illinois

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
EVERY BUILDER AGREES THAT ALL DOORS SHOULD BE HUNG

FITTED AND MORTISED **THE CARTER WAY** After Seeing It Done

**IT'S UNBELIEVABLY FAST — AND PERFECT**

FIT YOUR

DOORS — WINDOWS —
— TRANSOMS, ETC.

**THIS WAY**

NOT THE OLD HAND PLANE

CARTER-IZE NOW

IT'S DOOR INSURANCE

Power Super-Plane on Door — Weighs 9½ Lbs.

_Swing This Way_

_NOT THE OLD CHISEL AND HAMMER_

_Same Templet for Both Door and Jamb_

_Swing This Way_

_NOT THE OLD BIT AND BRACE_

_There's a Templet for the Lock Face, for Transoms, for Wood Doors to Fit Metal Jambs_

_Folder "A"_

_Hinge Butt Router and Templet on Door_

_Each Unit Keeps Its Own Cutters Sharp — Each Unit is Independent of the Other_

_Mortise This Way_

_Hinge Butt Router and Templet on Jamb_

_Lock Mortiser on Door Weighs 23 Lbs._

Manufactured solely by **THE R. L. CARTER CO., Inc.**, 1280 Chestnut St., Phoenix, New York

(Originators of the Door Set)

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Neither you nor your clients want a noisy pump in the basement of that charming new home. Builders and home owners are demanding not mere running water service, but dependable, noiseless running water service.

Duro Engineers have developed a pump that does its work on extra suction lifts—entirely without hammering. Now the quiet running Duro operates as smoothly and silently as the flight of a gliding bird.

Every major improvement in pumps and water systems has come first in Duro Pumps and Water Systems. In the NOISELESS Shallow Well Pump, Duro again leads the way. In Duro only can you get exclusive, patented mechanical advantages which mean long life and carefree service.

Write for booklets on Duro Water Systems, Water Softeners, Filters and Septic Tanks.

THE DURO COMPANY
105 Monument Avenue, Dayton, Ohio
Advertisements like the one on the right are making Sargent Hardware a profitable investment for builders...

Nation-wide, to millions of persons all over the country, Sargent consumer advertising is carrying the story of the beautiful designs in the Sargent line, and the permanent satisfaction given by Sargent Hardware of solid brass and solid bronze. House & Garden, House Beautiful, Country Life, Garden and Home Builder, and The Literary Digest are taking this story to people who are interested in building or in buying homes.

This means that, more and more, persons who come to you for homes can be impressed and influenced in the matter of their choice by the use of Sargent Hardware.

Hardware helps sell homes. Just as copper downspouts and brass piping help convince prospects that the invisible details, those important parts of the home that are hidden away where they remain unnoticed until they cause trouble, have been faithfully and honestly made of the best materials... just so, the hardware you use sways their opinion. If the hardware is cheap, shabby and shoddy, home buyers suspect that everything in the home is the same. If the hardware is Sargent Hardware of solid brass and solid bronze, they feel that the rest of the house is staunch, and solid, and true. It makes it easier for you to close a sale.

Sargent Hardware of time-defying, rust-resistant solid brass and solid bronze helps you establish a reputation for building homes that give permanent satisfaction. And it saves you the expense of making repairs just after a house has been sold.

There are Sargent representatives in all cities. The one near you will be glad to help you make selections, and furnish you with estimates. Write for our book of designs, “Hardware for Utility and Ornamentation.” Sargent & Company, 51 Water Street, New Haven, Connecticut.

Brass Hardware in Correct Designs

Many Sargent pieces are similar to the antique hardware on doorways exhibited in the Metropolitan Museum of Art. In the early years of the Republic, some master carpenter built this doorway in Ridgeville, Maryland, working out the classical tradition in wood. The sensitiveness of its detail, its dainty knocker and small round knob have won comment in the Metropolitan Museum.

The patient, careful spirit of craftsmanship, which guided the builders of the doorways exhibited at The Metropolitan Museum, guides the makers of Sargent Hardware in present-day New England. It has placed at the disposal of modern home builders solid brass and solid bronze hardware in authentic Colonial designs—interior hardware, as well as heavy knockers and robust entrance handles. Every piece of it, lock set or hinge, is hardware well made. Quiet and smooth of operation. Prepared to serve faithfully for generations.


When writing advertisers please mention The American Builder.
Advantages to you who build

1. ACCO No. 8 Sash Chain operates perfectly over ordinary cord pulleys—no change in windows is required.

2. Seven average windows per 100 feet can be hung, as against five with cord.

3. ACCO Sash Chain is easy to install. Knot tying is eliminated, as the chain is attached to window weights with strong hooks, and anchored to windows with properly designed attachments which fit bore in sash accurately.

4. ACCO No. 8 Sash Chain will not wear or fray away, for, being steel, it cannot be cut by the pulley.

5. Enduring tensile strength of several times the suspended weight assures years of satisfaction and freedom from breakage.

6. All ACCO Sash Chain is made of copper-bearing steel. The material itself is rust resistant—and further to protect against corrosion, it is coppered or galvanized.

Fill out the coupon below and we will send you a sample length, with attachments, for test. If your lumber yard or hardware specialty dealer does not handle ACCO Sash Chain, give us his name and we will see that you have a convenient source of supply.

ACCO No. 8 Sash Chain

AMERICAN CHAIN COMPANY, Inc., Dept. A-5, Bridgeport, Connecticut

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

Name

Address

FOR ADVERTISERS’ INDEX SEE NEXT TO LAST PAGE
SPECIFY Porceliron Laundry Trays on your Spring developments, Mr. Contractor, for this one sound, practical reason—

They'll help you sell your houses.

Remember the women who look at your houses don't see construction "jobs"—they see their homes in which they, perhaps, will live and work for the rest of their days.

The Porceliron Laundry Tray will help you make that picture a pleasant one.

Imagine it! A unit like two big, shiny, snow-white bowls set out there in the center of a laundry floor if desired so that a woman can walk all around it—adjustable to the height of any individual; Clean and Sanitary as any bath tub; Durable; Attractive—

Why the woman doesn't live who wouldn't thrill to such a laundry.

What's more, the Porceliron Double Compartment Unit, while it adds tremendously to the sales value of a house, costs very little more than the cheapest laundry trays you can buy.

Write—now—for descriptive literature and sheet of efficient laundry layouts suggested by prominent authorities on domestic economy.
HERE we reproduce the cover of a recent copy of our practical and pictorial magazine ALPHA AIDS, issued regularly for many years in behalf of “Sellers, Buyers and Users” of ALPHA CEMENT.

Not only does this publication deal extensively with concrete improvements around home, yard, farm and business place, but it gives interesting accounts of road development and outstanding undertakings, such as dams, tunnels, bridges, distinctive homes, municipal improvements, etc.

If you are not receiving ALPHA AIDS regularly, let us know.

Alpha Portland Cement Company
EASTON, PA.

New York St. Louis
Philadelphia Boston

Baltimore

Chicago, ILL.

Baltimore

Ironont, Ohio

Pittsburgh

FOR ADVERTISERS’ INDEX SEE NEXT TO LAST PAGE
a barrier

to fire—

not merely

a plastered

wall

ARCH LATH

WHEELING National Advertising is drawing public attention to fire-safe homes. Arch Lath helps to fortify the home against fire by making walls and ceilings a veritable armor of steel—an almost impregnable barrier against the destructive hand of fire!

You can profit by building fire-safe homes. Arch Lath costs no more to use than inflammable material. The reason for this is that Arch Lath saves plaster, saves time and labor. The scientifically designed arches permit only the correct amount of plaster to squeeze through for perfect "key." There is no piling up of plaster between walls. The rigidity of the sheet of Arch Lath assists rapid plastering and reduces the cost of erection. Arch Lath is nearly a solid sheet of steel and therefore easy to handle, erect and plaster—there is no "give" in the entire "field" of lath.

Immediately after application the first coat of plaster can be scratched and made ready for the second coat without removing scaffolding. This saves time and labor.

This brief description of Arch Lath will give you some idea of its possibilities as a sales influence—money saver and profit protector. Write us today for complete information and sample!

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

Wheeling Spanish Metal Tile
For a roof of enduring beauty at low cost, specify Wheeling Spanish Metal Tile. It is proof against rust, leaks and lightning. Permanent and highly practical as well as artistic and attractive.
Write for full information.
Copyright 1928, Wheeling Corrugating Company

One Sheet of Arch Lath (27 x 96) grips the plaster at 8064 points, making the wall an integral unit of rigidity and strength, while minimizing possibility of cracking.
4 Rooms easily made into 6

By putting Murphy In-a-Dor Beds in the living room and the sun room, the builder of the apartment above gives six room convenience and comfort to a four room apartment.

In the duplex below, the sun room is too nearly

a part of the living room for beds to be put in both, but again the builder gets a six room result from a four room plan.

Murphy In-a-Dor Beds can be used to advantage in any type of basic plan. They save money for owners of homes, apartments, hotels or clubs. They cut both the builder's first cost and upkeep by doing away with one-purpose rooms used only a part of the twenty-four hours.

You can install Murphy In-a-Dor Beds quickly and cheaply. No special construction is required. Once in place, these beds will be satisfactory as long as the building stands.

Write for This Book

"More Home in Less Space" shows, in color, just how Murphy In-a-Dor Beds look when placed in the different rooms of a house. This book pictures all styles and finishes of these beautiful, comfortable, convenient and lasting beds. You need this book in any talk with any prospect. It is free. Write for it, today.

THE MURPHY IN-A-DOR BED

MURPHY DOOR BED COMPANY

New York City . . . 19 W. 44th St.  
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New Orleans, La . . . 310 Dryades St.  
Montreal . . . 658 St. Catherine St., West  
Toronto . . . 21 King Street, East

For Advertisers' Index see next to last page
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 flashings, conductor pipe, eave-trough, gutters, etc., without breaking or peeling of the protective lead. Any competent sheet metal worker can install it.

Adds Known Value

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

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

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

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

Name: _______________________

Address: ____________________

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
BATHROOMS
of Rare Beauty and Distinction

Because of the everlasting beauty of Vitrolite—its dignity—its possibilities for modern color and decorative effects—it was specified for the several bathrooms in the magnificent new residence of Mr. Marshall Field.

It is of more than passing significance that Vitrolite—the superlative vitreous slab material—was selected for this distinguished residence. Its distinctive charm and superior qualities make it especially suitable for the modern American Home.

The true worth of Vitrolite lies in its immaculate cleanliness, and in the fact that age can never dim or mar its lustrous fire-polished surface. Vitrolite never deteriorates. It cannot craze, chip, stain or discolor. It is as permanent as time itself.

Vitrolite with its variety of colors and surface textures surpasses all other materials in its unusual adaptability to modern color and decorative effects.

The services of the Art Department of the Vitrolite Company are available to architects and builders for the preparation of color sketches and to aid them in the technical details of Vitrolite installations. This service is yours for the asking.

VITROLITE
THE VITROLITE COMPANY
Suite 624, 133 W. Washington St., Chicago

SALES REPRESENTATIVES
Atlanta Baltimore Boston Brooklyn Buffalo Cincinnati Cleveland Dallas Denver Detroit Kansas City Los Angeles Miami Minneapolis New Orleans New York Omaha Philadelphia Pittsburgh Portland Providence San Francisco Seattle St. Louis Tampa Washington Columbus, S. A. Copenhagen Havana Johannesburg London Melbourne Mexico City Montreal Osaka Sen Juan Shanghai Vancouver, B. C.

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
Why such dowel construction in Laminex doors?

We put over-sized dowels where stiles and cross-rails meet in Laminex doors, to make absolutely sure that the doors will never sag. Each of these long dowels is 3/4 inch in diameter, giving 50% more strength and 30% greater holding surface than the shorter half-inch dowels often used.

But longer, larger dowels are not the only reason why a Laminex door is better than the ordinary kind. If you will look closely at the bottom rail and the stile in this illustration, where the wood has been cut away to show the method of construction, you will see that the rail and stile are built up on a core of separate blocks. These clear, vertical grained blocks, gripped between straight, full-length, rigid braces, neutralize among themselves any tendency of a Laminex door to shrink, swell or warp. All parts of a Laminex door, including the clear sheets of wood used to cover the stiles and cross-rails, are held together permanently by Laminex cement—a secret compound that is absolutely water-proof and actually stronger than wood.

Ask your dealer about Laminex doors

Progressive lumber and millwork dealers can supply you promptly with popular designs of Laminex doors at reasonable prices. If you are unable to get Laminex doors from your local dealer, write us and we will give you the name of a dealer who will supply you. The success of Laminex has tempted other manufacturers to offer veneered doors, outwardly resembling Laminex doors, but lacking the moisture-resistance of genuine Laminex waterproof cement. No door but Laminex can stand the famous water-soaking tests. For your own protection, insist on doors that bear the yellow replacement promise label and the name "LAMINEX."

LAMINEX DOORS
WILL NOT SHRINK, SWELL OR WARP

THE WHEELER, OSGOOD COMPANY
Tacoma, Washington
Gentlemen:
Please send me your new book about Laminex doors and names of nearby distributors.
Name
Address
City State
I buy trucks...doors per year.
Here is a door you can trust never to sag or stick

We get mighty enthusiastic when we start to describe our Laminex French door. And you'll be just as enthusiastic about it, yourself, after you have installed a few and find out that no Laminex door, whether it is a French door or any other type, can possibly give you any trouble. You'll never have to go back to a job to refit and refinish a Laminex French door. If you hang it right in the first place, your door troubles and the owner's door troubles are over for keeps.

You could even hang a Laminex French door before the plaster dries, (although we don't recommend it) yet the door would not swell or warp. In fact, no amount of moisture can hurt any Laminex door. To prove this, retail dealers frequently soak a Laminex door in water for days at a time—a public test that has convinced thousands that here, at last, is a genuine trouble-proof door, regardless of climatic conditions.

Laminex doors are now being manufactured of Philippine Hardwood, (commonly known as Philippine Mahogany), as well as Douglas Fir.

Hundreds of Laminex door soaking tests have been conducted publicly by retail dealers in all parts of the country, proving conclusively that dampness will never make a Laminex door warp, split or come apart.

It's a lot cheaper to install Laminex doors throughout an entire house than to have to go back to the job to refit and refinish just one ordinary door that has started to give trouble. Remember that every Laminex door is absolutely guaranteed.
How Trane Concealed Heaters Meet These Demands of the Public

Send for This Valuable Bulletin on "Successors to the Radiator"

There is no place for the radiator in modern rooms. Refine it or disguise it as you will, it is always an intruder. Hidden or recessed radiators, radiator shields or screens, only partly solve the problem. The real solution is the Trane Concealed Heater, operating on an entirely different heating principle.

Trane Concealed Heaters are completely hidden between the walls. Air is taken in at the floor line — passes over the famous Trane copper-fin heating element — rushes upward through a sheet metal chimney — and enters the room horizontally through an inconspicuous damper grille. Control is instantaneous — no waiting for radiators to heat or cool off. This feature saves fuel and insures greater comfort.

Trane Concealed Heaters fit any make of heating system designed for radiators.

Mail the coupon for Bulletin 24

THE TRANE CO. (Est. 1885) 276 Cameron Ave., La Crosse, Wis.

Send Bulletin 24, "How to Select and Install Trane Concealed Heaters."

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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Let us mail you this book of prize home designs

This book contains the twelve prize winning designs in the West Coast Woods Architectural Competition. These designs were selected from several hundred submitted by over 200 architects.

You will find this book brimful of valuable suggestions for home building. Each design occupies two pages which give illustrated details of exterior and interior features, architects' sketches of the exterior elevations, floor plans and sufficient information to give you a pretty good idea of how to build one of these homes with the four woods of the Douglas Fir region . . .

Douglas Fir  -  West Coast Hemlock
Western Red Cedar  -  Sitka Spruce

Working drawings and specifications for these twelve prize winning homes can be obtained for $25.00 from the West Coast Lumber Bureau, who offered this very successful competition, sponsored and conducted by the Washington State Chapter of the American Institute of Architects.

Every contractor and builder will appreciate some time or the other having a copy of this book in his file for reference and ideas. We will be glad to send you a copy upon request. Address West Coast Lumber Bureau, Mt. Hood Building, Longview, Washington.
In All of the Living Rooms
New St. Clair Hotel Chicago

“At the first showing of these apartments unusually favorable comment was expressed by the women who came to see the exhibition apartment.”

(From letter of Oman & Lilienthal, Architects)

Sanitas is not only pleasing to look at, but extremely practical. It is the original, cleanable cloth wall covering. Available in styles, colors and finishes for every room.

Sanitas is the ideal wall covering for model homes. Can be hung as soon as plaster is dry—no waiting for walls to settle.

Sanitas is on the walls and ceilings of many homes, hotels and apartment houses, because of the recommendation of architects, builders and decorators who know from experience that Sanitas is an investment and not an expense.

Full line sample book showing 150 styles sent free to architects or builders who mention name of wholesaler.

Samples and literature gladly sent on request.

THE STANDARD TEXTILE PRODUCTS Co.
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Another Useful Book
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Send Your New or Renewal Subscription Now!

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.)

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FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
SPEED UP
YOUR HOUSE SALES!

HOME BUYERS are looking for good insulation; demanding it; buying houses that have it. Good insulation is spelled I-N-S-U-L-I-T-E.

It enables you to talk high insulation efficiency, also the great advantages of INSULITE as a sturdy structural material.

INSULITE does speed up house sales, according to the testimony of many builders. It serves as sheathing, plaster base, wall board; as heat-resisting lining for attics and garages; as roof insulation; in converting otherwise waste spaces into usable rooms.

Write for free samples and for a copy of new booklet—“Increasing Home Enjoyment”

THE INSULITE COMPANY
1203 Builders Exchange, Minneapolis, Minn.

Please send free samples of INSULITE and copy of “Increasing Home Enjoyment.”

Name
Address
City... State

Build Weather-Tight With Insulite

The Insulite Company
1203 Builders Exchange
Minneapolis, Minn.
Winthrop Shingles

Selected for Home DeLuxe

Like a roll call of nationally known high quality products is the list of materials used in The Tudor Terrace Home De Luxe, built to demonstrate the best in Twentieth Century home building.

The Tudor Terrace Home De Luxe stands on Shore Road in Northfield, New Jersey, within sight of Atlantic City’s famous skyline. The architect, Wm. F. B. Koelle of Philadelphia and Atlantic City, planned the house, selected each material and supervised the construction.

For the high pitched roof, an important architectural feature of this English type of stucco house, Mr. Koelle selected Winthrop Tapered Asphalt Shingles—the shingle of lasting beauty. The official booklet on The Home De Luxe says: This durable, beautiful and fireproof roof adds greatly to the attractiveness of the home.

There is beauty in the colors and in the shape of Winthrops—the only tapered asphalt shingles made. Every one of the score of colors—solid or blended—is a color of natural slate, crushed and embedded in the heavy coatings of everlasting asphalt. The thick butts, built up of extra coatings, lie flat and snug against the roof and against each other. They double the wearing thickness and cast attractive shadow lines.

For any house in any surroundings there is a non-fading color in Winthrops—the shingles that are proof against rotting, rusting, cracking, and splitting. They do not saw through their nails. They bear the Class C Label of Underwriters' Laboratories.

Samples—Free

We will gladly send you a sample of this exclusive shingle, although almost any good lumber dealer can show you Winthrops. We suggest the Greenfield Blend—a cool harmony of two blues and two greens that comes all ready to lay—a wonderful combination for stucco houses. Literature, too, showing other colors and various ways to lay Winthrops. Write today. Do you want the Greenfield samples along with the literature?

BECKMAN-DAWSON ROOFING COMPANY
1803 Brooks Bldg., 223 W. Jackson Boulevard, Chicago, Illinois
Factories at Chicago, Detroit and Lockport, N. Y.

Winthrop
Tapered Asphalt Shingles

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
"Oh Man, How a Foley-Filed Saw Does Cut!"

Hand filed saw—height of teeth vary—only the high ones cut.

Foley filed saw—teeth, bevels, pitches, precisely uniform—every tooth cuts.

You'll marvel at it—and what's more you'll make money by it. A Foley-filed saw "cuts with eagerness"—smooth, true to the line and FAST! Saws stay sharp longer, too. Your men do better work, and do it faster—and you'll have an extra volume of work for the same wages. That means a sure extra profit!

The machine-filing of saws is the biggest forward step in the contracting business for a long while. The Foley makes every tooth perfect—and every tooth cuts! It files all kinds of hand saws, also band and circular saws—in less than half hand-filing time. You can make big extra money filing saws for others with the Foley! Hundreds of carpenters and contractors clean up as high as $15 to $20 a week during spare time.

You can work up a permanent year around saw filing business of your own that will insure a steady income. We'll help you with a FREE Plan. Write for it and a complete, illustrated description of the Foley. Address—

FOLEY SAW TOOL CO., Inc., 129 Foley Bldg., 9 Main St., N.E., Minneapolis, Minn.
Fast in Action Because—

— first there's a roomy charging skip which takes the load without crowding, and which is correctly shaped for free flow of materials. Its elevating speed is so timed with the action of gravity on materials that there can be no wedging or choking!

And, the skip can be loaded from ground level without need for elevating platform!

— second — the high narrow drum in this size mixer not only insures fast, thorough mixing but keeps materials together in position for fast discharge.

This, and the quick discharge control means speed in getting concrete out of the drum, into the forms!

This Koehring Dandie is a Speedster but it is a long distance performer too — it's built to stand up to high speed, long service. Not the lowest priced mixer but the outstanding, remarkable value in the field.

Send for Dandie Catalog D-1

Dandie 5-S, 7-S, 10-S — 5-S single cylinder; 7-S and 10-S two or four cylinder radiator cooled Ricardo head gasoline engine. Rubber tires with disc wheels or steel rimmed wheels. Complies with A. G. C. standards.
More Store Front Jobs for You

The new chased design on our high quality Store Front Construction makes Kawneer Store Fronts easier to sell.

SEND THIS BOOK TO

THE KAWNEER COMPANY
2626 FRONT STREET
NILES, MICH.

Name: ____________________________________________
Address: _________________________________________

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
home buyers want MODERN door locks

SCHLAGE Button LOCKS

CAN you imagine a modern woman buying a house equipped with old-fashioned oil lamps, and spending her time cleaning dirty chimneys and trimming wicks? You know she would not buy such a house. You put in MODERN electric lights so all she has to do is press the button. Why not use the same good judgement in the matter of door locks?

Modern door locks, like modern lights, operate at the touch of a handy button. Never the aggravation or delay of searching for inside keys that are so easy to lose and so hard to find. Instant action always.

You know convenience and leisure mean so much to the modern woman. You know how she dotes on modern things, particularly these magical press-the-button devices. Give her what she wants, and cash in on it.

In addition to helping you speed up sales, SCHLAGE Locks save you money. Installed in 3/4 the time required by mortise locks. No complicated mortising, no adjusting, no screws in spindle, knobs, or escutcheons. Simply drill 2 holes, slip in lock, and set plates for latch and strike.

Over a million in use. 8 types. All U.S. standard finishes. Glass, metal, or opal knobs. All metal trims solid brass or solid bronze. Latchbolt reversible for right or left hand doors. Durability, precision, and perfect operation fully guaranteed. No building is completely modern without SCHLAGE Button Locks. Over 2,000 dealers in U.S. Made by SCHLAGE LOCK CO., San Francisco, California. Branches in principal cities.

MAIL THIS COUPON NOW—
to SCHLAGE LOCK CO., SAN FRANCISCO, CALIF, for prices and complete information on SCHLAGE Locks for

The MODERN Lock for MODERN Buildings

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The advent of the Black & Decker Electric Hammer marks one of the greatest advancements in the history of labor-saving tools. This remarkable Electric Hammer accomplishes in a few minutes what, in the past, has required hours of the most laborious work with hand tools. Striking hard blows at the rate of 2300 per minute, it will drill through concrete, brick or whatever the material may be, at an amazing speed. It will also chip steel, drive bushing tools and all types of special form tools. Just plug it in an electric light socket and pull the trigger.

Write for illustrated bulletin
All the women in Flickerwood—but one!

After a tremendous Sunday dinner of roast beef, ice cream and chocolate sauce, George and Clara Wallop took Cousin Malcolm and Cousin Nettie for a little air.

"Now there's a handsome house," George pointed. "Mrs. Willis lives there, nice woman and well built—the house, that is. I tell you, Malcolm, these houses are as fine as money can buy; copper gutters, tiled bathrooms, brass pipe—"

"Brass pipe, eh?" said Cousin Malcolm.

"You bet we do. Water's good and all that but it rusts the dickens out of cheap pipes. Fills 'em up with rust, so if the cook runs the hot water you can't get a drop upstairs. I know."

"Well," observed Cousin Malcolm. "We use brass in my town—used that Alpha Brass Pipe. Ever hear of it?"

"Yes," said Cousin Malcolm. "You know it's got more copper in it than other pipes and my plumber told me he liked to use it because it was easier to thread and it was guaranteed by the manufacturer."

Guaranteed? That so? Well, that sorts makes you feel safe, doesn't it? Don't have any trouble getting it out West where you live, do you?"

"Oh no, not a bit. I said to my plumber, 'Now Fred,' I said, 'don't get that Alpha Brass Pipe if it's some special thing that takes months to get.' And he said, 'don't you worry about that, Mr. Donaldson, I can get Alpha Brass Pipe easy. Most jobbers keep it in stock.'"

"Alpha. I'll have to remember that name," said George Wallop. "We'll have to replace our rusty pipe sometime and this Alpha thing sounds pretty good. You know most everybody here in Flickerwood has brass pipe. The women say that rusty water ruins their washing, and they make their husbands put in brass."

All but one. If you look carefully at the picture above you will see that Lily has stopped for a moment to bare some bad news from Mrs. Bronson.

"Straight down through my living room ceiling," wailed Mrs. Bronson. "It's just pouring down, and flooding everything. We've telephoned the plumber, but everything is ruined. Oh, why did we put in cheap pipe—why didn't we use brass pipe? It only would have cost us about $100 more than the cheapest iron or steel pipe."

How about yourself? How's the water pressure in your house? How about red water flaked with rust? Why not ask your plumber to give you an estimate on replacing your worn-out water pipes. Or, replace little by little, the worst one first....And remember Alpha Brass Pipe, it really is different!

---

Alpha Brass Pipe, made from a special kind of Chase Brass

CHASE BRASS & COPPER CO., Incorporated, Waterbury, Conn.

Copyright '28 C. B. & C. Co., Inc.

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Another full page in the Saturday Evening Post, telling its eight million readers that Alpha Brass Pipe can be obtained all over the United States. This advertisement is the fifteenth of a series appearing in that publication. It will also appear in Time. Another series, which includes full color pages, is running in House & Garden and House Beautiful. Now, we are adding Good Housekeeping with a circulation of approximately one and a half million, to our list of general magazines. The first Good Housekeeping advertisement, a full page in color, will appear in the May issue.

Since we began to advertise Alpha Brass Pipe three years ago, the sales have tripled, and since we started national advertising the sales have gone up even faster than we expected. These campaigns are producing results.

 Plumbers and jobbers are invited to write for information regarding sales helps, direct mail pieces, installation signs, etc., which will be furnished imprinted with the dealer's name.
When Competition Threatens between your house and the other builder's—

This *flexible* Balsam-Wool insulation keeps your cost down and makes the sale

It makes the sale because when you insulate with Balsam-Wool you can look your customer straight in the eye and answer every question without evasion.

Balsam-Wool costs you so little that it scarcely affects the price of the house at all.

You know you have done the scientific job of building and insulating. Sound frame, standard building practice. All the features and accessories, too, that women are demanding.

You put this flexible Balsam-Wool in walls and roof. You tuck pieces of this flexible insulation in around window frames and door jambs. A perfect insulating job.

And now with the walls and roof made heat-tight you can put in a smaller heating plant —cut down the radiation.

You save nearly enough to pay for the Balsam-Wool.

Just tell this story—and you'll sell your houses right along, even when the other contractors have almost forgotten what a prospect looks like.

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

WOOD CONVERSION COMPANY, Cloquet, Minnesota

Makers of both flexible and rigid insulations

Sales Offices: MINNEAPOLIS, Baker Building • CHICAGO, 360 North Michigan Avenue • NEW YORK, 101 Park Avenue

DETROIT, 503 Stephenson Building • KANSAS CITY, 3525 Broadway
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 net 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!

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
"10-spoke" wheel with a smooth tread gives greater strength, rigidity and service

No part of a barrow receives as hard abuse as does the wheel — bumped over rocks, jammed against walls, charged hoppers — sharp twists and turns with a full load. To withstand this severe usage Sterling found that the ordinary barrow wheel was not strong enough. In the Sterling wheel you will find a specially engineered idea. The wheel has "10 spokes" instead of the usual 8. The spokes are riveted and shouldered to the tire and cast to a wrought steel hub. The wheel is equipped with self-lubricating bearings, no oil service ever needed. The wheel and bearings revolve on a round, cold rolled steel axle, not an ordinary bolt, which is keyed in a stationary position, by means of split pins, to malleable iron brackets — can't bind.

Compare this construction and you will quickly see why more contractors use Sterlings than any others. Try them on your next job.

Buy by Sterling name — leading hardware and equipment dealers have them or they can get them quickly from our complete stock warehouses at Chicago, New York, Philadelphia, Pittsburgh, Cleveland, Detroit, St. Louis.
This well-seasoned wood can be used to splendid advantage in the main stairway, including the railings and balustrades. Pondosa takes paint beautifully.

Outside, too? Indeed, yes. Doors especially, made of Pondosa Pine, hang snug and tight—and stay that way against all weather.

Why should I use Pondosa Pine?

Because it protects my reputation

Your legal responsibility for your work ends when the owner signs a release. But your reputation is at stake for years to come.

You can safely trust your good name to anything you build with Pondosa Pine. Order your doors and sash made from this good wood. They will stay snug and true; no warping or shrinking. Locks will click home long after you are forgotten. Base-boards, and all interior trim will stay flat against the walls; mortises and joints will stay tight. Paint will not get ridged from raised grain. Outside trim will resist the rigors of cold, heat and storm.

All good lumber dealers handle and recommend Pondosa—"The Pick o' the Pines." It is now trademarked for your protection. If your dealer cannot supply you, write for the name of one nearby who does. Address Dept. 85, Western Pine Manufacturers' Association, Portland, Oregon.

Pondosa Pine
The Pick o' the Pines

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

**Morton Exclusive Features of Construction**
- Rounded sanitary corners
- Special friction catch, sturdy hinges
- Crystal glass knob
- Made of steel throughout, beautifully white enameled.

Send the Coupon for a New Morton Catalog.

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

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Architect ___________ Builder ______
Contractor ___________ Realtor ______
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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Secure the Advantages
of Sheet Steel for your Spanish Mission Tile Roof

Pressed into Spanish Mission tiles, Sheet Steel provides strength with light weight—an important consideration from the standpoint of construction cost. It presents the same beauty as clay mission tiles. It is safe from fire or lightning damage and from breakage. No cracking or spalling. It is economical to buy and to maintain. Further, it permits of a change of colors when desirable, by the mere expedient of painting.

For particulars relative to steel Spanish Mission Tile or any other roofing form, write the Sheet Steel Trade Extension Committee, Oliver Bldg., Pittsburgh, Penna.
Where the Next Democratic Presidential Candidate Will be Nominated—

At Houston, Texas, the home of this year's Democratic National Convention, three DeWalt Wonder Workers are working hard to get the tremendous hall done on time. In this type of construction there is necessarily an enormous amount of wood to be cut—ripping, cross-cutting, beveling, mitering and what not. That these DeWalts are doing a first-class job is evidenced by extracts from letters written by—

**UNIVERSAL CONSTRUCTION CO.,**
Houston, Texas.

"We are using one of your Model D DeWalt Machines on our Democratic National Convention Hall job and it is proving entirely satisfactory in every way. As we have over five hundred thousand feet B. M. of lumber in this job, and the greater portion being 2 inch and over, we feel that the saw will more than pay for itself on this job."

"These are merely typical examples of how DeWalts are cutting costs for builders and contractors—both large and small—in all parts of the country. Ask for further particulars and for a demonstration on your job."

**LAMELLA TRUSSLESS ROOF CO.,**
Houston, Texas.

"Last year we purchased from you one of your DeWalt Wood Worker saws and used it on several of our jobs. This year when we were awarded contract for constructing our Lamella roof construction for the Democratic National Convention Hall, this city, we purchased another one of your saws and wish to say that both of these machines have given us the very best of satisfaction."

"We consider that these machines paid for themselves in the saving of labor costs on the first large jobs where they were used."

**DEWALT Wonder Worker**

The Economy Wood Worker

DeWalt Products Co.,
665 New Holland Ave., Leola, Pa.

I'd like to know how the DeWalt will save time and money on our job.

Your Name.

Firm Name.

Address.
Special Contractor's Edition
OF OUR
BIG PLAN BOOK
WITH EMBOSSED
LEATHERETTE COVER

is now offered the building trade at a reduced price.

The 200 homes shown in this book with floor plans and complete descriptions, have actually been built and therefore tested for economy, convenience and good design.

This book is a special deluxe edition in a stiff board leatherette binding. It contains besides the 200 plans, many practical articles on materials and planning the home, making up a splendid book of 278 pages.

This edition may now be obtained with Keith's Beautiful Homes monthly magazine for the special price of $2.00 postpaid.

Beautiful Homes magazine is the same page size as American Builder. In the year it publishes over 100 plans of Beautiful Homes of moderate cost and just the type and style you will find most persons will want to build.

This liberal offer brings you twelve numbers of this well known magazine and a copy of the big plan book, a total of 300 plans, all postpaid, for $2.00.

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KEITH'S BEAUTIFUL HOMES MAGAZINE
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Gentlemen:—

Send me a copy of Keith's leatherette bound edition of Beautiful Homes Plan Book and Keith's Beautiful Homes Magazine for one year for which $2.00 is enclosed.

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Address

City State

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ARTISTIC—enough for the finest dwelling

RUGGED—enough for the busiest garage!

ARTISTIC—Yes! The “Overhead Door” embodies all the desirable features that give the “finishing touch” to homes of quality and beauty. A handsome accessory that will blend with any style of architecture and reflect the quality of its performance.

Rugged—Certainly! “Overhead Doors” are built to weather the hardest wear and give dependable service under the most abusive usage. The busiest garage will benefit the most from the “Overhead Door” because of the nature of its operation—just one door that pushes UP and out of the way.

OVERHEAD DOOR CORPORATION

5-1003 W. KICKAPOO ST.

HARTFORD CITY, INDIANA

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Write for a free sample of this thermostatic wood

MORE business and better business for the contractors and builders of America!

That's what Masonite, the Thermostatic Wood is bringing—month after month. Homes insulated and plaster-based with Masonite are easier to sell. And there's a bigger net profit in building them.

Remember, too, that millions of home owners, and prospective home owners, are seeing the big Masonite advertising campaign in leading newspapers and magazines.

And also note that we are ready to supply you with free job signs and direct mail campaigns.

Don't wait any longer to get your share of Masonite prosperity. Write for sample and book of Specifications and Details.

MAISON FIBRE COMPANY
Dept. 138, 111 W. Washington St., Chicago, Ill.
Mills: Laurel, Mississippi

Masonite
STRUCTURAL INSULATION
Made by the makers of MASONITE PRESSEDWOOD
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What you Get from Leach

1. Greater Capacity - large white throated drum, no corners for concrete to "lodge."
2. Longer Life - all-steel construction, Alemite lubrication.
3. Portability - mounted on rubber tired wheels, has disappearing type of towing tongue.
4. Power - equipped with engines which deliver dependable and ample power.
5. Low Price - this is the lowest priced mixer of its size and type on the market. Send back coupon for further details.

LEACH COMPANY, Oshkosh, Wis.

LEACH COMPANY, Dept. 3, Oshkosh, Wis.
Gentlemen: Kindly send me, without obligation, details and prices of your tilting mixer.

Name

Address

City

LEACH MIXERS
Nothing Else Like It

ADD THE ELECTRIFIED Napanee Dutch Kitchenet with Dinet exclusive, patented} to the kitchen, and instantly it increases the sales and rental value of the home or apartment as no other kitchen appliances on the cabinet where they belong. Extra table space sliding in and out as needed} for preparing meals. Ideal, too, for breakfasts or lunch. The most advanced idea in kitchen cabinets in years. Write for the Napanee catalog.

Mail This Coupon

COPPES BROS. & ZOOK

Napanee, Ind.

Gentlemen: Please send me further information regarding sizes, prices, and arrangements for Napanee Dutch Kitchenets. I am.

[Signature]

Name

Address

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State

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Use of Queen Rafter. To Support a Gambrel Roof. Construction of Circular Porch. CONSTRUCTION OF STAIRS
Foundations. Girders. Ceiling Windows. TEMPERATURE REGULATION
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Concrete Railroad Ties, Electric Light Standards, Concrete Garages, Concrete Sinks, Mausoleums, Burial Vaults, Useful Tables, Useful Rules, Manufacture of Concrete, Proportion for Mixing, Hand Mixing, Machine Mixing, Continuous Mixing, Batch Mixing, Wetness of Mixture, Mixing Tools, Time of Setting, How to Regulate Setting, Difference Between Setting and Hardening, Cost of Concrete, Strength, Durability, Fireproofing, Plain Concrete Construction, Collapsible Metal Forms, Construction of Forms, Wood Forms, Metal Forms, Concrete Houses, Monolithic Construction, Concrete Block Houses, Masonry Work, and Stucco, Foundations.

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If we receive your order at once, we will send with this Cyclopedia on 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.

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Please send me, express prepaid, your 12-volume Cyclopedia of Construction, for five days' free examination, with privilege of return at your expense. I enclose $1.00 deposit which you agree to return if I decide not to keep the books after examination. If I keep the books, I will pay $3.00 a month until the special price, $37.50, is paid, otherwise I will notify you within five days after receipt of books.

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West of Rocky Mountains and Canada, $3.00 with this order.

Full amount must accompany all Foreign orders.

A.B. 5-28
Buy A Master Now

Why not order a Master Woodworker now? There never has been a better time and never will be.

Here we are right at the opening of a building season that promises to be one of the best in years. Order now and we will ship immediately so it will be ready for work on the first job you start.

Probably you know a good deal about this wonderful machine, either from reading our advertising—or from hearing others talk about it.

Probably you know that it does the work of 5 high priced expert workmen and usually saves its cost on the first construction job put on.

Possibly you have often said to yourself: “Some day I’ll own a Master.”

We want to urge you to seriously consider this question for a few moments and decide whether or not now isn’t the very best time for you to buy this machine which has done so much towards cutting costs and increasing profits for thousands of builders and contractors all over the country.

You will need a Master this coming season, for price competition promises to be keener than ever before. And hundreds of builders have told us that the Master gives them so much advantage over competitors that it is a real help in getting desirable contracts.

Now is the best time of the year to buy, because you won’t have to make any outlay of money that will lie idle. Just a little down payment and the machine itself will immediately begin to save you enough to more than make up for this down payment and the small monthly payments required.

Do not delay—Fill in the coupon and get the Master Woodworker circular showing specifications of each model. There is a machine for your job.

Master Woodworker Mfg. Co.

Established 1917

Detroit, Mich.

Send me your new catalogue and convenient payment plan.

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"Gentlemen:

"Perhaps no single item is more important in the marketing of our homes than the quality face brick which we use now and have used for thirty years past. We supply our building mechanics with absolutely first quality face brick which are laid by thorough workmen. The result is a very pleasing and substantial picture to the man familiar with good construction and to the average prospective purchaser as well.

"Buildings constructed of face brick have many advantages, both to the builder who sells on long time payments and to the buyer. Chief among these advantages is the feature of long life with a high grade appearance continuing through the years, low insurance rates and ease in financing and securing first mortgages because the large lenders of money for building construction appreciate both beauty and permanency.

"The above enumerated advantages have resulted in the very ready sale of all of our buildings and have produced our record of twenty years of quantity building operations with no house unsold at date of completion."

Yours truly, (Signed) MILLS & SONS.

A Series of Useful Booklets for Builders and Contractors

"The Story of Brick" shows modern homes and discusses comparative costs. Sent free.

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

FACE BRICK—requires no paint or whitewash

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Additional business and extra profits for YOU!

Start a roofing department—and get it under way right now!

All through the spring and summer months roofing and re-roofing will go on all around you—and by starting a roofing department with Genasco Latite Shingles you can readily get a worth-while share of this work—in addition to your present business.

Every home-owner who is going to re-roof, and new construction which is contemplated, offers the opportunity for you to get the job of laying Genasco Latite Shingles. The weather-resistant and fire-retardant qualities of Genasco Latite Shingles recommend them for new buildings, and their distinctive patented “key” also makes them particularly adapted for laying over old worn-out roofs without ripping off the old shingles.

Genasco Latite Shingles are made of tough, long-fibred, asphalt-saturated rag felt, coated on both sides with Trinidad Native-Lake Asphalt Cement. The undercoating is the famous “Sealbac” feature—exclusive with Genasco—which protects the body of the shingle against condensation from beneath and assists in the closer adhesion of the shingles. Genasco Latite Shingles make durable, attractive roofs for homes, barns, garages, stables—all kinds of buildings—and are furnished in four beautiful non-fading colors—red, green, blue-black, and Mix-Tone.

We help to stir up business for you through our national magazine advertising—full pages in color reaching the millions of readers of such publications as Better Homes and Gardens, American, and Collier's—and all inquiries are referred to our dealers.

Get your roofing department started now. Let us tell you how to roof and re-roof with Genasco Latite Shingles. Make the extra profits that can easily be yours. Use the coupon—mail it today!

The Barber Asphalt Company
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The cement and plaster used in the construction of the Piccadilly Apartment house, Indianapolis, were bought in Bates Multi-Wall Paper Bags by the contractors, Ralph Sollitt & Sons.

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Every sheet plainly marked USG Sheetrock

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

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YOURS!?
Manufacturing Independence
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Start Small
As Lind Did

Five years ago the Lind brothers of Altoona, Pa., started manufacturing Duntile on an investment of $1,750. Recently they paid off over $100,000 for their plant. With one company alone, the Independent Oil Co., they have already done business of more than $90,000.

Would you interested in a proposition requiring only limited capital by means of which men have lifted themselves into the $100,000 class in just a few years? Especially when you have such friends to guide you as Lind of Altoona, Frauenfelder of St. Louis, Strandberg and Swanson of Kansas City, Lyons of Norwalk, Conn., and many others among the more than 400 Duntile manufacturers in the country today.

There is probably more data available and more scientific background for the guidance of the Duntile manufacturer than in any other manufacturing enterprise open to the public today. A Duntile plant is a tried and proven proposition. The machinery is exclusive. Production methods are worked out on lines of tested soundness. Marketing the product is based on success, not theory.

This thoroughly tested method of operating plus the basic excellence of Duntile as a building unit make Duntile manufacturing a business entirely without comparison. A business in which average men from all walks of life can and do make successes that seem amazing.

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Show me through your book "Basic Facts" how I can win manufacturing independence by supplying Duntile in my community the same as Lind did in Altoona, Pa. Show me how I can manufacture DUNTILE in a plant of my own at a profit of 30 to 50 percent. Show me how I can build permanent masonry walls at cost of frame, and make more money for myself.

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WITH LUPTON STEEL WINDOWS

JUST THINK how much beauty and style these outswinging Lupton Steel Casement Windows will add to your apartment building!

People find these modern windows are pleasant to live with because they are not only more convenient to operate, more weather-tight, and easier to keep clean, but they give a distinctive charm to every room. And they also add a note of modern style to your building, thereby making it more attractive to buyers and tenants.

Leading investment builders in every residence community are installing Lupton Windows of copper-steel as an up-to-the-minute sales feature. Inform yourself now on the low cost, economical installation and high investment value of Lupton Casements and Basement Windows. Write for a free copy of our illustrated Catalog C-217 which gives you the practical details.

Here is a well-known architect’s home completely equipped with Lupton Steel Windows, which lined at . . . . . . . . . . . $569

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known for beauty and service

HOMe seekers know the years of service a Genuine Ruberoid Shingle Roof will give. Their fire-resisting qualities have a universal appeal. Home builders know that attractive styles and colors frequently clinch the sale.

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Please send samples and literature of the following Genuine Ruberoid Products:

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ADD MODERN STYLE AND VALUE TO YOUR PROPERTY WITH LUPTON STEEL WINDOWS

Just think how much beauty and style these outswinging Lupton Steel Casement Windows will add to your apartment building!

People find these modern windows are pleasant to live with because they are not only more convenient to operate, more weather-tight, and easier to keep clean, but they give a distinctive charm to every room. And they also add a note of modern style to your building, thereby making it more attractive to buyers and tenants.

Leading investment builders in every residence community are installing Lupton Windows of copper-steel as an up-to-the-minute sales feature. Inform yourself now on the low cost, economical installation and high investment value of Lupton Casements and Basement Windows. Write for a free copy of our illustrated Catalog C-217 which gives you the practical details.

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In your community many of these families will build, remodel or re-roof. Safeguard their investment and your reputation for quality products. Recommend Genuine Ruberoid Shingles or Roofings.
"THEY ARE VERY GOOD LOOKING"

Ambler Asbestos Shingles

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

First of all, Tapered Ambler Asbestos Shingles have the taper of the old wooden shingles. They come in random widths 6 in. to 14 in., \( \frac{3}{8} \) in. thick at the top and \( \frac{1}{2} \) in. at butt and 20 inches long. They are strong, rigid shingles, not paper or rag felt, never curl or warp, not affected by the blasts of winter, the heavy rains of spring and the blazing heat of summer, year in and year out, for they are made of Asbestos and Hydraulic Cement—Nature's imperishable materials.

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

FIREPROOF

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

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

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

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"'ASBESTOS CANNOT BURN'"

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Send plan or pencil sketch of your building and our trained Engineers will design a Hot Water, Steam, Vapor, Warm Air or Plumbing Outfit to exactly meet your requirements. This service is FREE.

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We are familiar with all local ordinances everywhere and from your sketch or plan, with our Cut-to-Fit New Easy Method, we will build your system to conform with your local sanitary laws. Our products from the smallest fitting to a complete outfit have durability, beauty and ease of installation built in through and through.

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VISIT OUR Million Dollar Plant When in Chicago, we will show you through our Big Modern Plant whether you want to buy anything or not. We want you to know us.

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Helps Sell — Helps Rent

Build the Kernerator in Every Home and Apartment

HOMES sell faster and rent faster, when Kernerator-equipped. Here are just a few instances that show what real estate agents think of this feature. Many realtors now make the Kernerator compulsory in entire subdivisions, knowing its effect in keeping the property modern and saleable.

When your prospect is hanging in the balance, think of leading her to the Kernerator's handy hopper door in or near the kitchen! Think of being able to offer:

First—Banishment of the basement rubbish pile—accountable for three out of every four fires in residences and apartments.

Second—Doing away with the unsightly garbage can, the filthy job of cleaning it and the expense of buying and replacing it.

Third—Saving her miles of steps in tripsto these nuisances, in every kind of weather.

Fourth—Without expense other than an occasional match, instant disposal of all waste—not only garbage, but sweepings, old magazines, broken crockery and tin cans. Non-combustibles are flame-sterilized for removal with the ashes.

Write for complete information and prices or phone your local Kernerator representative. Offices in 89 cities. Data carried in Sweet’s 22nd Edition.

KERNER INCINERATOR COMPANY, 753 East Water St., Milwaukee, Wis.
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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:

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Name.

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Please check your occupation.

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

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
First Prize to this Fenestra Casement Home

This charming California home, equipped with Fenestra Casement Windows, was awarded first prize in House Beautiful Magazine's recent Small Home Competition.

Some of the major factors which led to the unanimous preference of the judges were: simplicity, household convenience, and harmony between house and site. That Fenestra Casements contributed to these and other advantages is shown by:

What the Builder says: "I have used your Fenestra Casements in the First Prize house and like them very much. They are simple and easy to set and adjust, and do not get out of order."

H. C. Kidder, Berkeley, Calif.

What the Architect says: "Fenestra Casements were selected because they economize wall space, because of their convenience, and because they cost practically no more than wood windows. The units are flexible, enabling the architect to fill openings of different sizes, yet preserving the scale."

Gwynn Officer, Berkeley, Calif.

What the Owner says: "Beauty, ease of operation and cleaning, the provision of plenty of sunlight and fresh air, and low cost, are some of the things I like about my Fenestra Casement Windows."

(Owner's name upon request)

Besides these advantages, Fenestra Casements will promote sales for you. Try them on the next house or apartment you build.

Detroit Steel Products Co.
2304 East Grand Boulevard, Detroit, Mich.
Factories: Detroit, Mich., and Oakland, Calif.
Convenient Warehouse Stocks

For advertisers' index see next to last page
American Forest Week and the Lumber Industry

FOREST WEEK—April 22 to 28—is the big week of the year for the lumber industry.

The perpetuation of the industry is dependent upon the perpetuation of our forests. We are using annually 37,000,000,000 board feet of the product from our sawmills, of innumerable kinds, shapes and sizes. There is nothing we do, and nothing we make, but lumber of some kind and in some way plays its part. The use of lumber is so inextricably interwoven into our whole social and economic structure that we cannot do without it.

Thirty-seven billion board feet is the annual growth, under sustained yield forest management, of over 300,000,000 acres. At least that large an area must be kept constantly growing successive crops of timber, with careful fire protection and the best silvicultural treatment, to keep our lumber industry producing on its present scale, and to keep the country supplied with its needed lumber.

Naturally, therefore, the lumber industry is keenly interested in American Forest Week and its well planned effort to make the people of the country “forest conscious,” realizing the economic necessity for forest perpetuation, and supporting all measures to facilitate the industrial growing of timber.

After three hundred years of lumbering, and of forest removal to make way for agriculture, we still have 130,000,000 acres of virgin forest left. This is enough at our present rate of consumption to supply our needs for perhaps two generations longer. But the lumber industry is looking beyond that period, to the time when it must depend for its raw material entirely upon man-grown forests. Already a number of its leaders have started on the task of growing new crops of timber on their cut-over lands. Their experimental laboratory comprises over 12,000,000 acres of forest land, where they are trying out all conceivable ways of making more and better trees grow faster.

Of our 470,000,000 acres of forest land, two-thirds will undoubtedly always be privately owned. To keep our forests always productive is therefore mainly a task for private enterprise, a problem of industrial forestry. Its importance to our general economic welfare is such that in the years to come it may well be ranked amongst our great public utilities.

Private enterprise of this sort, to be successful, must have the sympathetic support of the public, not only morally, but also in the concrete form of adequate fire and police protection, and of equitable taxation. American Forest Week in arousing public opinion to the hearty support of remedial legislation along these lines, will accomplish much in ensuring the success of industrial forestry.

There are those who believe that the way to save our forests is to stop using them. They would have us give up almost entirely the use of lumber in home building and do a hundred and one other things less efficiently and more uncomfortably than we do them now with wood. Yet, if we cease to use wood it will cease to be valuable, the forests which produce it will become worthless and it will no longer pay to take care of them.

The perpetuation of the forests, therefore, is dependent upon the perpetuation of the forest industries.
Looks Like a $25,000 House

but it will surprise you how much less it can be built for!

When you build with common brick you can offer most unusual value! What appears to be a house of twice its cost is really only half that.

The very fact that people think brick is more expensive is proof of its superior appearance. The mellowness that rests upon brick walls, the soft tints, the interesting architectural effects of skintling, all combine to give to the common brick house a charm and beauty that looks expensive. To have this type of house for almost half of what they think it costs is news that makes sales come easy.

Whether you are building on order or speculation, bear this in mind. The first cost difference of common brick, and frame, is seldom more than the cost of one or two paintings. But how quickly that small difference is wiped out. Lower insurance, saving on painting and repairs, and slower depreciation make a brick house cost less than frame in a very few years and worth far more!

There have been certain modern advances in brick construction which offer more simple and economical forms of hollow wall construction. In erecting these new types, the mason need employ no new principle.

There are several practical books offered by the Association of untold value to builders. One on skintled brickwork covering the new methods of obtaining interesting surface effects, will prove extremely helpful. A 72-page book illustrating 120 different small brick houses actually built, with accompanying floor plans is offered at cost.

Check the coupon now and mail it today. A dollar bill brings them all, or you can order separately. The services of the Association are available to all builders and dealers. Address nearest office.

Send coupon below—send cash or stamps to nearest office—

1."Homes of Lasting Charm"—25c
2."Skintled Brickwork"—15c
3."Multiple Dwellings of Brick"—10c
4."Farm Homes of Brick"—5c
5."Brick, How to Build and Estimate"—25c
6."The Heart of the Home (Fireplaces)"—25c

Check above books wanted or send $1.00 for all of these books.
Construction Volume Holds Up

CONSTRUCTION contracts to the amount of $592,567,000 were awarded in March in 37 states east of the Rocky Mountains, according to F. W. Dodge Corporation. This figure covers about 91 per cent of the total construction of the country. Last month's total was the highest monthly contract total on record for these 37 states since June, 1927. There was an increase of 27 per cent over the total for February of this year, but there was a drop of 1 per cent from the March, 1927, total.

Last month's record brought the total amount of new construction started since the first of this year in these states up to $1,485,067,000, being an increase of 6 per cent over the amount started in the first quarter of last year. In addition to being ahead of last year's first quarter record, it was the highest first quarter ever recorded for these 37 states.

Analysis of the March contract total showed the following important classes of work: $275,191,600, or 46 per cent of all construction, for residential buildings; $110,338,200, or 19 per cent, for public works and utilities; $73,075,300, or 12 per cent, for commercial buildings; and $33,881,000, or 6 per cent for educational projects.

Building Codes Need Revision

ANTQUATED building codes are making construction costs in many large cities unnecessarily high, Arthur R. Lord, president of Lord & Holinger, civil and architectural engineers, declared before a meeting of the Western Society of Engineers at Chicago. Lower rents, reduction in merchandise prices, and safer, more attractive buildings will result when municipal building codes are revised to recognize modern advances in construction science, he said.

Mr. Lord is a member of the new Chicago Code Committee, which is making a revision of the Chicago building code. Similar committees in New York and Philadelphia are working on the same code material and there is a prospect that uniform municipal building regulations may be adopted by all large cities. Many large cities are laboring under the same difficulties as Chicago because their building codes have not been revised for years and consequently prevent recognition of important classes of work: $275,191,600, or 46 per cent of all construction, for residential buildings; $110,338,200, or 19 per cent, for public works and utilities; $73,075,300, or 12 per cent, for commercial buildings; and $33,881,000, or 6 per cent for educational projects.

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Building code revision now being considered by the Chicago, New York and Philadelphia committees would recognize all tested discoveries and advancement made in building knowledge and would provide greater uniformity in the various cities. It is believed that adoption of the new code in the three cities will lead to its adoption in most of the large cities of the country.

Why Mail Is Lost

The moving season is again with us. More than 600,000 changes of address were filed with the Chicago Post Office during the past year, according to Postmaster Arthur C. Lueder, but there were many thousands who moved and did not notify the post office, with the result that many pieces of first-class mail and parcel post remained undelivered and great quantities of circular matter and newspapers were returned or destroyed.

If you move, notify the post office, giving the old and new addresses. Blanks for this purpose may be obtained from the carrier, or an ordinary post card may be used.

Subscribers to this magazine should immediately notify the publisher of a change of address, so that you may continue to receive your magazine without interruption.
A Simple Test to Determine When to Use High-Early-Strength Universal Concrete

Does the owner want early use of the improvement?
Is extra-strong concrete desired?
Would early stripping and more frequent re-use of forms effect a substantial saving?
If so, use High-Early-Strength Universal Concrete.

This concrete may be made as workable as desired and used on all types of jobs. It not only is as strong at 3 days as ordinary concrete is at 28 days but is twice as strong at 28 days as ordinary concrete and better and stronger forever after (see diagram).

High-Early-Strength Universal Concrete is made by approved methods with usual materials, usual equipment, usual labor and usual Universal cement. For full details send in the accompanying coupon.

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

Periodic rises of the Vermillion River made it necessary to increase the height of the bridge of the Streator, Ill., Drain Tile Co. Both early use of the improvement and permanently stronger concrete resulted from use of High-Early-Strength Universal Concrete.

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

Without obligation, please send me detailed information on methods of securing strong concrete in 3 days with the usual materials and equipment.

Name
Address

AB 5-28
Capitalizing the Future

By FLOYD W. PARSONS

It would be a great pity to find the growth of business halted and good times jeopardized by creating an inflation of values that would place enormous wealth in the hands of a few and bring losses and distress to a multitude of people. Already there are evidences that certain groups of financial and industrial leaders have become so intoxicated by the new power placed in their possession through the ownership of stupendous wealth that the warnings of conservative business are completely ignored.

That the people of the United States may look forward to a wonderful future perhaps even exceeding the expectations of the optimists themselves is quite probable. But the problems that lie ahead are not so simple that they can be entirely disregarded. It is far easier to put the price of a stock up fifty or a hundred dollars a share than it is later on to produce earnings that will justify the price.

Not all dreams will be realized. In many places there will be disappointments. We gain absolutely nothing by trying to close our eyes to the realities of life and business. Excesses always bring days of reckoning.

This is not set forth in any spirit of pessimism. The whole history of America has shown that it pays to be a bull on the United States. Even Carnegie, smart as he was, could not foresee the rapidity of our country's growth. When the U. S. Steel Corporation was organized he said that the preferred stock was water and the common, air. He actually believed he would get his mills back event...
Modernizing Bureau Organized

Entire Building Industry Gets Back of Movement to Make Old Homes New—Building Contractors to Play Important Part

W HAT leaders in the building industry described as the greatest concerted movement ever undertaken by the construction interests in the United States was formally launched in Chicago on April 11, when 131 executives of 44 associations, corporations and other factors in the building field established a new organization named the Home Modernizing Bureau of the National Building Industries.

Necessary funds to get the organization under way were secured. The meeting voted to incorporate a non-profit organization, elected officers, engaged a secretary and empowered a committee to open headquarters and to begin work on the job of modernizing the more than 20 million existing homes in the United States.

While the immediate objective is the stimulation for this tremendous volume of remodeling work, speakers expressed the opinion that the following results also would be accomplished:

1. Stimulation of new building.
2. Stimulation of home-ownership.
3. Modernization of all other types of structures besides homes.
4. Persuasion of public bodies to undertake necessary public works programs.
5. Preservation of property-values in many communities.
7. Relief of the unemployment situation in the building trades and contribution to general prosperity.
8. Improvement of social conditions.
9. Provision of a basis for future united action on the part of all factors in the building situation looking toward their common interests and prosperity.

Walter J. Kohler, Kohler, Wis., representing the Plumbing and Heating Industries Bureau, who was chairman of the acting executive committee which set the call for the meeting, was elected president and chairman of the executive committee. Other officers were chosen as follows:

First Vice-President, A. Trieschmann, Chicago, National Lumber Manufacturers' Association.
Second Vice-President, Oscar W. Rosenthal, Chicago, National Association of Building Trades Employers and Associated General Contractors of America.
Third Vice-President, Otto T. Salick, Milwaukee, Wis., President of the U. S. League of Building and Loan Associations.

Members of the executive committee (besides the officers): C. E. Stedman, Chicago, Vice-President Celotex Company, representing insulation; Willard E. Maston, Chicago, Save-the-Surface Committee of the paint and varnish industries; Wilbur Fisk, Logan, Ohio, President American Face Brick Association; Frank A. Hofheins, North Tonawanda, N. Y., President Weatherbest Stained Shingle Co., representing stained wood shingles; Harry S. Knox, Chicago, President Wholesale Sash and Door Association.

George E. Piper, of Chicago, who is well known to American Builder readers as the author of the Dixon, III., remodeling campaign story, was named secretary by the executive committee at its organization meeting.

Messrs. Stedman, Rosenthal and Maston were appointed a committee to supervise opening offices in the Builders Building, Chicago, and starting actual operations.

Other executive committee members are to be elected, following confirmation of the personnel of the board of governors representing various branches of the industry. The board of governors, as constituted at present, is listed at the conclusion of this article.

Commendation from two national cabinet officers contributed an atmosphere of national significance to the meeting. Mr. Kohler read excerpts from a letter from Secretary of Commerce Hoover, endorsing the principles of the movement and stating:

"If there is any helpful information which our division of building and housing, or any other branch of this Department, can furnish at any time, I hope you will feel free to call upon us."

Secretary of Labor Davis wrote:

"A co-operative campaign for remodeling old homes impresses me as being a good move on the part of the building and building materials industries, and also a move which would have many advantages for the people. For the most part these old homes were better constructed originally than many of the new ones, and if their value could be preserved by remodeling and modernizing them it would be a move in the right direction."

But it was not merely the fact of this interest on the part of national officials, nor the additional fact that the men present represented an annual volume of business exceeding six billion dollars, which stimulated expressions as to the importance of the enterprise. The atmosphere of the meeting was that the united industry was going to tackle the biggest job it ever has undertaken.

Action was in the air. Speaker after speaker stressed the thought that the building industry needs to help itself out of an uncomfortable situation—that new home-construction is not of sufficient volume to employ all the capital, labor and other resources of the interests in the field; that bringing American dwellings up to date represents tremendous possibilities in the way of utilizing those resources, and that co-operation on the part of all concerned is the only way in which these possibilities can be actualized.

Several elements of first pledge impressed support to the united movement, humorously stating that, if the movement didn't move unitedly, they would do so separately.

The contractors' groups, the retail lumber dealers and the building and loan associations expressed this attitude. Oscar W. Rosenthal, representing the National Association of Building Trades Employers and the Associated General Contractors of America, put it picturesquely:

"This movement you are starting is a selling proposition. It is not an experiment. In Illinois alone, we contractors have started programs of this sort in 15 towns, and expect to have the number up to 50 within 90 days."

"Now, we are eager to act with you. We are even willing to let the manufacturers who predominate in this meeting take the leadership of the campaign. If you take it, I promise to 'deliver' to you the 50,000 building contractors of the United States."

"I mean that these 50,000 contractors, your customers, will go out and sell your big idea and sell your products for you. They will put their money and their organization behind you. They will advertise with and for you. They will even buy houses, remodel them, and invite the public to them, at their own expense, to demonstrate what can be done with this remodeling idea."

"But if you want our co-operation, you have to operate with the remodeling outfit. Outfitting offices, and getting the sales men in the field, will be the first step, and the extent of our co-operation will be determined by the extent of your leadership."
President Kohler, whose leadership in the home-building field is expressed in his creation of the internationally famous ideal community at Kohler, Wisconsin, stated the main purposes of the organization as follows:

"Hundreds of thousands of American families are living in conditions no better than those of European peasants. Tens of thousands of dwellings, in cities where complete water and sewage systems are available, lack sinks, bathtubs and indoor toilets. How can it be said that there is over-production in the building industry, or surplus facilities for production, as long as these conditions exist? This movement is to bring all the interests concerned together under one united leadership. As a result, it will enable the building industry to compete more successfully for the public's interest and its dollars. It will create new interest in old homes. It will preserve property values in thousands of communities. It will increase general prosperity in our industry and in all related businesses."

Russell G. Crevison, Evansville, Ind., manager of the Plumbing and Heating Industries Bureau, outlined the tentative plan of action which the committee contemplates. It includes appointment of committees on publicity and advertising, local campaigns, home-financing and sales co-ordination. Under direction of these committees, the following immediate activities, besides others that will develop as conditions require, will be undertaken:

Publicity—Direct distribution of press-material; mobilization of support of newspapers, magazines, banks, civic organizations, women's clubs, public officials, educators and other major influences; supplying advertising, publicity and business-building plans to these local agencies.

Local Campaigns—The devising of standard plans for local bureaus, co-ordinating all local groups and interests; the direct establishment of some such bureaus by a field staff, and the stimulation of their organization by local initiative.

Sales Co-Ordination—Development of methods and plans in which the sales organizations of the member-groups may participate.

Practical co-ordination of advertising and publicity efforts.

Speakers' bureau. As constituted at present, the board of governors, to which other members will be added, consists of the following:


Oak Flooring group: George A. Houston, governor; W. L. Chaffey, Chicago, Secretary Oak Flooring Bureau, alternate.

National Retail Lumber Dealers' Association; A. W. Fund, Chicago, alternate.


Prepared Roofing: J. F. Bryant, New York City, Secretary Asphalt Shingle and Roofing Association, governor.

Paint and Varnish group: Willard E. Maston, Chicago, governor; R. M. Newman, alternate.

Oil Burner group: John S. Cooley, Jr., alternate.

Lumber Fabricators, sash and door: P. A. Richardson, governor; N. L. Godfrey, National Door Manufacturers' Association, alternate.

Copper and Brass: A. R. Waterman, Kenosha, Wis., temporary governor.

Wholesale Sash and Doors: Harry L. Knox, governor; S. P. Meffley, Sash and Door Association, alternate.


Fire Door Manufacturers: George J. Osgood, governor; W. L. Brown, alternate.

Sheet Steel: C. L. Patterson Pittsburgh, Sheet Steel Trade Extension Committee, acting governor.

Sheet Metal Contractors: Paul L. Biersach, Chicago, President National Association of Sheet Metal Contractors, governor.

Cement industry: George Warren, Chicago, Secretary Portland Cement Association, temporary alternate.

Insulators: C. E. Stedman, Chicago, governor; C. D. Freeze, Alternate.

Face Brick: Wilbur C. Fisk, Logan, Ohio, President American Face Brick Association, governor; R. D. T. Hollowell, Chicago, Secretary of the association, alternate.

Weatherstrips: Willard D. Smith, St. Louis, Director of Sales Monarch Metal Weatherstrip Company, governor; Robert M. Burns, alternate.

Architects: W. H. Olmsted, temporary alternate.

Plumbing and Heating Industries Bureau: Walter J. Kohler, governor; Russell G. Crevison, Evansville, Ind., alternate.


Heat by Radiator: Charles Foster, Vice-President American Radiator Company, governor; W. M. Scudder, Vice-President American Radiator Company, alternate.

Plumbing Industry: H. W. Seymour, Vice-President Crane Co., governor.

National Association of Master Plumbers, national association of Master Plumbers: Thomas F. Nolan, President, governor.

National Pipe and Supplies Association: W. E. Clow, Jr., Chicago, governor.

Building and Loan Movement: Otto T. Salick, President U. S. League of Building and Loan Associations, governor; Charles J. Churon, alternate.
The Modern Building Contractor is a Big Business Man

Enough of the Methods of Frank N. Goble, Inc., of White Plains, N. Y., to Explain this Company's Outstanding Success

That methods which have made modern "big business" successful are applicable to the business of the individual contractor is nowhere better illustrated than in the record of Frank N. Goble, Inc., of White Plains, in Westchester County, New York. White Plains is a medium sized city—about 28,000 population—and the remarkable development and expansion of this company in its community is marked at every step by the application of the principles of "big business." The methods of personnel management, insuring a friendly interest shared by employee and employer are particularly well demonstrated.

The Goble methods are exceptional even in this progressive age. The system of monthly meetings for their supervisory force have developed to a point where the general public has been entertained in meeting halls hired by the firm, at illustrated lectures on interesting phases of building. The cost of these lectures has been amply repaid by the quickened local interest in building in general and in that of the Goble firm in particular.

The story of Frank N. Goble, is that of success through industry, fair dealing, modern methods and equipment.

The firm started in 1904 with the construction of a small gardener's cottage for Mr. Charles Smithers on North Street in White Plains. The start was a small one, but successive years of good building have made the Goble name synonymous with good construction and have made the firm one of the largest in White Plains and the surrounding country.

Frank N. Goble is a graduate engineer and has always followed technical lines. He studied at McMaster University in Toronto, Canada, and at Harvard. Shortly, following the original contract, he was entrusted with a large job, that of effecting alternations and additions to the First Presbyterian Church on North Broadway. Then came a contract for the Home Savings Bank office building.

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Paying Off at the Job. Frank N. Goble, Inc., has adopted the Cross Armored Car Service for handling its regular payroll. In this way it not only protects its money but also safeguards the men who handle it.

The larger woodworking plants can scarcely be expected to use work that is tied up to a schedule and cannot, without loss, make changes in their routine on short notice. The field and shop equipment of the firm is especially noteworthy. It includes woodworking machinery which eliminates the bothersome worry of getting miscellaneous shop work done in a hurry, such as last minute changes in plans and the small but important alterations in detail work which might otherwise delay an important job.

The larger woodworking plants can scarcely be expected to meet the demands of work of this nature since they are often tied up to a schedule and cannot, without loss, make changes in their routine on short notice.

A two-story building erected by the concern, houses both office and shop. In the rear of the building are lumber sheds, a large garage, and paint shop. A driveway on the left side of the shop building is the entrance to the rear yard. The building is an attractive brick structure. The main entrance leads directly into a reception room and general office, the equal of any prosperous commercial establishment.

The office equipment consists of a number of type-writers, check writer, payroll tabulator, adding machine, and calculating instruments. One feature that impresses the visitor is a comprehensive file of catalogs kept in filing cabinets and book cases. These catalogs cover the entire field. They are cross-indexed and kept up-to-date, so that when any particular information regarding material or equipment is desired it can be found instantly. In the preparation of these catalogs, use was made of the comprehensive advertising pages of the American Builder, especially the April issues, which are really encyclopedias of building materials and equipment.

The rear of the first floor and the entire second floor is devoted to the shop, while the general office, estimating room and private offices are in the front of the building. Considerable ingenuity was used in incorporating various materials in the walls and partitions of the general office. In this way, they serve as samples to show visitors, and it adds a decided “building” atmosphere to the office.

The equipment and layout of the shop, while very interesting to builders, would be a revelation to the general public who do not understand the variety of builders' equipment necessary for carrying on various large operations. Like an army with its base of supplies, the Goble plant stands at the back of every job. The equipment of the shop is shown in the list on this page as is also the field equipment.

A one-story garage, steam heated, affords shelter to the fleet, and the complete machine shop attached is in charge of a competent mechanic who takes care of all repairs and overhauling, constantly inspecting the auto fleet and job equipment.

The extensive storage racks and sheds afford the opportunity to purchase considerable stocks of standard materials when prices are lowest. For finish stock there is maintained a supply of oak, whitewood, fir, birch, ash, chestnut, cypress, Oregon pine, North Carolina pine, and other varieties of wood. The office equipment contains a large file of catalogs and other material which is used in estimating and obtaining work for the concern.

### Shop Equipment

<table>
<thead>
<tr>
<th><strong>FIRST FLOOR</strong></th>
<th><strong>SECOND FLOOR</strong></th>
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<tbody>
<tr>
<td>Seven-inch, four-sided moulder</td>
<td>Mortising machine</td>
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<tr>
<td>Six-inch miter saw</td>
<td>8-inch miter saw</td>
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<tr>
<td>Cross-cut saw</td>
<td>Twelve-inch combination planer</td>
</tr>
<tr>
<td>Twenty-four-inch combination planer</td>
<td>Fourteen-inch lathe</td>
</tr>
<tr>
<td>Double spindle shaper</td>
<td>Sixteen-inch jointer</td>
</tr>
<tr>
<td>Double tongue machine</td>
<td>Grinder</td>
</tr>
<tr>
<td>Rip saw</td>
<td>Avril drill</td>
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</tbody>
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### Field Equipment

| Concrete mixer with 6 h.p. engine and folding platform. |
| Concrete mixer with 50 h.p. engine and folding platform. |
| Two gas engines—one equipped with air compressor |
| Electric drill |
| Hand drill |
| Twenty-bar cutters |
| Diaphragm water pump and power pump |
| Forge cutter |
| Chisel motor |
| Chuck motor |
| Centrifugal pump—gasoline, two inch |
| Portable saw table |
| Portable saw table with lights for night work |
| Blistering outfit |
| Three concrete heaters |
| Block heater |
| Metal bath heater |
| Convertible level |
| Transit |
| Elephants-inch "V" level |

### Automotive Equipment

| 1-ton truck |
| 2-ton truck |
| 6-passenger cars |

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This Familiar Diamond Shaped Sign Marks Every Job on Which the Company Works.

Complete Equipment for First Class Work Has Proved a Good Investment for Frank N. Goble, Inc., and This List Shows What Complete Equipment for Such a Business Means.
and a quantity of three and five-ply veneer panels of birch and oak.

Not to do cheap work, but rather good work economically has been the Goble policy, for the apparent saving in cheap work is often more than eaten up in subsequent replacements and repairs, to say nothing of the dissatisfaction and annoyance to all parties concerned. Frank N. Goble, Inc., is a strong supporter and member of the Westchester County Chapter of the Associated General Contractors of America, whose motto is "Skill, Integrity and Responsibility."

The progressive and skillful advertising done by the concern is an exceptionally intelligent example of the proper sort of publicity work. The advertisements are prepared with a standardized border, made of a repeating diamond design in the form of the well-known Goble trademark.

The advertising bears the earmarks of restraint and good taste and is of an institutional nature. The different examples have, usually, as their central subject, some phase of organization such as the personnel. One advertisement may take up the work of the different departments comprising the organization, while another may call attention to some lesser-known activity of the concern, such as remodelling or painting work.

The feature of holding monthly meetings of the superintendents, foremen and office force would seem comparatively a new with firms of the Goble type, although a recognized success in many other lines of business where the personnel is all-important to the work of the company. In this respect the Goble firm ranks with any industrial enterprise in which modernization has played a part. It is rather a striking example of the benefits of modern methods applied with understanding to a fresh field.

After the inauguration of these meetings, it became customary to hold a social hour following the business session with its talks on pertinent subjects and free discussion by everybody. From the very start, the meetings were a pronounced success in promoting co-operation and intelligent and active discussion.

The enthusiasm manifested at the meetings convinced the executives of the company that the general public would be interested in hearing the history of manufacture and use of the materials entering into building. A lecture on terra cotta ushered in this series, and immediately captured the public interest.

Lantern slides and a short musical program supplemented the talks and refreshments of coffee, ice cream and cake were served, lending a home-like atmosphere to the affair. In these, as in all other like affairs, the expenses were borne by Mr. Goble, who was alive to the increasing esteem and favor with which his firm was honored as a consequence. In this matter, it is interesting to remark upon the surprisingly large percentage of the individuals in a community whose work brings them in contact with some phase of building.

In the subsequent meetings invitations were extended to the members of the local Lions' and Rotary Clubs, real estate dealers, bankers, supply dealers and others interested in real estate. The general interest taken in these meetings confirmed Mr. Goble's opinion that the public at large is taking an increasingly greater and more searching interest in building construction and that prospective house builders of today are anxious to learn about proper materials and methods to be used in future homes. Cost, adaptability to various styles and periods, financing methods and construction are subjects of seemingly unlimited interest to the public.

It seems obvious that considerable publicity value may be created for the firm taking advantage of this general interest. When given under the auspices of a prominent building firm of known integrity, it seems reasonable to expect that a considerable revenue in good will for that firm will be the result.

Such a series of public informative talks would seem a logical and a practical merchandising effort for any building firm in almost any community. Or a group of firms or associations might arrange such meetings, economically and to the mutual benefit of everyone. Anything which will stimulate and satisfy the public interest in home building is considered good business, and it would appear manifest

The Men's Gymnasium of the Bloomingdale Hospital. Grosvenor Atterbury, Architect. One of several buildings erected by Frank N. Goble, Inc., for this hospital.
that such a scheme could not fail in its purpose.

A few years ago ill health forced Mr. Frank N. Goble to retire and move to California, where he now resides at Pasadena. Since then, the presiding has devolved upon William J. Goble, his brother, under whose leadership the firm has continued to advance in prosperity and esteem. William J. Goble is a graduate of Woodstock College, Ontario, Canada, and has followed the building trades since he emerged from his school training. This particularly fitted him to take the position of general construction superintendent soon after the formation of the concern and to assume the duties of president upon the retirement of his brother.

Today he is an acknowledged authority in construction work and in addition to increasing duties with the company he is vice-president of The Peoples National Bank of White Plains, and a director of the Lions' Club. He is also active in fraternal affairs, a member of the Canadian Club of New York, Milton Point Casino, White Plains Club, etc., and actively interested in community developments and projects.

He possesses fine qualities of leadership, inspiring confidence and respect. His first thought is for the welfare of his employees and he shares alike their joys and sorrows. For none is quicker with the helping hand or sympathetic word.

The high regard in which he is held is reflected by the inscription his employees caused to be inscribed recently to him, viz.:}

**Employer—Counselor—Friend**

"A Man!—a right true man, however, Whose work's worthy a man's endeavor," And to whom this page is affectionately inscribed by his Associates in tribute of their esteem.

He had had entire charge of the construction plant, the field force and the execution of the building operations before his installation as president.

Thomas H. Cole, the treasurer, joined the organization eleven and a half years ago. He had previously been employed by P. F. Collier and Son, in their Accounting Department, and later in the Advertising Department, leaving to take charge of the Purchasing Department for J. J. Little and Ives Co.

He has been with the Goble Company continuously since the Spring of 1916, and for some years has been office manager. His duties in addition to general supervision of accounting and office routine, includes the purchasing of material and preparing the company's advertising copy. He has been responsible for the development of the monthly shop meetings, the success of which has caused nation-wide comment.

For three years he served as secretary and a year ago was elected treasurer, an office he now holds. His is the responsibility, also, of arranging the financial matters; a job of no small proportions. He is a member of several fraternal societies, active in civic affairs and boy's work and a member of the Rotary Club of White Plains. Last year he, with the other officials, purchased an interest in the Company from Frank N. Goble, who retired from active association in the business.

Charles F. Sanford came to the concern about three years ago and last year was elected as vice-president. He was one of the founders and for many years secretary and treasurer of the former firm of Lieberman and Sanford Co. of New York City, specialists in ornamental iron. He was for 17 years connected with the J. L. Mott Iron Works. Mr. Sanford is active in trade affairs and has been for 11 years a member of the Board of Governors of the Employers' Association of Architectural Iron Workers.

He has had particular charge of dealings with architects and owners in the matter of securing new business and has acted as the contact man with the owners and architects of jobs under construction. He has also handled the financial affairs.

Mortimer Y. Pietschker, secretary of the firm, has been associated since 1921 with the Goble brothers as superintendent of the painting and decorating department, a position he took when he closed out his own painting business of eight years' establishment. He still continues his supervision of this branch of the work, a field in which he is an acknowledged expert.

Frank N. Goble, Inc., stands as a splendid example of...
Another Building Which Illustrates the Wide Variety of Work Handled by the Goble Organization Is the First Baptist Church, at White Plains, Edgar A. Josselyn, Architect.

this country's progressive and far-sighted building concerns. In organization, equipment, public confidence and achievement it is fit to take first rank with the country's foremost industrial enterprises.

The monthly meetings have been an extension of the human methods of personnel management, which have paid solid dividends of good faith and team work, besides their acknowledged beneficial effect upon public esteem.

Safety First Methods

One of the shop meetings, each season, is devoted to the interest of safety methods and accident prevention. In the past films, sponsored by U. S. Bureau of Mines, such as: "When Wages Stop, or Safety First in the Petroleum Industries," "Live and Let Live," and "Safety or Sorrow," have been shown.

A talk by the safety engineer of the insurance carrier, covering the State Workman's Compensation Law, its purpose, development and "modus operandi," current changes and approved methods for the prevention of accidents.

Demonstration in first aid to the injured by a troop of Boy Scouts of America, covering the handling and transportation of the injured, bandaging and treatment in cases of typical accidents.

A novel method that has proved effective in keeping the first aid kits in good shape and always properly filled has been by giving each superintendent and foreman a Johnson & Johnson Cabinet inscribed with his name and this he carries with him from job to job. The result of this personal touch has been marked, for each takes a pride in having his kit constantly available, clean and fully stocked.

The cumulative result has been a reduction in the number of accidents and loss of time, resulting in an experienced credit rating granted by the State Rating Board of the Insurance Department.

The company was awarded the Wm. F. Tubesing cup in the national safety contest, sponsored by the Associated General Contractors of America, having the lowest accident record for the year 1927 of any member of the association throughout the United States. For the six months ending December 31, 1927, the company had an average of 140 employees working a total of 134,366 hours, and during this period had but three accidents causing loss of time.

Another instance of the company's attitude towards the welfare of its employees has been the adoption of group insurance. Every employee, after three (3) months' service, has the privilege of taking out a $1,000 policy, the premium for which is shared jointly by the employees and employer. This also carries sick and accident benefit, $10.00 a week for 13 weeks, for cases not covered by the Workman's Compensation Law, such as illness occurring outside of employment.

This has been arranged through the Metropolitan Life Insurance Company of New York.

Armored Car Service

Realizing that payroll insurance was at its best but a pecuniary protection that did not lessen jeopardizing the lives of those paying and receiving cash, Frank N. Goble, Inc., was one of the first contracting firms of Westchester to avail itself of the Cross Armored Car Service. These armed guards in an armored car pay off all jobs and bring to a minimum any danger through a possible hold up.

The plan, too, has proved more efficient than the older methods of paying off and the employee appreciates this protection, while the company feels it has done the utmost in safeguarding its men.

It is interesting to note that many of the employees of the firm have been connected with it over a long period of years and that the labor turnover has been exceptionally small. Frank N. Goble, Inc., has among its hundred employees four who have been with the company more than 20 years; four who have been with the company from 15 to 20 years; 16 who have been with the company from 10 to 15 years; 19 who have been with the company from 5 to 10 years, and 25 who have been with the company from 1 to 5 years. A record to be proud of by both sides.

City Planning

A measure of recent civic accomplishment the Civic Development Department of the Chamber of Commerce of the United States calls attention to the fact that 409 cities and towns in this country now have official planning commissions. It summarizes in its report the methods followed and procedure adopted.

Despite this sudden revival of city planning, John Hibben, manager of the department, calls attention to the fact that it is as old as the city of Washington. "When we say present interest in city planning goes back some 15 or 20 years," he says, "we do not mean that city planning in America began only 20 years ago. Some of the earlier settlements, Philadelphia, Savannah, Williamsburg, were carefully planned by their founders."
Wade Hampton Horn, now engineer-builder of Flint, Michigan, and president of his own construction company, showed his enterprise early in youth by working as a newsboy on the streets of his home town, Columbus, Ohio. The same commendable spirit led him to take a home-study course in bridge engineering after completing his schooling in a Columbus public school, high school and Ohio State University.

It was then his good fortune to secure employment with one of the country's foremost mining engineers and educators—Mr. Frank A. Ray, consulting mining engineer and professor of mine engineering at Ohio State University. In this position with Professor Ray, Wade Horn, then a youth of 19, followed the successive steps of blue printer, tracer, draftsman, detailer, designer, surveyor, field engineer, chief of engineering corps and appraiser of coal mining properties. All told, this first engineering experience, covered a period of 14 years and included the designing of mining plants in Ohio and Illinois and the construction of such buildings as reinforced concrete coal tipplers, coal trestles, coal bins, chutes, conveyors, belt conveyors, mine and track scales, mine shaft cages, elevators, foundry plants, machine shops and the calculating and laying out of mine ventilation.

Quite a feather in the cap of the young engineer was his appointment by the United States District Court as one of three appraisers of the Sunday Creek Coal Company's properties, finally appraised at a value of $2,000,000.

Mr. Horn afterwards became chief engineer for the Raleigh Coal & Coke Company and construction engineer for the Wisconsin Steel Company. During this period, he lectured at Ohio State University on various subjects in connection with engineering.
and mining. Among the most important projects which Mr. Horn carried through at Benham, Kentucky, for the Wisconsin Steel Company and finished up within one year—the agreed time of construction—were the following:

A new 1,500-ton a day mining plant.
Two railroad bridges, each 120 feet long and on the skew.
One hundred fifty-ton railroad track scales.
One mile of standard gauge railroad line.
Five hundred-ton coal bin.
Intermediate impounding coal bin.
One and one-half mile of mountainside tram road.
Inclined plane hoist.
Three miles of underground mine work.
All-steel scraper conveyor.
One thousand two hundred fifty kw. Curtis turbine generator set.

Two hundred houses.

It was in the winter of 1919 that Mr. Horn moved to Flint, Michigan, and decided to enter the building construction field. This was the year of high prices immediately after the war and, the following year, there was a reaction which acted as a brake on building. In spite of these adverse conditions at the outset, Mr. Horn's company has grown into an incorporation which has, during the last few years, erected considerably over a half million dollars worth of homes including between forty and fifty houses, as well as several two-flat and store buildings, a 30-ton refrigerating plant for the Genessee Ice Company and a miniature power plant for the H. S. H. Lunch Company at Highland Park, Michigan, necessary in the preparation of food for 30,000 Ford factory employees.

Besides the large number of homes built by Mr. Horn's organization in the city of Flint, they also built several combined store and apartment buildings in that city, the First Baptist Church building at Dearborn, Michigan, the Spencer Wholesale Market in Detroit and other construction enterprises. The work immediately in prospect includes one 26-family apartment building, one 18-family apartment building, a cold storage warehouse and a large number of individual homes.

The growing success of Mr. Horn and his organization is based on merit and a policy of rendering exceptional service and giving exceptional value for the money invested by owners. This service includes design and plans, financing, building and supervision. Mr. Horn, with his engineering training, realizes the value of good design, carefully worked out plans and close supervision of construction. His company, performing a number of services, will earn besides the construction profit, the architectural commission, the financing commission and the real estate commission.

The architectural work is in charge of Mr. John Yeats, a licensed architect, with extended experience both in this country and abroad. He is a graduate of the Aberdeen

Store and Apartment Building Erected in Flint by the Wade Hampton Horn Company. This building was finished last summer and has a small basement, steam heat, refrigeration, wood floor joists and studs on second floor. It contains two suites of apartments and one store room.

Ground Floor and Second Floor Plan of Seven-Room House, the Exterior of Which Is Illustrated on Preceding Page. Living room, dining room and hall are of generous proportions and the kitchen is planned with built-in cupboards and other features for convenient housekeeping. Note the convenient location of the sink under trip windows and flanked by range and refrigerator. The garage has a two-inch gypsum block partition protecting the house wall. The four bedrooms upstairs are admirably proportioned. Besides the bathroom on the second floor, there is a toilet on the ground floor.
Technical College, Aberdeen, Scotland, and an associate of the Royal Institute of British Architects. His work in this country includes a number of years' experience with Coolidge & Shattuck and other prominent Boston architects, besides a year during which he was engaged in the practice of architecture on his own account in the city of Detroit.

Mr. John Hansen, general superintendent in charge of construction, is an experienced building mechanic with 24 years' experience on all classes of construction work.

Mr. Edgar W. Dean, public accountant, of Columbus, Ohio, is office manager in charge of the company's accounts.

The Wade Hampton Horn plan of operation is to refuse to compete with outside architects and to design only those buildings which they themselves will construct. In addition to building for a cash consideration, the company will build a home for any client who owns his own lot free and unencumbered, accepting the deed as first payment and giving back a contract for the completed home. The value of the lot must equal 20 per cent of the value of the completed home.

As an illustration, the financing of a $10,000 home would be as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of lot</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>Obtained by the contractor on first mortgage</td>
<td>4,000.00</td>
</tr>
<tr>
<td>Estimated profit to the contractor</td>
<td>2,000.00</td>
</tr>
<tr>
<td>Giving back a contract for the completed home</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>Estimated profit to the contractor and realizable to him from monthly payments at rate of $80.00 per month, with interest at 7 per cent</td>
<td>2,000.00</td>
</tr>
<tr>
<td>Total</td>
<td>$10,000.00</td>
</tr>
</tbody>
</table>

A method followed by some builders is to cash the contract by selling it to one of the financing companies which engage in the business of buying contracts. These companies demand at least 16 per cent for discounting a contract and the builder thus loses, on a $10,000.00 operation, $1,600.00 of his $2,000 profit for discount. This latter method may put the owner in the hands of unscrupulous loan sharks who will seize the first opportunity to secure undisputed title to the property should the owner fail to meet his contract payments promptly.

As Mr. Horn points out, the method followed by his company, while it requires considerable capital, yields a much better profit and protects the owner against the contingency named. He also points out that the builder who retains a financial interest in the property over a period of years has more interest in putting enduring value into the building.

There has been marked building activity in Flint during the last few years and the present year will see a still greater volume of construction. The General Motors Corporation is building large new factories in Flint with a view to increasing its truck manufacturing capacity. Large additions to their working forces is bringing many new families into Flint and calling for greatly increased housing accommodations. Besides the homes required for the workmen and provided in group developments, many homes and business establishments will be required elsewhere in the city for officials and clerks and for merchants doing business with the company, its officials and employees.

Attractive Home Sided with Stained Wooden Shingles Which Was Designed and Built in Flint, Michigan, by the Wade Hampton Horn Corporation. The long, steep roof lines suggest an English cottage design. The porch, with its iron railings and graceful millwork ornament, adds greatly to the appearance of this home.
An Opportunity in Stucco
Correct Practice in Applying Stucco is Just as Essential to Success as Good Workmanship is in Any Phase of Building

By O. A. MALONE

The builder today stucco offers an unusual opportunity. For there is a distinct trend towards Spanish and Normandy types of architecture which a builder can capitalize by specializing on stucco dwellings.

It is possible, too, with stucco construction, to give an individuality to each structure, a thing that is going to be essential to the builder who would make a big success in the next few years. America, particularly in its cities, has been surfeted with standardized building exteriors, particularly of the bungalow type.

There is a question in the minds of some builders at least as to whether California types of architecture would prove popular in other sections of the country. I think this doubt is rapidly being dispelled by the way in which Spanish and Normandy architecture is taking hold in many places in the country today.

In building a stucco exterior, frame construction. In this type of building the sheathing, when used, should always be applied horizontally. The stucco test panels erected at the Bureau of Standards in 1915 and 1916 have demonstrated conclusively that diagonal sheathing tends to crack the overlying stucco by setting up strains back in the supporting frame. The result is undoubtedly due to the shrinkage of the sheathing and whatever benefit might be anticipated from the more effective bracing provided by diagonal sheathing appears to be more than offset by the shrinkage effect. Of course, horizontal sheathing has an advantage of economy over diagonal sheathing.

The next requirement is a waterproof base for the exterior stucco coat. Apply a good grade of 15-pound waterproof building paper over the exterior sheathing, horizontally, starting at the bottom of the wall and lapping vertical points at least six inches. Horizontal laps should be not less than three inches. Care should be taken in bringing this waterproof paper up to the flashing so that a thoroughly waterproof connection is provided. A small amount of moisture may do a great amount of damage to building frame-work and interior decoration. The result will be a dissatisfied home owner who might just as well have been an enthusiastic booster of your business.

In building a stucco house it is well to the builder to remember that he is really building a stone product structure. In the case of a stucco exterior, frame building this stone wall is about one inch thick. One would think of building a stone wall an inch thick without thorough reinforcing. So the builder will use steel reinforcing built into his stucco slab to insure enduring workmanship.

Some of the Types of Home Architecture Which Have Become Popular of Late Years, Lend Themselves Particularly Well to Treatment in Stucco.
Three Types of Nail Designed to Fasten Steel Reinforcing so That the Reinforcing Will Be in the Center of the Stucco Slab.
Opportunity in Stucco

It is advisable, if the builder or his plasterer has not had extensive recent experience with the application of colored stucco, for the builder to get in touch directly with the manufacturer of the portland cement stucco finish so he may thoroughly study the methods required to give the texture desired in a practical way at ordinary working speed. This is essential if he is to make a reasonable profit from his work and charge fair price to the building owner. The manufacturers of portland cement stucco finishes will make up samples of colored stucco so that an exact color and texture may be chosen for the building under consideration. This sample can be retained and shown to the different plaster contractors, thereby allowing them to bid intelligently. What is more, these plaster contractors can also avail themselves of finish coat technique experience which is available at the manufacturers, so that they do not gamble in making their estimate.

Because of the extreme importance of these particular steps it might be well to sum them up once more:

Each coat of plaster must dry thoroughly and be given all the time possible between coats in order that shrinkage and checking may take place before the next coat is applied.

The steel which serves as a reinforcement to the thin stucco slab should be near the center of the slab to give maximum strength and to receive maximum protection. It should be made continuous over the entire surface to be plastered by seeing that joints are well lapped and nailed or tied together. The steel should be thoroughly encased in the portland cement plaster so that there is a solid, unbroken coat of plaster back of this reinforcing as well as in front of it.

World’s Largest Building to Be Erected in Boston


GROUND was broken in January at Boston for construction of the world’s largest building, which will cost $21,000,000 when complete, will cover 130,000 feet of ground area and will be 25 stories high, with a center tower 300 feet in height. Some ten acres of the floor space will be occupied by a mammoth department store, one of the largest in the country, and the finest in America in point of equipment as well as time and labor saving devices. Five more floors above this will be given over to a permanent industrial exposition of New England industries, and a large exhibition hall. Above this will be offices, clear to the top floor of the tower.

Only a portion of the huge area of the first five floors will be used by the department store, but there will still be sufficient space left for at least 20 large specialty shops, restaurants, and other stores. W. J. McDonald, who promoted the Park Square Building, the sixth largest office building in America, and up to now, Boston’s largest building, is the active figure in the enterprise, which is backed by some of Boston’s foremost business men and bankers. Mr. McDonald has been prominently identified with many of Boston’s largest real estate developments of the past decade, and through him what is known as the Park Square District, once an abandoned railroad terminal and freight yard, has been developed until within the past five years alone over $105,000,000 worth of property in building developments has been added to the wealth of Boston.

The plan is for the building to serve as New England’s “Show Window”—a great display and sales headquarters for the myriad of New England industries. The structure will be known as the New England Building, and the department store, also backed by the same interests, the New England Department Store, Inc. Preparations...
leading up to the announcement of this huge building project have been in preparation for more than two years.

Its location is close to the new Statler Hotel, the Park Square building opposite, and one block from the Public Garden. The building will be connected with the subway system by an underground tunnel about two blocks long. There will be three basements, two of which will be devoted to parking space for some 3,000 to 5,000 automobiles daily, the owners of which drive in, leave their cars and then take elevators to the stores or offices above. The department store will also be connected by an underground tunnel with a warehouse located some distance away, from which goods will be brought by electric trucks to the basement of the store, when needed. The warehouse will also provide a remote delivery service that will help keep nearby streets free of traffic congestion. Another feature will be direct connection from the store by means of this tunnel and warehouse to the building's own spur track a few blocks away.

Because of the great area of the site selected for this building, which will be surrounded on four sides by broad streets, it has been possible for the architects to plan a building both modern and monumental in character, with a central tower reaching to a height of 300 feet, yet with less total cubic content than that permitted by Boston building height regulations for a building site of this size. Thus, the building gains greatly in distinction without having the skyscraper tendency to increase street congestion by concentrating too many people on a small ground area. It is estimated that when the building is fully occupied, its permanent population will be close to 20,000.

This building will surpass in total floor area all other buildings in the world, including such famous structures as the General Motors Building in Detroit, the Graybar, Telephone and Equitable Life Buildings in New York. It will have a frontage of 272 feet on each of two streets and 476 feet on two others.

The exterior construction will probably be of light brick, with light stone trimmings. An idea at first was to have the entire outside construction of white Vermont marble, but owing to the flood destruction in that state, of railroad track and highways, as well as much industrial equipment, it was found impracticable to attempt this, as sufficient of the facing stone could not be delivered within the six months set as the time limit. Construction is to be completed within a year. Further details as to materials, equipment, etc., are to be announced later. Had it been possible to use marble for the facing, the building would have been wondrously beautiful. As it is, the architecture is of a most impressive style, whether viewed close at hand or from a distance. In such a building as this, plumbing, wiring, heating pipes and finish will be measured in terms of "mileage" rather than footage.

Fred. T. Ley, president of the Fred. T. Ley Construction Company, Springfield, is one of the directors of the project, and will handle the general construction contract. W. J. McDonald is president of the New England Building, Inc., and headquarters, until the building is completed, have been established in the Metropolitan Building, another McDonald promotion. The architects are Blackall, Clapp & Whitemore, and Charles Nelson Meserve. Consulting architects are Densmore, LeClear & Robbins; consulting engineers, Fay, Spofford & Thorndike and Charles R. Gow.

With the great developments in this district during the past five years, the New England Building, the new $10,000,000 Boston & Maine Terminal, replacing the old North Station, the Printers' Building and a number of others, Boston will have added close to a quarter of a million dollars worth of new structures of large size to her improvements in less than a decade. F. N. Hollingsworth, A. N. S.
A Business Builder Builds Homes
Man Power, in the Person of G. P. Blackiston of Canton, Ohio (and Elsewhere) Has Produced Marvels

MOST of us, in our own profession or specific line of work, have about as much as we can comfortably attend to.

But when a man, holding down forty-two individual positions with as many firms in various sections of the country, adds, as his hobby, the jobs of architect, builder, contractor and owner of large buildings, we begin to wonder whether we are really in high or low gear.

An analysis of the methods employed by this individual may be of interest—if not a stimulant to many of us.

G. P. Blackiston is the name of this demon for work.

Characteristic to his reputation of being unusually original, he has his winter offices in the centrally located city of Canton, Ohio, and his summer offices on the cool and picturesque shore of Lake Waramaug, Conn.

He is employed as sales promotion manager of 42 large, well-known individual manufacturers, each in a different line of business. He has his office and department in each, be they in Chicago, Detroit, Boston, New York, Birmingham or St. Louis.

He knows every salesman of every firm and works hand in hand with them. He paves the way—secures a request for an interview for each—follows up their calls—makes their calls productive. When asked how he could do all this with the ease with which he does, his reply was:

"Know what you want to do and do it. Harness system—drive it—never handle a subject or a piece of paper a second time. Dispose of it then and there. Use originality—do things differently—eliminate competition. Do everything thoroughly."

So thoroughly does he do his work that he has no contract with his employers and has worked for many of them for fifteen and sixteen years.

But in order to keep his mind fresh and away from his regular line of work, and being mechanically inclined, he bought properties up in Connecticut and began to build with his own hands attractively designed log cabins.

He hewed the logs, snaked them to the job, built the houses, wired them himself, did the plumbing, painting, built the fireplaces and furnished them completely.

He then rented them to the rich New Yorkers for summer lodges.

So profitable and interesting did this become that he began to make a business of it and today his real estate division is known as the Blackistons (for no better name).

He has his architectural draftsman, his engineer, foreman and maintains a building crew the year around.

Mr. Blackiston attends to every detail of this business, lays out the details of every building, oversees the designing, makes up all specifications, buys all the materials, employs all the men, personally superintends every job, rents all the buildings and oversees their maintenance.

And this as a side issue—it not being his regular line of work.

He has just finished the very unusual, complete and attractive La Casa Bonita Apartments in Canton—a very exclusive, high priced, Spanish apartment.

In spite of the fact that every apartment building in that city has many empty apartments, through the live wire, systematic personal methods employed by Mr. Blackiston, everything is rented in La Casa Bonita.

The Blackistons have just completed plans for a very remarkable building in Canton, consisting of garages in the basement, 12 stores on the first floor, two floors of offices, three floors of apartments and one floor of club rooms.

It is a brick and cement structure—fireproof throughout—of Americanized Spanish architecture—known as the Blackiston type of architecture, due to its individualism.

Mr. Blackiston has a most complete file on buildings and building materials.

Living for a few months in each of his own buildings, he claims, is of great value to him, as he is able to notice every detail.

As a result he has eliminated items not noticed by the average builder, but which are appreciated by the average tenant when eliminated.

As an example—the noise in closing a casement window using the average standard adjustments—the click of the average toggle switch, etc., etc.

Elimination of sound is another of Mr. Blackiston’s hobbies and studies.

He carries on extensive tests for killing of sound in water pipes, in walls, floors, etc.

In short he possibly goes into the subject as deeply, if not more so, than the average builder and architect.

He claims it requires about two days to completely design and make all necessary drawings for a large building.

La Casa Bonita Apartment

What is said to be the most complete, modern and unique apartment in America is found in Canton, Ohio.

It was designed and built for a definite type of patron—the wealthy couple (without children) or individual who wishes a real home with none of the ties and inconveniences.

Naturally it had to be unusually rich, beautiful and modern to the extreme to appeal to this class of patrons.

It is built on a corner—the side street having quite a grade while the front faces on the street which is level.

Mr. Blackiston, the designer, builder and owner, accordingly turned this otherwise unfavorable condition into an asset by placing his garages in the basement.

The apartment consists of four suites of five rooms each, a lobby, large, well lighted and airy laundry and lockers, an extra or overflow guest room and a garage for five cars.

The building is of fireproof construction—steel, the inside cement being the materials from which it has been built.

As can be noted from the cuts, the general appearance of the exterior is that of a Spanish home—not the usual apartment. However, each apartment has two porches with attractive French doors opening onto them.
You enter the attractive lobby with its striking Spanish benches, flower stands and chairs. On the wall is a very striking fountain—the floors are of impressive tile, the walls and ceilings are arched to a central point—the finish being rough, artistically tinted plaster.

The doorway to the stairs is up two steps, where there is a landing or inner vestibule from which the stairs begin and the entrance to the other lower floor apartment opens. The banister is a colorful red silk rope cord attached to the artistic walls by brass rings. In the risers of the curved cement stairs are carelessly inserted here and there unusually colorful odd tiles—giving the whole a most foreign atmosphere.

At the top of the stairs in the center of the wall is inserted a large round colorful Spanish coat-of-arms. On each side of the landing—up one step—are the arched doors to the respective apartments. The individual apartments are romantic to the extreme—a sight of which one never tires.

The entrance is into the living room with its rough plaster effect, artistically painted in tones of warmth and personality.

The quaint, truly foreign fireplace of cement with its raised and oddly shaped hearth is located on the inner walls. Large French doors open onto the balconies or porches and the especially large casement windows give unusual light into this interior. A generous sized guest closet is also provided for.

The doorways as well as windows are unusual in their treatment—no visible casing being present—the walls bullnosing or curving in an original and striking manner to form a beautiful setting for the doors or windows.

Each window is provided with the invisible roll fly screen.

The lighting fixtures are unusually original, being forged into wall brackets extending from the baseboard up the wall in graceful twists and opening into a most attractive spear-pointed fixture.

The floors are cork, laid to represent old-fashioned plank floors with the nail pegs visible and with a colorful tile roughly placed here and there.

The bedrooms (one of which is a corner outside room) have large windows and closets. They, like the rest of the house, are finished in the rough plaster effect except that a very unusual treatment, an invention of Mrs. Blackiston, is given the bedrooms. The walls curve or blend into the ceiling—no rail or rope being used. The floors are cork tile with the old-fashioned plank effect.

The bathrooms are most colorful—a different color effect being used in each—one is an old rose, another green, another yellow, etc.

The doors from the respective bedrooms open in the center of both sides. On one end back of the doors and away from the window is the built-in bath with tile to the ceiling. Contrasting colored moire bath curtains against the brilliant colored tile makes a most striking effect.

On the side towards the window are the pedestal and toilet. Large imported Venetian glass mirrored medicine cabinet is above the pedestal.

All the bath accessories are in black tile.

A utility electric socket is beside the pedestal.

This half of the room is tiled only four feet—the remainder of the rough plastered wall being beautifully tinted to harmonize with the color of the tile. A very unusual arch effect separates this section of the bathroom.

A large linen closet is artistically provided for in the hall back of the bathroom. A sanitary clothes chute to the respective lockers in the laundry is also provided for in a concealed manner in the hall opposite the entrance to the bedrooms.

In the basement are four very large lockers, each having a window in it. A scientific, airy and bright laundry is provided with gas clothes dryers, three tray tubs, etc.

The central refrigerating compressor is also in the basement, which is laid off for all the mechanical devices such as the incinerator, automatic water heater, water softener and the gas-burning vacuum heating plant.

A toilet for a maid is also provided.

An extra bedroom completely furnished for overflow guests with private toilet is also provided for the convenience and comfort of the tenants.

An extra garage is supplied for the same purpose. These are all under one-half of the building. Under the other half is the five-stall garage with a raised walk running the full length which serves as a bumper and a means for the tenants to walk to their cars without rubbing against or climbing over the cars.
A Free Information Service for Home Planners and Home Builders

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

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

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

1928 Prospects Bright Say Dealers

Better conditions in the construction field for 1928 are indicated in opinions of 1,663 building supply dealers, in 11 Middle Western and Northwestern states. These dealers replied to inquiries sent out at the beginning of the spring building season by the Universal Portland Cement Company, of Chicago, giving their opinions as to the construction outlook.

The dealers' replies, tabulated by classes of construction, show a uniform tendency to anticipate improvement in farm construction. In eight of the 11 states dealers feel that general increases in residential building of all kinds are assured. They expect little change in volume of commercial, industrial and public building construction.

Dealers consider prospects good for an increase in the amount of highway paving done in 1928 as compared with 1927. They expect highway construction and increased farm business to more than offset slight decreases seen in street and alley paving.

On the whole, the replies mirror an optimistic feeling. The dealers report that they are prepared for a 1928 which promises a total volume of construction business equaling or exceeding last year.

Increase in the Sale of Insulating Boards

The consumption of rigid insulating boards is increasing rapidly, as indicated by a survey conducted by the Department of Research in Lumber Retailing, Antioch College, Yellow Springs, Ohio, and the Ohio Association of Retail Lumber Dealers, which finances this department at Antioch. The survey covered the Central States, in part.

In this territory, basing the figures on the total number of dealers reporting, only 32% handled insulating board in 1925, 60% in 1926 and 72% in 1927. In addition a small percentage of those reporting have placed orders for 1928. Therefore the year 1928 will show another increase. These figures show an increase of 3% per cent from 1925 to 1926, and an increase of 30 per cent from 1926 to 1927, and an increase of 144 per cent from 1925 to 1927.

The volume of insulating boards sold from 1925-1927 exhibits a steady increase; for taking the number of square feet handled in 1925 at 100, then the figures 148 and 200 represent the volume of sales for 1926 and 1927, respectively. The increase from 1926 to 1927 was 48 per cent. Again, if 100 represents the number of dealers handling rigid insulating boards in 1925, 183 and 244 represent the number of dealers reporting handling insulating board in 1926 and 1927, respectively.

The returns also show that in localities where complete figures were furnished and where in 1925 only a small percentage of the retail dealers in business were handling insulation and where in succeeding years additional dealers had taken on the new line no falling off in any case was indicated, showing that generally as the number of dealers handling the product increased the business in insulating boards kept apace. As a whole the average amount per dealer has shown no increase. The reason for this is no doubt due to the fact that in 1925 the dealers reporting were located in large cities while in 1927 the country yielded with a small consumption had taken on the product.

Retail lumber dealers as a class are not unfavorable to the handling and use of wall boards, although there is a small minority of dissenting voices who hold to lumber. This class is rapidly disappearing.
The SALISBURY

The wide white clapboard siding, the prominent fireplace chimney and the interesting roof of the Salisbury combine to make this an unusual-attractive design. On the first floor are the living room, the dining room and the efficiently arranged kitchen. On the second floor are three unusually attractive bedrooms, one of them with large dressing room. This is a compact, economical home measuring 28' x 29' 4" feet not counting the open porch.

The color sketch to right gives an idea of the attractiveness of the base-flanked fireplace in the living room.
The SARATOGA

A PRETTY Colonial design with roof dormer of a distinctive and "different" sort. Six rooms, sun parlor and bath, besides numerous closets, lavatories, pantries, etc., are provided in this home 24x35 feet.

Key to Equipment

- Ventilating Fan
- Kitchen Cabinet
- Mechanical Refrigerator
- Package Receiver
- Gas or Electric Range
- Incinerator
- Thermostat
- Broom Closet
- Medicine Case
- Wardrobe
- Fireplace throat and damper
- Mirrored Door
- Built-in Mail Box
- Disappearing Stairs
to Attic
- Linen Closet
- Tub Shower
- Weatherstrips
- Storm Sash
- Screens
- Lighting Fixtures
- Convenience Outlets
- Electric Panel
- Washing Machine
- Clothes dryer
- Radiator Covers
- or Furniture
- Heat Chute
- Heating Plant
- Oil Burner
- Water Supply System
- Hot Water Supply
- Water Softener
- Radiant Gas Heaters
- Electric Wall Type Heaters
- Casement Windows
- Dishwashing Sink
- Automatic Cellar Drainer

FIRST FLOOR

SECOND FLOOR
Key to Equipment

- Ventilating Fan
- Kitchen Cabinets
- Refrigerator
- Gas or Electric Range
- Built-in Incinerator
- Cabinet Heater
- Linen Closet
- Medicine Case
- Tub Shower
- Concealed Bed
- Built-in Mall Box
- Weatherstrips
- Storm Sash
- Screens
- Lighting Fixtures
- Convenience Outlets

Electric Panel
- Washing Machine
- Ironing Machine
- Clothes Dryer
- Coal Chute
- Heating Plant
- Oil Burner
- Water Supply System
- Hot Water Supply
- Water Softener
- Radiant Gas Heaters
- Electric Wall Type Heaters
- Casement Windows
- Dishwashing Sink
- Automatic Cellar Drainer
- Radiator Covers
  or Furniture

The SAN JOSE

A CLEVER shingled cottage, multum in parvo, much in a little space, both of good looks and livable convenience. The disappearing bed in the living room with attached dressing closet provides an extra bedroom. Color sketch to left suggests the cheerful and convenient kitchen in this home.
Above is a delightful stucco design of five rooms and bath; 22 by 34 feet.

The PROVIDENCE

The PORTLAND

Below and to the right are perspective view and floor plans of a low cost Colonial home: 24 by 26 feet.
The SAVONA

This popular stucco home of seven rooms has many good points. A graceful arched canopy over the front door and the pergola porch to the right make this home decidedly artistic and attractive. Seven rooms and bath are contained in the 31x36 feet which this house occupies. The downstairs bedroom is a well liked feature of this design.
The SCARBORO

Here is a substantial brick residence of square hip-roof type, 26 feet wide x 34 feet deep. Within these main lines of the house are contained the seven rooms illustrated in the Color Plate Plans below. Then in addition there are projects front and rear on the first floor to accommodate a sun porch and the rear entrance.

Color sketch to left gives a glimpse of the main room looking through toward the sun parlor which is perhaps one of the most delightful features of this house.

The construction is sturdy and substantial and lines of this house are so compact that there is no wasted expense in construction.
The SEDGWICK

HERE is a beautiful example of the trend toward a richer and more substantial type of American home building. It is a residence of quarry-run Indiana limestone designed and built for Mr. Chas. A. Rushin, Macon, Ga. The stone is laid random ashlar and presents a variety of soft color tones ranging from buff to blue.

This house contains six rooms besides breakfast room, bath, hall and numerous closets on the main floor, with some usable space upstairs. The style is English Tudor. The construction uses a masonry wall of common brick or other inexpensive building units with a four-inch veneer of the limestone for the exterior. Contractors and builders are finding that this construction and material make a house costing only a little more.

SAVED finish Indiana limestone as used in this house is the cheapest finish and for the type of work is best. The rough sawed finish is the surface left just as it comes from the saws at the quarry. A surface of this character has considerable texture and is usually laid in random ashlar or Howard ashlar. It gives a character of great character possessing an interesting play of light and shade.
The SELWYN

An American Colonial type of seven rooms in 24 x 26 feet.

Key to Equipment

- Ventilating Fan
- Kitchen Cabinet
- Gas or Electric Range
- Package Receiver
- Bookcase
- Fireplace Throat and Damper
- Built-in Mail Box
- Shower Bath
- Medicine Case
- Linen Closet
- Space-Saving Wardrobes
- Weatherstrips
- Storm Sash
- Screens
- Lighting Fixtures
- Convenience Outlets
- Electric Panel
- Washing Machine
- Ironing Machine
- Clothes Dryer
- Coal Chute
- Radiator Covers or Furniture
- Heating Plant
- Oil Burner
- Water Supply System
- Hot Water Supply
- Water Softener
- Radiant Gas Heaters
- Electric Wall Type Heaters
- Casement Windows
- Dishwashing Sink
- Automatic Cellar Drainer

First Floor

Second Floor
A Typical Modern House Design Providing Six Rooms and a Two Car Garage Built as an Integral Part of the House

A typical modern home—that is a term which may quite properly be applied to the design which serves this month as Our Front Cover Home. There are several points about this design which are taken into consideration in applying this term. In the first place, the exterior is distinctively individual and architecturally correct and beautiful. The lines are well balanced, the various elements, windows, doors, wall finish and so on are harmonious. Also the house is suited to its location. This is not a large house, merely of the average six-room size, but gives the impression of greater size than it actually has. This is because the garage has been made a part of the house in a skillful manner and the roof has been projected over the walk at the right. The house is designed to fit a wide but shallow lot. The useful floor space is large in proportion to the dimensions because of the efficiently compact arrangement.

Beyond this the house is fully equipped with every modern convenience so that even the small kitchen is ample for the purpose for which it is intended. This point of equipment is one of primary importance in the modern home and the various items noted on the plans will be found worthy of considerable study. These plans are reproduced to scale on the four pages that follow this and they tell the complete story of this typical home in a graphic manner.

From these plans the experienced builder can reproduce this house with whatever modifications may be demanded by the prospective owner or he may build a home which will be readily salable because of its strong appeal to that large group of buyers who wish a new home already built.
Except for the Third Bedroom, All of the House Proper Is Enclosed Within a Space 26 Feet Square and Yet, Because of the Compact Design, Our Front Cover Home Is Ample for Every Purpose.
Here we see that even the basement plan is carefully thought out and the side elevation, together with those on the following pages, helps us to visualize the finished house.
Here Are Two More Elevation Views of Our Front Cover Home Which Carry Out the Claim of Excellent Design.
A Cross Section and Typical Wall Section of Our Front Cover Home Point Out the Details of Construction Which Back Up the Excellence of Planning of This Typical Modern House.
The Log Lodge at Lucerne-in-Maine Was Built from Materials Cut in the Immediate Vicinity and Its Rustic Construction Makes It Notable for Its Appropriateness as Well as for Being One of the Largest Log Structures Ever Built.

Lucerne-in-Maine Log Lodge
This Interesting Building Is Said to Be the Largest Log Resort Hotel in the World

CROWELL AND LANCASTER, Architects

CONSTRUCTED of peeled spruce and hemlock logs, cut within a few miles of its site, the Lucerne-in-Maine Log Lodge probably represents the largest hotel of its kind in the world. There are 85 sleeping rooms with accommodations for more than 100 guests. The lodge is fully equipped with all modern conveniences, including electric lights and steam heat.

The logs used in this construction were laid horizontally, the joints being caulked with oakum. When completed the exterior of the logs was thoroughly oiled. With a total length of 250 feet and a width of 34 feet, the building was designed so that additional wings may be added later to complete an enclosed courtyard. A covered porch extends along the entire front.

An outstanding feature of the construction, from an architectural standpoint, is the interior partitions. These are of log sawed lengthwise and erected vertically. Half logs were used for studding, backed up with a half inch of insulating board. The other side was faced with 3/8-inch boards, with half-round logs forming panels.

The stairs consist of solid logs with just enough of the surface removed to make steps. The floors are of hemlock and spruce finished with hard pine and face.

The roof is covered with fire-resisting shingles.

Frank Geller
Heat, Humidity and Air Movement

Building Interiors to be Truly Comfortable in Winter Require the Addition of Moisture and Air Circulation as Well as Heat—How Warm-Air Furnaces Fulfill These Requirements

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

A knowledge of heating and its relation to human comfort are better understood one comes to the conclusion that merely to heat a building, without regard to other factors, is not enough. Interiors must be sufficiently warmed, surely, yet if the air one has to breathe is odorous or dusty a person cannot be said to be comfortable. Examination reveals, further, that even if room temperature is sufficiently high and the air free from dust and odors, when the air is too dry or too moist we experience irritation and discomfort. Movement of air is necessary to enable one to rid himself of bodily heat, moisture and natural poisons secreted through the breath and skin.

The air which surrounds the earth, briefly, is composed of four-fifths nitrogen and one-fifth oxygen, with about four parts of carbon dioxide in 10,000 of air, and considerable water vapor. When carbon dioxide exceeds 10 parts per 10,000 there comes over the average person a feeling of weariness and stuffiness. The limit should be placed at seven parts of carbon dioxide per 10,000 of air.

One of the principle causes of vitiation of interior air is respiration. Suppose, for instance, that air taken into the lungs contains four parts carbon dioxide per 10,000 of air, "fresh air," as we call it. When the same air is exhaled there are about 400 parts of carbon dioxide in 10,000 parts of air. Were a person shut up in a tightly closed room he would soon die from suffocation, as nearly everyone knows.

In addition to vitiation by the natural process of breathing and cooking, odors contribute their share in making inside air unfit for breathing. The human body may be likened to a moist rag being constantly wrung out. Even when a person sits still from 1½ to 2½ pounds of water are evaporated daily from the surface of the skin. If one moves about, as almost every one does, the amount is increased. Considerable moisture, too, is given off to the atmosphere by exhaled air, as human breath is almost completely saturated. It requires about 4½ cubic feet of air per minute for respiration, for the absorption of moisture and dilution of carbon dioxide gas from the skin. It is for the foregoing reasons that interior air in winter must be comparatively pure if comfort and health are to be enjoyed. In table 1 is shown the number of cubic feet of pure air per hour and per minute with which the average person must be provided in order for it to be fit to breathe, so far as carbon dioxide is concerned. The quantity of air needed is shown in the figures at the top and the degree of vitiation below. From the data it is noted that about 50 cubic feet of air per minute must be provided per person if carbon dioxide content is kept at 6 parts per 10,000. In actual practice, however, 30 cubic feet per minute is considered sufficient. This yields air containing 7.33 parts carbon dioxide per 10,000.

Our bodies have been aptly likened to furnaces in which a food is burned producing a varying amount of heat which must be dissipated and the proper regulation of the loss of heat is probably the most important factor in producing bodily comfort. Air taken into the lungs comes in contact with the blood from the heart, is absorbed by the haemoglobin of the blood and is carried with it to all parts of the body. In the process combustion of organic tissues occurs and is accompanied by generation of heat and carbon dioxide. The carbon dioxide is then carried back to the lungs in the blood where it is exhaled by respiration.

Normal body temperature is 96.6 degrees Fahrenheit, and it is known that variation occurs in illness. Then we say one has a "fever." Without heat life is impossible, yet this heat cannot be supplied from without, the only function of external heating being reduction of the rapidity with which body heat is dissipated. When body heat is lost too rapidly one feels cold and when too slowly the reverse is the physical sensation. Prevention of too rapid loss of body heat is the ultimate aim of all heating systems.

Heat is lost from the body in four ways: by radiation, by contact with the air, by exhalation from the lungs and from the skin. Were one to enter a room having a temperature of 75 degrees, with walls only 50 degrees he would feel chilly simply because heat is rapidly radiated from the body through the air to the colder walls. In dry air, equality of body temperature is maintained by a steady but imperceptible evaporation from the skin. In moist air, on the other hand, the rate of evaporation is so lowered that bodily moisture is deposited on the skin as perspiration.

Table 1—Quantities of Fresh Air Needed to Preserve Low Carbon Dioxide Content.

<table>
<thead>
<tr>
<th>Degree of Vitiatiion of the air in a room</th>
<th>Parts of CO₂ in 10,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5.5</td>
</tr>
<tr>
<td>6</td>
<td>6.5</td>
</tr>
<tr>
<td>7</td>
<td>7.33</td>
</tr>
<tr>
<td>8</td>
<td>7.5</td>
</tr>
<tr>
<td>9</td>
<td>8.8</td>
</tr>
<tr>
<td>10</td>
<td>9.9</td>
</tr>
<tr>
<td>15</td>
<td>10.15</td>
</tr>
<tr>
<td>20</td>
<td>10.20</td>
</tr>
</tbody>
</table>

Cubic feet of air containing 4 parts of Carbon Dioxide in 10,000 supplied per person.

<table>
<thead>
<tr>
<th>Per Hour</th>
<th>6,000</th>
<th>4,000</th>
<th>3,000</th>
<th>2,400</th>
<th>2,000</th>
<th>1,800</th>
<th>1,714</th>
<th>1,500</th>
<th>1,200</th>
<th>1,000</th>
<th>545</th>
<th>375</th>
<th>281</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Minute</td>
<td>100</td>
<td>66.6</td>
<td>50</td>
<td>40</td>
<td>33.3</td>
<td>30</td>
<td>28.6</td>
<td>25</td>
<td>20</td>
<td>16.6</td>
<td>9.1</td>
<td>6.2</td>
<td>3.8</td>
</tr>
</tbody>
</table>

FURNACE HEATING

Heat is lost from the body in four ways: by radiation, by contact with the air, by exhalation from the lungs and from the skin. Were one to enter a room having a temperature of 75 degrees, with walls only 50 degrees he would feel chilly simply because heat is rapidly radiated from the body through the air to the colder walls. In dry air, equality of body temperature is maintained by a steady but imperceptible evaporation from the skin. In moist air, on the other hand, the rate of evaporation is so lowered that bodily moisture is deposited on the skin as perspiration.
High humidity has the effect of modifying the temperature at which comfort can be secured. Reversely, when the air is too dry room temperature must be higher if a person is to experience the same feeling of comfort. This has to do directly with the loss of heat from the body, as previously explained.

An ordinary thermometer, thus it seems, is only of relative value for indicating a person’s feeling of comfort. It does not register the humidity, but serves merely to indicate the temperature. For the reasons already given some installers refer to correct proportions of heat and humidity as “effective temperature,” which varies somewhat from what is recorded on the average thermometer and falls within what has been aptly called the “comfort zone.” This means, essentially, that heating engineers have found that there are certain temperatures and accompanying humidities at which normal persons will feel comfortable. It is believed that 50 per cent of all persons will feel comfortable with 62 to 69 degrees effective temperature and about 97 per cent of all persons are comfortable at 64 degrees effective temperature, or when the air is about 68 degrees Fahrenheit and the accompanying relative humidity is from 45 to 55 per cent.

Heating installers would like to duplicate outdoor air conditions as closely as possible in the belief that nature is the best doctor. June weather is often used as a guide to optimum atmosphere, from the comfort standpoint. This might be qualified somewhat when applied to latitudes other than the central portion of the United States. Some poet, it will be recalled, wrote: “What is so rare as a day in June?”

If June days are taken as being especially comfortable, it must be considered that nearness to bodies of water results in more humid air than sections near arid regions. Low interior temperatures, say 65 degrees, thus may feel warm in localities where outside air humidity is relatively high. Rarely are outdoor humidities lower than 50 per cent nor above 80 per cent unless rain or snow are “in the air.”

Take average outdoor winter temperature at 30 degrees and humidity at 50 per cent. What happens when this air is raised to 70 degrees, as is the case in winter heating? This is shown in Table 2. The column at the left lists certain outdoor temperatures with zero as the lowest. The middle column has assumed certain relative humidities, with 50 as the lowest and 80 per cent as the highest. The final column demonstrates the resulting humidity when the same air is warmed from the outdoor temperature at the left to 70 degrees Fahrenheit.

Thirty degrees outdoor air, then, having 50 per cent relative humidity, that is, with one-half of all the moisture it can hold, if raised to 70 degrees, as in heating, will then have only 12⅔ per cent humidity. Opinion may differ somewhat as to the ideal relative humidity for personal comfort, yet few will deny that 12½ per cent is far too low for either comfort or health. One’s comfort is easily told by the feeling, not always is effect on health so easily determined.

From the health viewpoint it is known scientifically that when air breathed has too low moisture content, the nasal passages are overtaxed to secrete sufficient mucous to keep the membrane covered. Susceptibility to colds, nervousness and irritability result.

In heating buildings other than manufacturing establishments excessive humidity is rare, but not unknown. When it exists the condition is apparent via the window panes which are likely to sweat when the moisture content inside exceeds 45 per cent relative. It is important to bear in mind about the humidity question that a cubic foot of air at 70 degrees Fahrenheit holds about 8 grains of moisture when saturated. At 30 degrees the same quantity of air can contain only about 2 grains. If 30 per cent outside air is heated to 70 degrees, as is the case under actual winter heating, it still holds the 2 grains of moisture and no more unless some has been added artificially.

Furnace men have made heroic attempts to add moisture by means of water pans, automatically or hand refilled, suspended within the casings of heaters. Yet, the passage within which they must go will not take large pans without blocking space needed for circulation of air. Other heating systems have no means of adding moisture at the heaters, but get moisture into room air with open receptacles.

Hence, the likelihood of excessive humidity in building heating with present design of plant is remote.

Granted, that the real object sought in heating is personal comfort and health, rather than merely heating alone, one is forced to believe that warm-air furnaces represent an excellent attempt to incorporate heat, humidity and air motion into the system.

Practically all standard designs of heating plant will heat nowadays, so far as the thermometer readings are concerned. If this is deemed sufficient then the selection of heating medium is of little significance. If one holds the idea, however, that moisture and air circulation are equally important then attention must center on warm-air furnaces, which offer air circulation as well as the other factors.

Ventilation by the open window is not of the best because it cannot be secured without drafts and loss of expensively generated heat. Considerable fresh air leaks in through cracks about windows, particularly on the windward side of buildings, but circulation cannot be depended on to the same extent as the constant current coming up through warm air registers at from 100 to 400 linear feet per minute.

Experiments demonstrate that one may live during the coldest weather with comfort in a room of 65 degrees Fahrenheit, where the relative humidity is maintained at about 60 per cent. Lack of first-hand knowledge as to the effect of temperature, humidity and air motion are widespread, as was recently demonstrated by an experiment whereby persons were placed in a room equipped with a moistening apparatus and the temperature kept at 65 to 68 degrees, with relative humidity of about 60 per cent.

An adjoining room, without a moistening device and heated by an ordinary steam radiator had an average temperature of 72 to 74 degrees and relative humidity of 30 per cent. In every instance without knowing what the temperature of the different rooms was the opinion was expressed that the room with the higher humidity was warmer than the other room.

It appears to be progress in the right direction to have the agencies for accomplishing the three chief factors necessary to comfort at the heater itself rather than separated and the furnace is those located within the plant itself. Air movement is assured in the steady, warm current coming from furnace registers. Dependence on cracks about windows or open windows are uncertain and expensive methods of procedure.

<table>
<thead>
<tr>
<th>Outdoor Temperature Deg.</th>
<th>Per Cent Humidity of Warm Air (assumed)</th>
<th>Per Cent Humidity of some of air heated to 70°</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>50</td>
<td>3</td>
</tr>
<tr>
<td>15</td>
<td>50</td>
<td>1½</td>
</tr>
<tr>
<td>30</td>
<td>50</td>
<td>3½</td>
</tr>
<tr>
<td>45</td>
<td>50</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 2—Dryness of Interior Air in Winter When No Artificial Moisture Is Added.
Convincing eh?

If you find yourself at a loss for proper descriptive matter for your newspaper advertising, here are a few suggested lines taken from one day's issue of a large newspaper:

"Greatest Sale in the History of the City."

"A Stupendous Mercantile Event."

"Such Bargains Will Never be Offered Again."

"Only Our Unsurpassed Buying Power Makes Possible Such an Offer."

"Sensational—Stupendous."

"Costs Forgotten—Profits Ignored."

"Our Thousand Years in Business Gives Us the Jump."

"Once in a Lifetime."

"Phenomenal—Staggering—Stupefying Sale."

"Prices Slashed—Yes, Slaughtered."

That's Different

Professor—See here, my man, who in the devil told you to plant all that new shubbery in my front yard?"

Gardener—Why, your wife, of course.

Professor—Mighty pretty, isn't it?—Wabash Caveman.

The New Competition

A man mortgaged his home to buy an automobile. Then he went around and tried to mortgage the car to get money to build a garage.

"How are you going to buy gas?" curiously inquired the man of whom the loan was asked.

"Well," replied the other slowly, "if I own a house, a car and a garage, I should think any dealer would be willing to trust me for gas."

Speaking Lightly

Statistics show an increasingly large gain in privately owned electric plants. Is this the own-your-own-ohm movement asks the Arkansas Gazette?

He Must Be a Pessimist

"Is the world round?" a school ma'am asked the little boy.

"No'm."

"It isn't, eh? Is it flat then?"

"No'm."

"Are you crazy, child? If the world isn't round and it isn't flat, what is it?"

"Pop says it's crooked."

Modern

Steno—"I'm going to be married Sunday, and—"

Boss—"—and so you're going to leave me."

Steno—"Oh no! I'm just going to tell you that I'll be needing more money."

Pay Dirt

Inquisitive: "And what are you digging for, my good man?"

Digger: "Money."

Inquisitive: "You don't say so. And when do you expect to find it?"

Digger: "Saturday night."

Lost, Strayed or Stolen?

"Whatever became of that portable garage of yours?"

"Oh, I tied the bull-dog to it the other night and a cat ran by him."

Not His Line

He: "I come to bring warmth and light into the bleakness of your home."

Romantic Spinster: "Oh, you dear—"

He: "Nix on the love stuff, lady. I'm the installation man for the gas company."

Why?

Efficiency Expert (to clerk): "I fear, Mr. Jones, that you are ignoring our efficiency system."

Mr. Jones: "but somebody has got to get the work done."

Sounds Like Favoritism

"What was the reason for your being discharged from your last place?" asked the employer of an applicant for a job.

"Good behavior, sir," replied the applicant.

"Nonsense! You would never be discharged for good behavior."

"Yes, sir; they took two months off my sentence."

The Consumer Pays

Abie—Vot is de idea of raising de price of gasoline all de time?

Garage Man—What do you care? You haven't got a car.

Abie—No, but I got a cigar lighter.
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.

To Mark Gable Studs Quickly

I NOTICE a great many carpenters, when studding under rafters, set plumb and mark each stud for the length. This is a slow process. By laying the plate off from the center, or an equal distance from the center, the lay-off can be duplicated for each side of the gable and also for both gables, or all gables that are alike.

Plumb and mark the longest stud and the shortest stud of the group. Lay these two studs down and place between them the number of additional pieces required for one side of the gable. Place the bottom ends perfectly square and then draw a line, with a straight edge, from one side of the angle cut on the long stud to the same side of the angle cut on the short stud, using the same side of both long and short stud as shown in the sketch. The point at which the line intersects each stud will mark the studs tightly together while marking. If this is done the marking will give perfect satisfaction.

C. W. Elliott, 4131 Broadway, Gary, Ind.

For Handling Heavy Timbers

M ANY times I have been working with large timbers or heavy planks, on trestles, and have had difficulty in moving them into the position where wanted. I would lift one end of a timber and try to pull or push it a foot or two and instead of moving the timber would tip the trestle over. I have overcome this difficulty, however, by the use of the device shown in the sketch, which also saves a lot of hard labor in handling such material. This device simply consists of rollers set into the trestles and extending from 3/4 to 3/4 inch above the top of the trestle. The sketch shows quite clearly how these are made. With them the heaviest timber can be moved quite easily with no danger of tipping the trestle over.

Austin Griffin, Box 37, Chapin, Ill.

An Efficient Bench Clamp

H ERE is a very efficient and inexpensive "vise" to hold lumber while finishing, which can be cut from a 1x8-inch board in a few minutes' time. Take a piece of 1x8 about two feet long and rip it along the lines AB, CD and EF as shown in the sketch. As can be seen, the line AB is ripped along a long slant and also on a bevel, as shown in the sectional view. The piece ripped out at "X" is not used, the space being left to receive the piece of material to be worked. Nail the two outside pieces to the bench in the position shown, leaving the middle piece free to slide. The space at "X" can be widened by sliding the middle piece back. The material to be worked is placed in this space against the shoulder of the middle piece, and the two are slid forward. This gets a square pressure on the material and prevents it tipping as it will do when two strips are merely nailed down in the form of a "V." Being adjustable it secures material of different thicknesses with equal security. A sharp jerk backward or a tap with a hammer will loosen.

Aubrey P. Bennett, Box 40-A, Route 1, Ferndale, Wash.
Prevents Cracked Flooring

While nailing fir flooring directly on the joists I noticed that, unless the piece of flooring happened to be extra soft, I could not nail the ends of the pieces without splitting them. To avoid this I first nailed the flooring at the other joints and then drove nails into the joint between the ends, as shown in the sketch, the head of the nails holding the ends of both pieces of flooring. The other nails are driven first. This will not leave a crack.

W. A. ROARK, Battle Ground, Wash.

Marker for Hinge Butts

When hanging doors, when there are enough of them on a job to justify it, I take a piece of door stop or other light material and cut it to a length a trifle shorter than the height of the jamb. I then lay off the butts on this strip with a knife and mark the stick at the top so there will be no danger of getting it turned end for end. I take this stick and, keeping it against the head of the jamb, I mark all the jambs for the butts.

When the jambs are all marked I either cut the desired clearance for the door off the stick or mark it with a knife. I use this stick for marking the doors for butts and I get the same clearance on all doors and do not have to wedge the door in place to mark the butts. The sketch shows the marking for three butts.

A Marker for Hinge Butts Is a Time Saver Where There Is a Big Bough Job.

TED GREVILLE,
5128 34th St., San Diego, Cal.

Cutting Hip Rafters

After reading the article by Mr. Neufeld, on fitting the hip rafter, which is very good, I thought it would be worth while to explain the method I use for the unbacked hip.

Here is illustrated a method of cutting rafters for the unbacked hip which is said to be convenient.

The proper length for each piece of lap siding for a gable end can be obtained by this method.

I do not claim this method is original with me but I have never seen it in print or found a carpenter who used it. I find it especially convenient with rafters that have a projection as shown in Fig. 1.

After laying out the hip rafter in the usual manner cut it 13/16 inch short at the top end, measuring at right angles to the plumb cut as shown in Fig. 2. The next step is to measure back 1½ inch each way from the corner of the plate and cut off the corner of the plate as shown by the dotted line in Fig. 3. This will bring the corner of the hip in line with the top of the common rafters. These measurements are for the 1½ inch thick hip rafters.

R. C. RANDEL, Grayville, Ill.

Applying Corner Bead

Here is a sketch of an idea I have used and found very helpful. When putting on corner bead, I slip a six-penny finishing nail into the end of the head. This holds the joint in line and prevents short kinks and crooks. It also makes it possible to use the short lengths of corner bead, which would otherwise be wasted, and still obtain a good straight job.

H. A. BUSWITZ, Austin, Texas.

To Cut Siding for Gable Ends

In cutting lap siding for gable ends it is often the custom to cut the longest length and get the length of each piece from the preceding one. A better way is to get the length of the first piece, A-B in the sketch, as usual, gauge the desired exposure, as at C, draw D-E, the bevel cut of the siding. Now the distance A-E is the difference in the length of each succeeding piece. Now if you divide A-B into parts as near A-E as possible, you will have the length of every piece marked on your first board and, when applied, the last piece will be the same width as the others.

FRED DIETERL, 2044 Lincoln Park, West, Chicago, Ill.
How to Figure Roof Areas

By JOHN T. NEUFELD

An evening class in roof framing was in session. The class was composed mostly of carpenters who perhaps had framed many roofs. The instructor asked the question: “Which has the greater area, a hip roof or a gable roof providing the size of the building and cornice is the same and the pitch of the roof is the same?”

Some thought that the gable roof had the greater area, others thought that the hip roof required more roofing. The trouble seemed to be that they just “thought,” but did not know.

In order to find out, a roof was cut out of cardboard, similar to the one shown in Fig. 3. Then the ends were taken off. Each end is composed of two right angle triangles, such as the triangle formed by the lines A B C. These triangles were turned around and placed in the position shown in Fig. 4, and the hip roof had been changed to a gable roof, and that without adding or taking away from the area.

A certain writer on estimating tried to show how to find the area of a roof, and the students who studied the lesson usually found the area of the roof if they hunted long enough. By his method the roof was divided into triangles and rectangles, and the area of each separate piece was figured. This method would discourage any man, especially if the roof was one of the recent broken up types.

The area of a roof may be found by a different and easier method. When figuring rafter lengths we found that the rafters have a certain fixed length for every foot of run, or, as we might say, for every foot of horizontal distance. This length changes with the pitch of the roof. The same thing holds true for the area of a roof. The area has a fixed relation to the horizontal area of the roof or to the area of the plan.

Fig. 1 shows a flat area one foot by one foot, which gives one square foot.

Fig. 2 shows a portion of roof covering a flat area of one square foot. This roof has a rise of 8 inches per foot run. This makes a roof one foot by 1.202 feet, having an area of $1 \times 1.202 = 1.202$ square feet. Therefore for every roof having a pitch of 8 inches rise per foot the roof area is 1.202 square feet for every square foot in plan.

Fig. 3 shows a roof portion with a 10-inch rise per foot. This portion also covers an area of one square foot of plan. The roof area for this portion is $1 \times 1.301 = 1.301$ square feet. Therefore the area of any roof with a 10-inch rise per foot run is 1.301 square feet for every square foot of flat surface.

Figs. 6 and 7 show a type of roof very often found at the present time. Two ways of finding the area are shown, both using the method described. The first is a little more accurate than the second.

Present day methods usually require tables for work of this kind. The following table may be used for finding the areas of roofs as well as for figuring rafter lengths:

<table>
<thead>
<tr>
<th>Pitch</th>
<th>Rise per Foot Run</th>
<th>Length per Foot in Inches</th>
<th>Roof Area per Sq. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4</td>
<td>3 inches</td>
<td>12.37</td>
<td>1.030</td>
</tr>
<tr>
<td>1/4</td>
<td>4 inches</td>
<td>12.65</td>
<td>1.054</td>
</tr>
<tr>
<td>1/4</td>
<td>6 inches</td>
<td>13.42</td>
<td>1.118</td>
</tr>
<tr>
<td>1/2</td>
<td>7 inches</td>
<td>13.83</td>
<td>1.158</td>
</tr>
<tr>
<td>1/2</td>
<td>8 inches</td>
<td>14.42</td>
<td>1.202</td>
</tr>
<tr>
<td>3/4</td>
<td>9 inches</td>
<td>15.00</td>
<td>1.250</td>
</tr>
<tr>
<td>1</td>
<td>10 inches</td>
<td>15.62</td>
<td>1.301</td>
</tr>
<tr>
<td>1</td>
<td>11 inches</td>
<td>16.28</td>
<td>1.356</td>
</tr>
<tr>
<td>1</td>
<td>12 inches</td>
<td>16.97</td>
<td>1.414</td>
</tr>
<tr>
<td>1</td>
<td>15 inches</td>
<td>19.21</td>
<td>1.601</td>
</tr>
</tbody>
</table>

Questions

(1) From the table give the roof area per square foot for a 1/4 pitch roof.
(2) The area in plan for a certain roof is 456 square feet. What is the roof area for this roof if it has a 9-inch rise per foot run?
(3) A certain barn has a gable roof with 1-foot 6-inch horizontal overhang on all sides. The barn is 54 by 32 feet and has a 1/2 pitch. What is the roof area for this building?
(4) How many squares of shingles are required for a house 19 by 34 feet having a hip roof, 1/2 pitch and 18-inch overhang on the sides?
(5) If the length of rafter per foot run is 14.42 inches, what is the area of the roof per square foot of plan area, of flat area?

Answers

(1) Roof area per square foot is 1.118 square feet.
(2) Area in plan given 456 square feet. Area of roof per square foot of plan is 1.25 square feet. Area of entire roof is $456 \times 1.25 = 570$ square feet.
(3) Length of barn is 54 + 1 foot 6 inches + 1 foot = 66 feet. Width of barn roof is 32 feet + 1 foot 6 inches + 1 foot 6 inches = 35 feet 6 inches. Area of plan is $57 \times 35 = 1,995$ square feet. Area of roof is $1,995 \times 1.414 = 2,821$ square feet.
(4) Area of roof is $22 \times 37 \times 1.202 = 979$ square feet. Therefore 10 squares of shingles would be required.
(5) 14.42 inches is 1.202 feet, therefore the area of roof per square foot of plan area is 1.202 square feet.
These Sketches Illustrate the Most Simple Method of Obtaining the Area of a Roof as Described on the Opposite Page.
Motor Sales Building Sets the Pace in Commercial Design

J. B. BENEDICT
Architect

The Ground Floor is Devoted to the Display Room, Shown at the Right, Offices and the Used Car Department.

Above—the Display Room Is in a Style and Finish Which Would Do Credit to the Ball Rooms of Some of Our Finest and Most Modern Hotels. Left—First floor plan of the building.

The Chrysler Sales Building, in Denver, Colorado, Is an Example of the Type of Building Developed as a Result of the Tremendous Growth of the Automobile Industry. It sets a high standard of commercial architecture and plays a large part in beautifying its city. J. B. Benedict, architect.
Lumber Slogan Prizes Awarded

"Certified by Centuries of Service"—Is Slogan That Wins $5,000 First Prize in National Lumber Manufacturers' Association Contest

A ANNOUNCEMENT has been made by the National Lumber Manufacturers' Association, Washington, D. C., that the winner of its contest for a lumber slogan is James Edwin Noble, Jr., of Sanatorium, Mississippi, who was awarded the first prize of $5,000. "Certified by Centuries of Service," was selected by the judges as the best of the 370,000 slogans entered in the contest. The second prize of $2,000 went to Mrs. Dora Davis Farrington, Professor of Journalism at Hunter University, New York City, for the slogan, "Wood, Use It—Nature Renews It." Mrs. Maud Burt, of Marshalltown, Iowa, submitted the slogan, "Use It—Nature Renews It," for which she was awarded the third prize of $1,000. The following each received a prize of $500 for their slogans: Lawrence O. Nichols, Boise, Idaho, "Build Better with Better Lumber"; C. Stanley Garrison, Indianapolis, Indiana, "Wood Answers the Material Question"; Matthew Taplinger, Philadelphia, Pa., "Wood Answers the Material Question"; Lawrence J. Fuka, Madison, Wisconsin, "There's a Wood for Every Material Problem."

In addition to these grand prizes the balance of the total $15,000 prize money was divided into 50 regional prizes of $100 each, one in each state, one in Canada and one for outlying possessions. The winners of these prizes, and their slogans, are shown below.

State Prize Winning Slogans

ALABAMA—Growing Trees for Growing Needs—Miss Lila Killebrew, Newton, Ala.
ARKANSAS—Always Growing—Mrs. C. W. Thomas, Walnut Ridge, Ark.
CALIFORNIA—Trees Without Numbers, Make It with Lumber—Milton C. Armstrong, Los Angeles, Cal.
COLORADO—Once Used from Necessity, Now Used from Choice—Mrs. Edward Fair, Rome, Colo.
CONNECTICUT—Every Age Is the Wood Age—W. Stewart Gocher, Fairfield, Conn.
FLORIDA—Forever Growing, Forever Serving—Eugene M. Kelsey, Fort Lauderdale, Fla.
ILLINOIS—The More You Use It, the Better You Like It—Charles Kreidt, Chicago, Ill.
INDIANA—The Only Building Material—Bernard Nix, Huntington, Ind.
IOWA—It Grows as It Serves—Alma Koopek, Waterloo, Iowa.
KANSAS—Why Not Make It with Wood—Leslie F. Clark, Sedgwick, Kan.
LOUISIANA—If It's as Good as Wood, It's Wood—Clarence W. Gray, New Orleans, La.
MAINE—It Serves Us Right—Mrs. W. V. Larabee, Phillips, Maine.
MARYLAND AND DISTRICT OF COLUMBIA—Material Satisfaction—Miss Janet W. Meece, Washington, D. C.
MICHIGAN—Always in Demand—Always—Mr. Crosby, East Jordan, Mich.
MINNESOTA—Wood—A Growing Necessity, of Material Importance—Mrs. C. W. Buhse, Minneapolis, Minn.
MINNESOTA—Ever Growing in Forest and in Favor—Mrs. A. L. Burkett, Columbia, Minn.
MISSOURI—Growing Forever—It's Uses—Harry Woodhead, and Source—Mrs. A. W. Scott, Port Port.
MISSOURI—Wood—Growing in Usefulness—Gordon Vallandigham, Glasgow, Mo.
NEW HAMPSHIRE—The Staff True Homes Are—Miss N. M. Johnson, Keene, N. H.
NEW JERSEY—Wood Makes a House a—Claceetora, N. J.
NEW MEXICO—Wood Grows for Our Growth—Vernon A. Wilson, Albuquerque, N. M.
NEW YORK—For Building Needs, Lumber—Mrs. D. V. Nash, New York, N. Y.
NEVADA—It's Better, Built of Wood—Lorena Green, Reno, Nev.
NORTH CAROLINA—For Building Needs, Lumber—Mrs. W. L. Peace, Laurinburg, N. C.
NORTH DAKOTA—Materially Speaking, You'll—H. O. Holm, Ryder, N. D.
OHIO—Wood—When You're Materially Concerned—Fremont, Ohio.
OREGON—Use Wood—It Grows—Ruth M. Currie, Portland, Ore.
RHODE ISLAND—Wood Is so Good They Imitate It—Anita Bryant Chase, Newport, R. I.
SOUTH CAROLINA—Wood—Always in Demand—Steele Is Good—Miss N. M. Johnson, Columbia, S. C.
SOUTH DAKOTA—Materialize Your Ideas in Wood—Mrs. A. L. Buhse, Rapid City, S. D.
TENNESSEE—A Growing Necessity—Mrs. Betty Prince, Knoxville, Tenn.
TEXAS—Wood for Satisfaction—Beatrice Alderson, Bonham, Texas.
UTAH—Every Age an Age of Wood—Gustave O. Larson, Cedar City, Utah.
VIRGINIA—Wood Serves, Survives and Satisfies—Mrs. W. L. Peace, Richmond, Va.
WASHINGTON—Make It of Wood—You'll—Mrs. C. C. Bly, Leesburg, Va.
WASHINGTON—Always at Hand for Building Needs—Mrs. D. V. Nash, New York, N. Y.
WISCONSIN—Wood Serves, Survives and Satisfies—H. P. Sigwalt, Milwaukee, Wis.

OUTLYING POSSESSIONS

CANAL ZONE—Use Wood for Material Economy—Kathleen McGuigan, Balboa Heights, Canal Zone.
CANADA—There's Nothing so Good as Durable Wood—W. A. Gordon, Port Dover, Ontario, Canada.
Capitalizing the Future
(Continued from page 83)

tually through defalcation of interest on bonds which he took in exchange. But while Carnegie was a great leader, Morgan had the keener vision. He foresaw a coming era in which dozens of mighty corporations would create values where there were none before.

But the situation today is far more complex than it was in Carnegie's time. Then the ruination of an industry was a matter of great importance. Now our commercial advance is by the destruction of old industries and the creation of new ones. The building up of the automobile business proceeded ruthlessly over the remains of what were once successful buggy and wagon manufacturing concerns. Steel and cement have profited largely at the expense of lumber and the introduction of artificial silks brought distress to the manufacturer of cotton goods.

The present is a time when no one can tell what will be the ultimate effect of a new idea. Bobbed hair nearly ruined the hairpin industry. Short skirts doubled the sales of stockings. The reward is a golden one to whichever manufacturing group wins out in the never-ending battle to dictate style.

A while back Brussels lace was in such high favor that even the hands of the men were half hidden by it. Then the French Revolution came along and people turned to simplicity. Old-laces that were almost as precious as the family jewels were either packed away or handed over to the servants. Just as the lace-makers and wig-makers of yesterday ran into difficulties most unexpectedly, so will the trades and crafts of tomorrow experience even more sudden reverses.

Nothing seems to be lasting. Neither climate, nor prosperity, nor superstition, nor supremacy in any line or field—except when we change promptily with the times. Recently mass production had to cease until the element of style had been properly taken care of. Ziegfeld started the "Follies," but soon there were so many good imitations that the innovation lost much of its novelty. Oranges and nuts were always with us, but the market for these products was greatly restricted until a few foresighted business men saw an opportunity to build up an extensive system of chain stores and stands.

Next we will find ourselves being educated to the virtues of pineapple juice and the necessity of buying collars that suit the shape of the face and the length of the neck. Various forces are always at work compelling us to change both our minds and our habits. Lately the statisticians have poured forth figures to prove that it is safer for us to invest our money in stocks than in bonds provided we diversify our selection.

It was the blizzard of 1888 that brought about a demand for the abolishment of overhead wires in New York City. No one can tell how far we are going in any direction. Such practices as taking out teeth, tonsils and appendix are likely at any minute to bring about a reaction. The development of the canning industry and the delicatessen has so simplified domestic cooking that married women are going in largely for commercial pursuits.

The complexity of the current movement in industry has overwhelmed the capacity of the average person to comprehend the full meaning of what is happening. Never have contrasts been so inexplicable. Commercial crime is so prevalent that fraudulent practices now bring a yearly loss of approximately four thousand millions of dollars. Nevertheless this widespread failure of law and education to protect the individual does not seem to bother us in the least. We are living on the cream of our resources—scraping the soil, recklessly exhausting irrereplaceable mineral supplies, and using wood faster than we grow it, and yet we are undisturbed.

In the meantime, notwithstanding the slackening of trade and the increase in unemployment in recent months, bank and insurance figures show a continuation of the astonishing expansion of savings. In the field of installment sales, it is also amazing to find that "overdues" are now appreciably less than they were last year at this time when business was moving along serenely. Surely it must be clear that there is no wisdom in a policy of stubbornly opposing the sweep of the tide. It appears that we must focus our attention on the national picture—think in terms of total production and total wealth, rather than engage in worry because the benefits of good times have not yet spread to every crack and corner of our vast land.

The problem of production was our chief concern 10 or 20 years ago. After overcoming the obstacles in that field, we started in on the question of distribution, and we are now trying to write the answer. Our first step was to stabilize purchasing power by improving the credit situation and reducing the dangers of inflation, and this was accomplished through the creation of a remarkable Federal Reserve System. Then in rapid succession came the installment plan of selling, hand-to-mouth buying, and a little later on a policy of extending large loans to foreigners. But notwithstanding all of this, and in addition, the introduction of the element of style to make last year's models obsolete, consumption has failed to catch up with production.

Now we enter an even more thrilling era. The battle for the consumer's dollar is to continue with increasing fervor. It seems that we must have both mass production and mass distribution under one control. Indications of this trend are evident in the plans of the big mail-order houses, which call for the organization of chain systems of retail stores. Working from the other end the chain stores are commencing to go in for their own manufacturing.

Where the little fellow will get off in this hectic journey is something probably no one can answer. Nor can we tell what the effect on American business will be when the interest that Europe must pay us commences to exceed the total of her yearly borrowings. Surely there will come a time when we will be forced to take goods from the foreigners in lieu of money.

The rise of our country to world preeminence in such a short span of years constitutes the most absorbing story in human history. Our accomplishments have transformed life and industry throughout the entire world. Perhaps too many of us are like the old gentleman who resigned from the Patent Office half a century ago because, as he said, "everything had been invented that could be invented." Perhaps we are only at the threshold of achievements that will surpass everything that has gone before.

And yet one may ask if there is any harm in suggesting the possibility of our becoming just a bit over-confident at times. An unswerving faith in America's destiny is both proper and essential. But we have a long way to travel in this newly-made country before we can afford to turn our attention from legitimate business to the precarious occupation of capitalizing an uncertain future through the manipulation of stock-market prices.

Some of the kind of wealth we are now creating overnight can disappear just as quickly. Hand-to-mouth buying removed the menace of inflated inventories. It almost seems that we need some hand-to-mouth buying of securities for cash to remove another danger from inflation in a different quarter.
Its Beauty and Permanence attract buyers instantly

Once upon a time a white tile bathroom was a novelty. It was a big selling point for a house. Now white tile bathrooms are taken for granted—houses without them are not taken seriously. But white tile bathrooms are just a starting point. Now a bathroom could be done in color to attract attention. And tile is being used for every room in the house—there are colors to harmonize with any surroundings, patterns for every possible use. There is tile for the kitchen, the breakfast room, the pantry—bright, cheerful, easily cleaned. There is tile for the dining room, the billiard room, the sun porch, the stairs—a delightful note of individuality.

Keramic tile is a good investment for any builder. It lends to everything in the house an air of beauty and permanence, which is obvious evidence of good construction to every prospective purchaser. Keramic tile increases the value of your house as no other floor and wall material can.
Real American Homes for Real American People

The Colonial style of home built of Pine is the true American home, both in architecture and in sturdiness. In addition to architecture that will always please the eye, this type of house furnishes real home comfort against our temperature extremes.

Built in 1808, the Hope House at Chaplin, Connecticut, pictured above, is an example of the everlasting charm of Colonial architecture and the long life of Pine construction.

Pine Homes Rich in Tradition

Homes of Pine have a wealth of tradition which American tradition. John Alden was Priscilla in a Pine log cabin. The first house in America and the oldest now standing were built of Pine.
Longfellow House, Mary Washington Home and the historic Mount Vernon Mansion are among the nation's famous homes.

The recent craze for flimsy building and novel architecture seems to have passed. Architects and builders are turning again to homes of sturdy Pine like those of our ancestors.

Pine Construction
Economical

It is not merely sentiment for old things that is causing this but a practical dollar and cents attitude as well. The construction has proven itself to be the most economical in the long run, giving more years of service for each dollar expended.

Plentiful Supply of Pine

There is no shortage of the lumber that built the homes of colonial days. A sufficient supply of carefully selected Shevlin Pine is available to supply the nation for many years.

Timber is a crop like any agricultural growth. When it ripens, it should be harvested and utilized for the purpose for which it is best suited.

Conservation of the mature timber crop is false economy. Timber deteriorates if not cut when matured and is subject to various natural destructions.

You may obtain Shevlin Quality Pine from leading lumber dealers throughout the nation in five varieties: Shevlin California Sugar Pine, Shevlin Northern White Pine, Shevlin Norway Pine, Shevlin Ponderosa Pine and Shevlin California White Pine.

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, allowable stresses and other information. Just fill in the convenient coupon below, mail it to us and you will receive this booklet.

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 Slight Variation

THE seller had sold goods to the contractor, to be paid by cashier's checks, on the Tela National Bank. A few days before the delivery date the contractor hustled up to the cashier's wicket.

"I'm a little late on that payment, if I depend on the mail," the buyer observed, "so I'll get you to wire the money instead."

The money was wired, the goods were shipped, and one of the seller's creditors attached them in transit.

"I bought the goods and paid for them, and the title's passed to me," the contractor contended.

"Not when you didn't pay for the goods in the manner specified in your agreement," the creditors retorted, but the Montana courts (in 235 Pacific Reporter, 767) ruled in favor of the buyer.

"The mere fact that payment was not made exactly as required by the contract of sale will not prevent the title from passing," the court ruled.

Shipped and Re-shipped

If a seller sells and ships goods, and then learns that the buyer is insolvent, he may, as a general rule, retake possession of the goods as long as they are in the hands of a common carrier, under what is known as the right of stoppage in transit.

On the other hand, if the goods arrive, and the seller resells and reships to a third party, the original seller cannot then reclaim the goods as the original transit has ended and a new transit has begun.

All this is very elementary business law, but a more intricate point was involved in the case reported in 270 Federal Reporter, 503, where the evidence showed that the seller shipped goods to Pittsburgh, the buyer, for a fraudulent purpose, had the goods reshipped to himself in New York, under an assumed name, and the seller attempted to stop the goods in transit between Pittsburgh and New York.

"Any lawyer's office boy of three weeks' standing knows that a reshipment breaks the original transit and does away with the right," the buyer protested.

"Not when the reshipment is made to the buyer himself and for a fraudulent purpose," the seller retorted, and the court, in the case referred to, ruled in his favor.

"His reconsignment of the goods to himself, although under an assumed name, was a declination by him to accept delivery at Pittsburgh and an affirmation of his intention to accept delivery at New York," the court said.

The Worthless Promise

"I COULDN'T pay cash right now, if I was to be hung for it, but I'll endorse over Henry Smith's note for $100 in my favor," the customer suggested, and the builder asked the standard question:

"Is Smith good for it?"

"Good as gold," was the positive reply. "Owns his house and hasn't got the scratch of a pen against a thing."

"Endorse your note, then."

"Of course, I want you to agree not to come back on me, but to look to Smith when the note falls due," the customer urged.

"Yes, I'll agree to that," the builder concurred, the note fell due, the builder ascertained that Smith wasn't worth suing—and entered suit against the customer as endorser of the note.

When the case came to trial, the customer went into the witness box, and started in to tell of the agreement between the builder and himself in reference to the note.

"I object, your honor. The written endorsement on the back of the note must speak for itself and cannot be varied by verbal evidence of any different arrangement," the builder's lawyer objected.

"Objection sustained, and evidence rejected," the judge ruled—and the judge was right.

"It is well settled that, as a general rule of law, oral evidence is not admissible to contradict or vary the terms of a written contract. And ordinarily, the written contract that is entered into by an endorser when he makes an unrestricted indorsement cannot be contradicted or varied by parol (oral) evidence," says one state court in laying down the rule.

The "Unsigned" Note

"Mr. HENRY W. JONES, Town. Your account is $78.33 is past due, and I would be glad to have an early settlement, as I have some large bills falling due at the end of the present month," the builder wrote.

"I cannot pay cash at the present time, but I am enclosing my note for one month to cover your account," the customer replied.

The note was enclosed, was properly dated, and sealed as follows:

"One month after date I, Henry W. Jones, promise to pay to A. B. Builder the sum of Seventy-eight and 33/100 Dollars at the Mercantile Bank here."

The entire note was in the customer's handwriting, but it was not signed at the end.

(Continued to page 162)
Do you make your own Sash?

Of course you do not make your own sash.

Why not? Because specialization gives you ready-made sash that are better and cheaper than you could possibly make them.

Actual figures and a study of each operation shows that more delicate and accurate milling is required to make tight-fitting window frames than to make the same kind of sash.

And specialization is now making it possible for contractors everywhere to get Andersen Window and Door Frames* at less cost than they can make frames of equal quality.

Soon, making your window frames will be as obsolete as making your own sash.

Ask the Andersen dealer to "show you" or fill out and mail the coupon below.

GENERAL DISTINCTION.

Superiority Guaranteed

White Pine

Lumber and Bedding

Distinctive Features

5 A Frame up in 10 minutes.

6 Standardized styles and sizes, convertible for all architectural needs.

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Box 7105, Bayport, Minnesota.

Please send me without cost or obligation the material checked in squares on this coupon.

☐ Set of folders describing construction and uses of Andersen Frames.

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

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Business

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New Rabbet and Router Plane

Here is an up-to-date rabbet and router plane, gauge and marker which offers simplicity, accuracy and economy for the performance of the work for which it is intended. It is described as being particularly adaptable for setting hinges and locks, making an absolutely perfect insert base, both as to width and depth and positively eliminating any possibility of hinges or hasps not seating perfectly.

It is also valuable as a rabbet plane for fine and intricate work and adaptable for many places where other planes could not reach. The gauge is also used as a handy square. The bit is adjustable up and down and has a range of ½ inch below the bottom surface running exactly the same width, ¾ inch, as the base of the plane. The weight of the complete plane is only 12 ounces.

Light Efficient Shingle Cutter

For contractors and roofers who apply asbestos shingles the tool shown here will be a welcome addition to available equipment. This is a new shingle cutter which, because of certain new features, is light in weight and easy to handle, while doing thoroughly effective work.

The principle of hinging two knife bars at one end and a toggle power movement at the other produces a suitable power leverage and provides a greater angle in the relation of the two blades during the shearing motion. This reduces the stress upon the knife bars, thereby lessening the springing tendency, and permits the lighter construction. Formerly a large percentage of the weight of cutters was required, not against any possible breakage of the tool, but to prevent the springing of the knife bars, which would be detrimental to the performance of the cutter.

Another feature of this cutter is the type and quality of the blades. The double-bevel, or "V" shaped, knife has double material or stock to support the cutting edge and, therefore, maintains a keen edge longer. The quality of the material, however, is equally as important and requires a special steel, correctly hardened and tempered.

This cutter accommodates all styles and sizes of asbestos shingles, including the various thicknesses of tapered shingles. It can be operated by either pulling or pushing the handle, whichever position is most convenient, and the blades are visible from both sides, making it unnecessary for the operator to step over the cutter for making any cuts.

Self-Contained Portable Saw

Just about the last word in portability is what describes the saw illustrated here, for it is completely self-contained and is provided with a handle so one man may carry it like a piece of baggage. At the same time, when in operation, it is a machine which can be depended upon for speed and accuracy. It is well constructed and sturdy and will handle lumber up to three-inch thickness.

This saw is equipped with a ¾ H.P., high efficiency motor, mounted on a movable base, and equipped with a 10-foot extension cord for making the power connection. It is controlled by a tumbler type, safety switch. The power is transmitted to a special alloy steel saw blade mounted on genuine Swedish bearings, by means of a special endless, high speed belt. Regular equipment includes a gauge for grooving, crosscut and ripping gauges graduated to 90 degrees and interchangeable for right or left hand use and crosscut and rip saws.
The Vogue of Smart Cellars calls for THATCHER "Elite" Boilers

The new Thatcher "Elite" appeals particularly to women. It is so bright and cheerful—so smart. Fully encased in a scarlet enamel jacket, the new "Elite" is easy to keep clean. Due to its "Staggered Fire Travel"—a feature of all Thatcher boilers—the new "Elite" is economical and efficient in operation with either coal or oil as fuel. Write for booklet.

The Thatcher Combination Range

Aside from the supplementary heat to be derived from a coal range—there are many women who prefer it for cooking. Thatcher Enamelled Combination Ranges offer both coal and gas facilities in a single compact and attractive unit—designed with an eyetoward economical operation and ease of cleaning.
Floor Edger Perfected

Very floor man who has ever done hand scraping and finishing has looked forward to the time when some machine would make this hand work unnecessary, for it is the hardest and most costly sort of labor. Yet such labor has always been necessary, ever since sanding machines have been in general use, in order to finish the edges of floors which could not be reached by the drum sander.

Now, as may be seen from the illustration, an edger has been perfected and placed on the market which entirely changes all this. The manufacturers list “ten exclusive features” for this machine. They are:

1. It finishes the edges complete much faster than an expert can do it by hand. It surfaces within 1/4 inch of 90-degree angles on front and either side, the unsurfaced strip of 1/4 inch being easily covered by quarter round or shoe strip. It surfaces the butt ends of a floor with the grain. It leaves a finish which blends perfectly with the main body of the sanded floor. It always works with the grain of the wood, leaving no cross scratches, vibration marks or imperfections of any kind. It operates in space 28 inches wide with the grain. It can be fitted with two grades of abrasive belts so that it roughs and finishes at one time. It has a powerful vacuum system that effectively collects the dust. It is powerful enough to be practical yet light and compact enough so it can be easily transported by one man. It is made of the highest grade material, aluminum construction throughout, including motor housing.

While the machine is named as an edge sanding machine the manufacturers state that it is a real floor surfaced and capable of completely finishing a room, center, edges, closets and door openings, faster and better than three men can scrape it by hand. It weighs but 98 pounds, but the quality of work is smooth and steady and the surface produced absolutely perfect. Because of this broad ability it is said to be especially suited to the needs of the small building contractor who builds only a few houses each year and usually does the work himself. If he does not care to invest in a large, fast-cutting floor machine, he may do all of his floor work, including edges, with this machine without hand work.

New Low Price on Insulating Lath

For years, there has been on the market a plaster base of bevelled wood lath and fibre backing. It has been a favored plaster reinforcement of many of the leading architects, contractors, plasterers, and builders. They have recommended and demanded it because it insulates the wall, strengthens the wall, and is designed to hold the plaster wall intact and free from cracking over a period of years.

The price of this special material has always been $45.00 to $50.00 per thousand feet, and at that price has been in good demand.

Now, however, the manufacturers announce a cut of 50 per cent. At $25.00 per thousand feet this is one of the building sensations of 1928.

This insulating lath is a combination of units. The base consists of heavy waterproof fiber board. This is given a coat of asphalt mastic, making it proof against moisture. Into this asphalt mastic, beveled wood bars are imbedded under pressure.

These combined units produce a plaster reinforcement of great strength and rigidity; and a shield that is impregnable against the elements.

The wedge-shaped interlocking wood lath bars hold the plaster in an inverted wedge clasp with a grip that lasts for decades. This method of interlocking the plaster and the lath reinforcement welds the entire wall and ceiling into a single unit of strength and rigidity. In addition, it provides a wall that has positive sound-deadening qualities, enabling the builder of apartments to get higher rentals, assuring more perfect acoustics in public halls, and guaranteeing to the home builder a new degree of refined privacy.

This insulating lath is said to save 25 per cent or more of the plastering materials, because the wedge-lock key construction requires less plaster, and the asphalt fiber backing prevents plaster from going through and falling down.

It is claimed that the use of this lath saves fuel bills. Because it is such a good non-conductor of heat and cold a more uniform temperature is easily maintained.

Some interesting information will be mailed to those of our readers inquiring about this insulating lath material selling at half its former cost.

New Improved Door Latch

A NEW latch has recently been added to the line of a well-known manufacturer. It is stated that this latch possesses several features that make it unusual. Two large and yet graceful handles are provided, one for each side of the door. The thumb pieces are close enough to the handles to make unlocking easy for the smallest hand. A hole, ample for any size padlock, is provided in both the slide and the strike. The patented "positive" latching feature of this line of locks is also incorporated in this new type. No matter how hard the door is slammed this latch never fails to catch and hold the door shut, it is claimed.

An Edging Machine That Is More Than an Edger Is Especially Adapted to Small Contractors to Finish Entire Floors.
LONG lives . . . Busy lives . . . Years and miles of bending their speed, their power, their endurance unceasingly to the building of business . . . .

That is the story, unchanging, told by Graham Brothers Trucks and Commercial Cars everywhere—all types, all lines of business.

Thousands upon thousands go on year after year . . . 100 . . . 200 . . . 300 miles a day . . . fast, dependable, economical . . . good roads and poor . . . .

good drivers and bad. Your local Dodge Brothers Dealer will show you the right truck, body type and chassis size, to fit your requirements.

He will tell you how long life is built into Grahams at the factory—how other business men, your neighbors, your associates, your competitors, are getting this long life out of Grahams.

He will show you his complete service facilities. And he will surprise you when he tells you the low prices.

GRAHAM BROTHERS TRUCKS

Built by
Truck Division of
Dodge Brothers, Inc.

When Writing Advertisers Please Mention The American Builder
**Sound Deadening Tile**

Sound is reflected back from ordinary wall and ceiling surfaces much as light is reflected by mirrors. Because of the constantly increasing noise of modern cities the control or deadening of noise has become an important item in the design of building of many types and constant efforts are being made to develop new and better methods of sound insulation.

These methods of sound control are all based on the principle of absorption. If you paint a mirror black there will be no reflection of light. In much the same way applying sound absorbing materials to walls, ceilings and floors absorbs the sound and makes the room more quiet. Various materials absorb sound to various degrees. Some absorb as high as 70 per cent of the sound that strikes them.

A device has recently been developed and marketed for attaching high sound absorbing materials to walls and ceilings. As illustrated here, this is a perforated sheet of metal which allows sound to pass through as through a screen. Back of this form there is placed the sound-absorbing material, any of several different types being suitable, the whole piece forming a tile 16 inches square and about one inch thick.

This tile is securely attached to the ceiling by means of special Tee section strips which are attached to the ceiling on 16-inch centers and into which the tiles lock rigidly. The Tees are completely concealed in the finished surface and the surface can be repainted or redecorated indefinitely without reducing the sound-absorbing factor noticeably. It can be taken down and salvaged if desired and removed to another location. It can also be sponged off and kept clean at all times. Either a metal or light wood plaster moulding can be used to finish off the edges and the tile can be obtained with either beveled or plain squared edge.

**A New Power Hand Plane**

After nearly three years of experimental and development work a company which has for the past eight years been devoted to the production of high grade portable woodworking machines, has perfected a power hand plane that is fast enough to produce cuts on doors, transoms, sash, etc., in fitting to the opening, and sturdy enough to stand the continuous abuse of work of this nature, yet light enough to be termed a truly portable machine in every sense of the word.

This machine weighs but 9½ pounds and, it is said, can be operated easily with one hand, as the switch is right in the handle. The side apron is fully and instantly adjustable for cutting from square edges to 45 degree bevels, with a proper stop provided for the return of the apron to its original square position immediately.

The motor is a specially constructed, universal type, operating on either A.C. or D.C. current and develops full ¾ H.P. with current from a lamp socket. It has a speed of 18,000 R.P.M., and with a spiral cutter of three teeth 54,000 cutting edges are cutting every minute, insuring smooth work and eliminating the necessity of scraping or sanding.

There is also a complete grinding attachment supplied with each machine, that grinds the cutter keeping it like new. This requires but a few moments to do. The machine is fully adjusted to compensate for any wear of the cutter. The dial shown at the front of the machine is direct reading and may be adjusted either while cutting or before starting work.

A bench bracket is also supplied as regular equipment which converts the machine, in a moment, into a portable little bench jointer. The cutters are full 2 5/16 inches wide, permitting the fitting of all doors, transoms or sash, or any building operation. The saving of time and labor and hence expense, through the use of this machine is said to be large, and at the same time the hard, tedious work of hand fitting is eliminated.
Extra Batches—Extra Profits

Compare the Quick Tilt of a Smith with the discharge of any other mixer.

The Smith Mascot (2½-S) Mixer—of very best materials through- out. Simple and trouble-free in de- sign and construction—the blades through the batch and it is not merely stirred, as in other small mixers.

A Smith Tilting mixer cuts non-productive “between mixing” time to the fewest possible seconds. Those seconds, saved every two minutes, give Smith users more batches a day—extra batches that mean extra profits.

Better mixing, too. Smith pioneered the tilting mixer back in 1900 and has a fully developed, perfected mixing action that is smooth — and easy on the drum and drive.

Backed by 28 Years’ Experience

Only from long experience can a mixer builder incorporate the proper materials and refinements in design that mean long-life and user satisfaction. Smiths of 2½, 3½, 5, 7-S (up to 112-S) capacity have 28 years of use in the field in back of them.

THE T. L. SMITH COMPANY
1026 32nd St., MILWAUKEE, WIS.
Sales Offices and Service Stations in All Principal Cities
A Burglar-Proof Door

Here is illustrated a new door which, by combining units that have for many years been used separately, answers the demand for burglar protection while, at the same time, retaining the highest standards of door construction and beauty. This door is installed with standard jambs and hardware such as used in doors of any of the conventional types. In construction it is a door within a door.

The secondary door, when opened, leaves an opening which is covered by a burglar-proof bronze grill and a bronze inset screen. The grill is on the outside with the screen inserted between the grill and the hinged sash of the secondary door.

Many robberies have been committed in daytime through lack of the protection such a door offers, the story usually being: the door bell rang, the woman of the house inquired through the door or speaking tube what was wanted, the answer was “a package to deliver,” “the telephone inspector,” “the gas man,” or some such excuse, and when the door was opened the intruder thrust himself in, the house was robbed or violence committed.

With this door, when the bell rings, only the upper sash is opened and the woman of the house is effectively protected against intrusion or attack by the grill and need open the door itself only when the caller demonstrates beyond doubt that his errand is genuine.

Asphalt Floors and Damp-Proofing

In spite of the general acceptance of the axiom that “oil and water will not mix,” there has been discovered a commercially practical method of suspending asphalt in water which opens up very interesting possibilities in the building industry. The resulting asphalt-water mixture is easily combined with sand and portland cement, forming a resilient mastic for laying water-proof, acid-proof floors, for permanent patching of holes in concrete floors, loading platforms, sidewalks, pavements, etc.

Also, without the addition of mineral aggregates, it is used as a plaster bond, for damp-proofing walls, foundations, and as a protective coating against water, moisture, acids, alkali, chemical fumes and electrolysis. The material is easily applied by any careful workman. No heating and no special tools are required. Simple mixing operations and cold application supplant the heating kettles, hot mopping and work formerly done only by experts. The protective coating, without mineral aggregate, is applied by brushing, spraying or troweling.

In the production of this material, hot liquid asphalt is broken up into globules in water to which has been added a small amount of colloidal clay. These tiny globules of asphalt are prevented from joining or sticking to each other by a thin film of the air, however, the minute film of water quickly evaporates and the each globule of asphalt amalgamates with the adjoining globules, forming a coating of solid gummy asphalt, exactly the same as though the asphalt has been melted and applied as a hot coating. The tiny particles of clay are imprisoned in the spaces between the globules of asphalt forming a colloidal mixture which, it is said, scientists have demonstrated adds greatly to the durability of the asphalt coating.

This new material is shipped in metal barrels and half barrels in the form of a heavy, thick paste, which can readily and dries within a few hours under normal weather conditions. As it is odorless and tasteless it can be used for waterproofing cold storage rooms, refrigerators, water tanks, etc., and since it contains no volatile, inflammable solvents, it can be used with safety in unventilated spaces. Being very sticky and adhesive it bonds securely to any solid surface—wood, concrete, brick, tile, plaster, stucco, iron, steel or glass. As it forms the same coating as asphalt applied hot, it is water, acid and fume proof, an excellent electric insulator and remains elastic and ductile under varying weather conditions, and will stand comparatively high temperatures without sagging or flowing.
Get Delivery on a New Chevrolet Truck NOW!

If your requirements call for a speedy, dependable haulage unit—you can get prompt delivery on a Chevrolet Truck. The thirteen great Chevrolet factories are working at capacity; and your Chevrolet dealer can provide you with exactly the body-type to meet your individual requirements.

See him for a trial-load demonstration. Let him explain the advantages of Chevrolet's rugged construction and modern design. Let him show you why Chevrolet provides the world's lowest ton-mile cost in every line of business.

CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN
Division of General Motors Corporation

—at these Low Prices
LIGHT DELIVERY
$375 Chassis only
UTILITY TRUCK
$495 Chassis only
Prices f.o.b. Flint, Mich.

QUALITY AT LOW COST
Simple Effective Screen Lock

An interesting and useful little device, shown in the illustration, has been placed on the market. It is in the nature of a lock for use on window screens, storm sash and the like and is intended to eliminate the necessity for outside installing of these. The device is a single piece of metal having two prongs so that it can hook either right or left as desired. The inside prong, not intercepting in the keeper, serves for a handle to hold the screen and turn the lock into the proper position where it grips from one point, pulls and also draws sideways. It is ornamental and easily installed.

When this device has been installed, screens and storm sash can be taken off on the inside of the windows for cleaning glass and replacing again. It is a safeguard for burglary because it cannot be taken off from the outside until the locks are released. It can be placed on sides or corners where it is difficult if not impossible to install the more familiar locks.

When screens are installed with these locks the outside appearance of the building is not marred by unsightly hangers and the use of ladders, which damage the lawn and shrubbery, is eliminated. To prevent children tampering with the locks, both screws can be drawn down to a clinch in locked position. The locks are placed, preferably, near the middle of the top and bottom sash, on both sides of the screen. Either a screw or screw eye is used for a fastener.

New Steel Framing System

A SUBSIDIARY of one of the largest steel fabricating companies in the world has developed what is claimed to be a thoroughly practical and greatly improved system of house framing. This system makes it possible to produce standard steel frame members at such an economical cost that a steel frame house is within reach of every modern home builder, it is said.

The system is remarkably simple, consisting of units composed of standard rolled steel sections. The method of punching and assembling provides unlimited construction possibilities and also provides an easy means for attaching the building material.

The first cost of this steel framing is slightly higher than wood but the saving in labor and the rapidity with which it can be erected is said to offset the difference in material cost, not to mention the added degree of permanence, rigidity, fire safety and freedom from shrinkage. A catalog describing this new method of house framing entitled "Steel Framing for Dwellings," is available to home builders and contractors. Address requests to the Editor What's New Department.
"Wonderful time was made on this job!"

BRYANT & DETWILER, contractors on the new Harper Hospital, Detroit, sent the "Swinging Scaffold" back 30 days sooner than originally planned.

Wm. Brown, the mason foreman, stated that, "wonderful time was made on this work. At the peak, there were 76 bricklayers, and 2 men mixed all the Carney mortar". This alone represents a sizeable saving.

The masons, too, were well pleased with the butter-like manner in which the Carney mortar worked on the salt-glaze brick—and the joints proved exceptionally tight.

If you want really fine jobs of masonry—at a cost considerably lower than others—put Carney Cement on your list.

**THE CARNEY COMPANY**

District Sales Offices

CLEVELAND  CHICAGO  DETROIT  ST. LOUIS  MINNEAPOLIS
Leader Building  Builders Building  Book Tower  Louderman Building  Builders Exchange

Since 1883

Cement Makers

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

**CARNEY CEMENT**

for Brick and Tile Mortar

When writing advertisers please mention the American Builder
What's New?

A Marble-Like Concrete Product

The illustration shows an installation of a building material, made in various forms of moldings, bases, panels, wainscoting and flooring. Its general appearance is practically the same as marble. It carries the same distinctive coloring and is surfaced with a permanent high polish. It is set in exactly the same way that marble is set. Basically, it is of concrete construction, poured into molds and chemically processed by a special patented formula.

It is stated that impartial tests have shown this material to be 1.75 times as hard as marble and, being a manufactured material, it contains no fissures. Neither marble chip nor dust are used in its manufacture so that there is no possibility of pieces of its surface working loose or fissures gradually wearing into its surface.

It is produced in such form as to be practically an exact reproduction of various types of marble. It is non-porous and entirely impermeable and therefore cannot be affected by moisture. Even ultra-violet rays do not affect its color. It can be used anywhere that marble is used and makes a rich, permanent installation of molding or trim.

In addition to its strength and beauty it is also more economical than marble. It is less expensive in first cost and, being lighter in weight, saves in the foundations,footings and steel structure. It is, to be exact, 223/4 per cent lighter than marble. On account of its uniform consistency it will not crack, flake or chip. It is designed and manufactured in every form to meet every requirement of construction and setting.

The manufacturers of this material maintain a service department to co-operate with architects and builders. They offer to make a survey and quote prices on any type of building, plans of which are submitted to them, and return the plans within 36 hours, furnishing, at the same time, detailed cost of installing.

Device for Perfect Saw Filing

To obtain a fine cutting saw it is necessary that it be filed with the proper combination of angles and the work be accurately performed. This is very difficult to accomplish free hand, but with the saw filer shown in the illustration it becomes an easy matter.

Some woodworkers are puzzled as to why their saws do not cut satisfactorily although filed at the same bevel and pitch as a fellow worker files his and obtains perfect cutting. The reason for this is not so difficult to understand if you stop to analyze it. The owner of the satisfactory saw files at the right degree of incline, quite often without being aware of it, and maintains it throughout the saw. Naturally a fine working saw is the result.

The owner of the unsatisfactory saw files at exactly the same bevel and pitch, but with no regard whatever for the inclined. He files anywhere from a horizontal position to a 35 degree incline and with all the variations between the two extremes. The consequence is a great multiplicity of different shaped teeth. No one could expect such a saw to cut efficiently.

This is not the only reason why a saw does not cut but it is the principal one, at least that is the case where the bevel and pitch can't get away from you. If the three positions, that is, the bevel, pitch and incline, are not properly combined the result will be unsatisfactory no matter if the filing is done with great accuracy. There is a great deal said about nice uniform teeth, but uniform teeth mean nothing unless they are of the proper shape.

The perfect results obtained with this filer are due to the fact that all three positions, the bevel, pitch and incline, are assured and in addition to this the depth is also assured.

Candle-Like Electric Lamps

In response to a demand for candle-like illumination, one manufacturer has brought out the new type of electric lamp shown in the accompanying illustration. When cold, the lamp is said to be a perfect replica of a hand-dipped candle. It lights throughout its entire length with an even soft, mellow, candle-like light. The lamp is made in four sizes, a 6-inch size for commercial use, side wall brackets and center ceiling chandeliers; an 8-inch size for portable fixtures, lamps, electric candle sticks, etc.; a 10-inch size for decorative lighting of public places, theaters, churches, etc., and what is known as a plus 10-inch size. The plus 10-inch lamps are of the heavy, massive type for candle stands, torches and similar fixtures. These lamps are made in 10, 25 and 40 watt rating and in all the popular shapes. The manufacturers maintain a service department for the purpose of assisting manufacturers interested in designing fixtures for these lamps.
This advertised wiring gives your house the comfort that makes it sell

You have undoubtedly found that home-buyers today look for complete and adequate wiring. Continuous advertising of the General Electric Wiring System has fostered and strengthened this demand. Furthermore, they are looking for an assurance of flawless materials and perfect electrical service. It will pay you to be able to say "This house is equipped with a General Electric Wiring System!"
Give Your Clients the Best
Specify
Libbey-Owens

FLAT-DRAWN CLEAR SHEET GLASS FOR WINDOWS

A GLASS made by an exclusive process—absolutely without bow—uniform in thickness and strength—with a fire finish of high lustre—which can be cut, handled and glazed with a minimum of breakage—and which can be glazed either side out because it is truly flat—that is what LIBBEY-OWENS offers in its flat-drawn clear sheet glass for windows.

Because of these superiorities, architects and builders everywhere are specifying LIBBEY-OWENS “A” quality glass, and in doing so are rendering their clients a real service.

LIBBEY-OWENS “A” quality glass is twice inspected and twice graded to insure its measuring up to our exacting standards. To protect its brilliant lustre, it is packed with water-marked paper between the lights, and to identify this superior glass, each individual light bears the manufacturer’s label.

Specify this nationally advertised glass for all fine windows—and provide your clients with clearer vision and more beautiful windows.

THE LIBBEY-OWENS SHEET GLASS COMPANY
TOLEDO, OHIO

LIBBEY-OWENS FLAT-DRAWN CLEAR SHEET GLASS FOR WINDOWS
Distributed Through Representative Glass Jobbers and Used by Sash and Door Manufacturers Everywhere
A New Economical Metal Lath

A NEW steel plastersing base has been developed and placed on the market for the purpose of meeting the demand for a steel plastersing base sufficiently economical to permit its use in moderate priced homes and other construction where the price of the old types of metal lath does not permit its use. In appearance it resembles the well-known metal lath made by this company for years and combines the valuable qualities of both diamond mesh and ribbed laths.

The engineers have, however, incorporated certain distinctive qualities in this new product that make it so economical as to compare favorably with plaster board and wood lath. The sheets are 24 inches wide and 96 inches long. Three rows of open mesh connect the heavy, cold-drawn, % inch flat ribs which are placed 1\(\frac{1}{2}\) inches on center and mesh being formed from a single piece of sheet steel. The rigidity imparted by the stiffening ribs is increased by their wide flange, which also contributes to the mortar saving qualities of the lath, it is stated.

The lath can be furnished cut either from standard open lath or copper bearing sheet. It is painted, bundled and shipped uncrated. The weight per square yard is three pounds and it is packed nine sheets to a bundle, weight 48 pounds. The manufacturers state that plasterers say the mortar saving qualities of the lath, it is stated.

A New Electric Sander

ALL of the tedious and tiring labor formerly performed with abrasive paper and elbow grease, for smoothing surfaces, can now be done more efficiently and rapidly with the new electric sander illustrated here, it is stated. The sand pad is electrically driven by a powerful motor through a train of steel gears, heat treated, and running in a grease-tight compartment. The motor and all revolving shafts are mounted on ball bearings. The sander is operated with a pistol grip and trigger switch and it has a wide range of applications. It is made for all voltages.

A Portable or Stationary Saw

HERE is a new woodworker which is adapted to either stationary or portable use, it being unnecessary for the builder to buy both a portable and a stationary saw. It is powered with a %\(\frac{1}{2}\)-h.p. electric motor, either A.C. or D.C., and plugs into any light socket, being supplied with a 10-foot cord and plug. It has hardened gears, accurately machined, incased and running in grease. All moving parts are on ball bearings.

The frame or bench is of steel and aluminum for lightness and strength, with shoulders so that it can be screwed to a bench. It allows cross-cutting of lumber up to 12 inches in width. The ripping gauge can be adjusted to rip strips from %\(\frac{1}{4}\) inch wide to 7 inches wide. In cross-cutting the saw is pushed back and forth on the rods while in ripping it is locked in place.

Depth adjustments are easily made by a crank and when the proper depth is reached the machine is locked at this depth. Cuts can be made from %\(\frac{1}{4}\) inch to 2\(\frac{1}{2}\) inches deep. With a larger saw, which can be supplied if desired, it will cut to 3\(\frac{1}{4}\) inches deep. The saw can be swung from vertical to any angle up to 45 degrees for mitering and a scale on the bevel shoulder makes it possible to set the saw for any angle desired where it can be locked for continuous use.

Just two nuts unfasten the saw from the frame and it then becomes a portable electric hand saw weighing but 27 pounds, with the saw blade encased in a guard and the saw operated by means of a trigger switch set into the handle. One nut removes the saw blade for sharpening and various attachments may be inserted adapting the machine to drilling, disc sanding, grinding, dadoing and cutting of light metals.

More Accurate Power Dial Scales

THIS new type of power dial scale, which is said to mark a distinct improvement in such instruments, has recently been placed on the market. This new scale incorporates the principle of a chemists' laboratory scale, long known for its extreme accuracy, with an electrically operated poise shift which automatically strikes a perfect balance. An accuracy within 1\(\frac{1}{2}\) of one per cent is said to be obtained.

The fact that the load on the platform does not do the work of turning the mechanism as in the ordinary type of scale is given as one of the reasons for its great accuracy. This scale is adapted to any type of heavy duty beam scale and makes it possible to weigh up to 200 loads per hour.

What's New?

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Above is reproduced copy of our Springtime Message to Home-Buyers, which will appear in the Saturday Evening Post, May 19th, and in other leading publications, reaching over 30,000,000 people during the month of May.
to 30,000,000 People
and Heating Comfort

Another step in our million dollar campaign
to increase Home-Ownership and raise
America's standards of Living Comfort—

ON the opposite page is our first 1928
Springtime Message to home-buyers. This is another step in our national program
to help raise America's standard of living comfort by encouraging more and better
homes.

This advertisement will appear in the Saturday Evening Post of May 19th and in other
publications, reaching more than 30,000,000 people during the month of May.

It is one of the most important announce-
ments we have ever made, because it will
reach hundreds of thousands of home-buyers just at the time they are considering a new
home. And it will have a tremendous influ-
ence in stimulating interest in home buying.

Making America Home Conscious!

It is the attitude of millions of families
towards their homes that makes a market for
more and better homes. Contented and
healthy families with modern home comforts
are the enthusiastic boosters who influence
other families to become home owners.

Until America is made home conscious
and more families are encouraged to build
and buy better homes, families will continue
to spend more money on luxuries than on
necessities for their homes. This is our
common problem and we are following in
the footsteps of the builder to do our part
in encouraging home ownership and raising
the standards of living comfort through this
million dollar educational campaign.

The message is a real service to the public.
It safeguards the home comfort and health of the nation; it promotes better homes and
therefore, more homes; it means, conse-
quently, greater sales—and easier sales—for
builders who can show their clients these
products in the houses they construct.

Mail the Coupon for Detailed Information
Flexible Wire Rope Bolts

Through the development of the preformed type of wire rope, which makes possible the attachment of fittings by the processing method that compels the fitting to become an integral part of the rope, there has recently been perfected and placed on the market the flexible bolt shown in the accompanying illustration.

These new bolts may be used in countless places in and around the mill or plant or in any place where rigid "U" bolts are impractical. They are used as auxiliary hangers for power shafts suspension brackets for overhead steam or water piping, shackle bolts for temporary wall boxes and tanks, for scaffolding and tackle, on various parts of machinery and other places where semi-flexible connections are necessary.

The principle on which the new flexible bolt rests is the preformed type of wire rope. Preforming the wires and strands to the exact helical shape they must assume in the completed rope results in a cable that does not require seizing but may be cut like a rod. This type of rope permits a close fitting attachment to be slipped over the unseized end of the rope and to be processed so that the steel of the fitting cold flows into the interstices of the rope and thus becomes practically an integral part of it. Naturally such fittings can be threaded for a nut or capped for a head. The flexible bolt which has resulted from these developments is available in varying lengths.

Quick Acting Fire Station Doors

A new type of quick acting door was recently installed by the fire department of Hempstead, L. I., in its fire station, and has attracted considerable attention from architects and fire chiefs who have seen it in operation. This door operates in two units of two doors each, an electric motor providing the power. The entire opening is cleared in less than five seconds and the operation is noiseless and free from jar when the doors swing to the full open position.

The operation is in response to a switch thrown by the man in charge of the station, upon receipt of an alarm. The doors are opened full before the driving motor on the fire engine can be started. The Hempstead doors, shown in the accompanying illustration, are painted cream color with black trim and present a pleasing appearance in addition to their practical utility.

For Sawing Timbers This Power Saw, Which Can Be Used Under Water, Is a Time and Labor Saver.

The D.C. type also has a specially designed motor operating on 110 or 230 volts direct current and weighs about 100 pounds. Otherwise its specifications are practically the same as those of the A.C. type. The air motor type has a special motor designed to operate from a 5 by 5%4 compressor of well known make or machine of equal capacity, maintaining a tank pressure of not less than 80 pounds. Its capacity is, also, 24-inch timber and its weight about 95 pounds. It will operate successfully 24 feet under water.

These machines have frames of four pieces of special saw steel, heat treated and riveted together with a slot around the edge providing a track for the saw links to travel. The frame is held rigidly in position and an eccentric sprocket shaft provides adjustment for the tension on the chain. The links are made of high grade steel, electrically heat treated and are easily replaced. A foot control switch housed in an aluminum and copper casting controls the A.C. type while the control for the D.C. and air types is mounted on the motor end of the saw. The upper section of the saw teeth has a guard which passes through the cut with the saw. The strength of the chain, in relation to the pull of the motor, gives a very liberal safety factor, while a sheer pin on the sprocket shaft protects the machine from sudden shocks or strains.

This saw will be found particularly valuable on mill construction and on all building which involves much sawing of heavy timber or trimming piles.

Flexible, Wire Rope Bolts, Most Convenient for Many Kinds of Connections, Have Been Made Possible by the Development of Preformed Wire Rope.

These Doors Are of a Quick Acting Type Which Has Been Found Particularly Suitable for Fire Stations.
Better Chemical Toilets

For homes and other buildings beyond the service of city sewage systems, an improved service, described by the manufacturers as being far in advance of anything previously offered, has been brought out. This model incorporates two important features which recommend it to health authorities, architects and owners and all others interested in building equipment. It is designed for use wherever water supply is inadequate for a plumbing system or where special care is desirable to safeguard the water supply.

This system is easy to install, requires a minimum of care and small upkeep expense, assures an absence of odors and trouble-proof service. The drop-tube, agitator and manhole collar all extend below the liquid line, thus providing a seal against odors more effective than any system of ventilation. Ninety per cent of the sewage area and consequently 90 per cent of the odors are eliminated at the source. This feature is made possible by the stationary level maintained in the self-drain type of tank.

The system normally operates as a self-drain system requiring no attention except a monthly supply of chemical. The sewage is retained until liquefied and sterilized, then discharges automatically into the filter pool. This improved type also allows the tank to be entirely emptied through a drain outlet at the end of the season or as frequently as desired.

The system includes one, best grade, vitreous china bowl of tank.

A New Electric Saw Table

The new electric saw table illustrated here has been devised to materially extend the scope and usefulness of the electric combination grinder manufactured by this company. This handy saw table can be quickly mounted on the grinder. Work can be sawed up to 1 3/4-inch thickness and machine will also saw aluminum, brass, copper, bakelite, fiber and similar materials with surprising rapidity, it is stated. The saw table is sold separately or in combination with the grinder.

Colored Porcelain Leg Rests

Leg rests for use with stoves, kitchen cabinets, refrigerators, radio cabinets—as insulators, radiators and furniture, are being manufactured of porcelain which is said to be stronger than glass. At the same time they offer an opportunity for variations in color to harmonize with room decoration and add to the attractiveness of the room. The colors available are white, black, green, gray, blue and brown. There are two styles, with curved and straight sides, and both styles may be had in all these colors.

Adjustable Knockdown Horses

Horses are very handy when they are needed, but they are always in the way when not in use. Every job uses various heights of horses. Carpenters, plasterers, decorators and other workmen carry with them several sets to suit their needs and, in many cases, when done with them, they have to be left behind for want of room to carry or store them. This difficulty is entirely overcome by the use of the knockdown horses pictured here.

These horses are adjustable to any ceiling height, reducing the number of horses required on any job. They can be adjusted to a fraction of an inch. On stairways, landings or uneven floors they always stand rigid and eliminate all danger of falling. When the work is completed they can be taken down in a few moments and a half dozen of them take up less room than one of the ordinary type.

The design of the hardware makes possible a light, strong, neat horse. The plates are stamped of 16-gauge, galvanized iron with simple efficient mixer; full charge of chemical; toilet paper and holder; putty and roof cement. It is supplied in various sizes to meet varying requirements.

Chemical Toilets for Use Anywhere Beyond City Sewage Service Have Been Greatly Improved.

A New Electric Saw Table Designed To Be Used With This Company's Combination Grinder.

These Leg Rests Are of Porcelain in a Variety of Colors and Serve to Protect Fine Flooring.

These Adjustable Horses Will Be Found Economical, Convenient, Compact, and Safe.
New Dry Refrigeration

A NEW refrigerant has been placed on the market which gives promise of bringing about radical changes in refrigerator installations, both commercial and household. This new refrigerant is solid carbon dioxide, a solid form of the harmless and odorless gas which is used to charge all carbonated beverages. The properties of solid carbon dioxide have been known for many years, but it is only recently that simple and economical methods of manufacturing it have made it available commercially.

Carbon dioxide gas can be liquefied under sufficient pressure and may then be frozen, converting it to a substance resembling snow. It is then compressed into cakes of convenient size, 10 by 10 by 10 inches, and weighing approximately 40 pounds each. The temperature of this solid is rated by the Bureau of Standards at 114.5 degrees Fahrenheit below zero. It melts to a gas, heavier than air, and without any moisture. The rate of melting when uninsulated is about the same as for water ice, but when insulated its melting rate is remarkably low.

The blocks of refrigerant are packed and shipped in or delivered in boxes made of balsa wood, which is lighter than cork board, insulates as effectively and requires no metal lining. It is kept in a balsa wood storage box specially designed for the purpose.

This material is already being used extensively in the shipment of perishables and, with it as a refrigerant, ice cream is being successfully shipped from New York to Havana, Cuba, and delivered in perfect condition. In the approved storage box a 40-pound piece of refrigerant will last from one to two weeks.

Ice cream dispensing cabinets for utilizing this refrigerant at soda fountains have already been developed. This eliminates all plumbing connections, drains, etc., and there are no repair bills, no machinery and no moisture to cause corrosion. As yet the manufacturers are not ready to place a household refrigerator on the market and the ordinary household refrigerator is so constructed as to make it impractical and uneconomical for use with the new refrigerant. Much work has already been done, however, toward developing a suitable household refrigerator and this new material will undoubtedly be available for household installations before long.

Improved Steel Office Windows

A NEW type of office window, manufactured from heavy, solid rolled, steel, casement window sections, and embodying several new features of design, is being offered. Among the unusual features of this window the following are listed; internal, double baffle designed to secure a generous overlay and effective weathering contact equal to the best casement types; outside glazing, producing a casement finish inside, without the necessity of glazing beads; a sliding-projecting movement of ventilators, insuring uniform ease of operation with vent stopped at any given angle of opening; open-in ventilators at the sill to supply ventilation, while protecting the interior from weather, and upper ventilators that may be tilted beyond the horizontal to provide an easy means of cleaning all glass from the inside of the building.

The hardware for these windows is of light, coinage bronze. The upper vent has a bronze pole ring at the top and a bronze cam action handle on the bottom rail. The lower, open-in vent, is equipped with a bronze latch.

In connection with the marketing of this window the manufacturers maintain an Architectural Service Department, composed of architects specially trained to assist in the proper designing of the windows of large buildings. Members of this department cooperate with architects working from the headquarters at the factory or, when necessary, in the architects' own drafting room.

Lead Coated Sheet Steel Roofing

In many buildings where a sheet metal roof would otherwise have been most desirable it has been necessary to use concrete, slate, tile or composition materials because of the deteriorating effect of acid fumes or salt air on sheet steel. There is now, however, a type of sheet metal roofing which eliminates this objection and makes sheet metal available for roofing and siding under all conditions. The material is a copper content, sheet steel, coated on both sides with pure lead, presenting a smooth, uniform, impermeable surface without break or flaw.

The lead surface of these sheets is unusually thick, soft, level and easy to work. The sheets are produced in standard sizes of corrugated roofing and siding and other roofing and flat sheets in numbers 12 to 28 gauge. The process of manufacture assures against flaking or peeling of the lead surface. The material presents a most desirable combination of roofing qualities at a moderate cost with long and dependable service assured.

What's New?
WANTED
FRANCHISE AGENTS

A Golden Opportunity
START YOUR OWN BUSINESS
SELLING AND APPLYING
MALLEABLE ASPHALT (MASTIC)
FLOORS and ROOFS
Easily Applied—No Heat—No Special Tools

An unusual Mastic Composition that is different from other similar products in ingredients, method of manufacture and in results.

This material has been successfully used in such buildings as Marshall Field (retail store), Field Museum, Butler Bros., warehouse, Crane Co., foundry, etc.

We appoint one Franchise Agent in each town and our specialty salesmen help our Franchise Agent sell. No large investment in stock required. An ideal line for Contractors and Building Material Men. Two-way Profits—one on the material—one on the installation. Our Maco (Colloidal) asphalt, a composition easily mixed with Portland Cement and sand for building Malleable Asphalt (Mastic) Floors, and for permanent patching and repairing old concrete floors, loading platforms, sidewalks, driveways, etc.

A wonderful money maker that fits in with the Malleable Asphalt (Mastic) Roofing and Flooring. Nearly every building in your town is a prospect.

HERE IS A REAL OPPORTUNITY
We want responsible men to act as our Franchise Agents. Send in the coupon today for FREE samples, outline of advertising we do for you, helps we offer and full information. Write today, your territory won't be open long.

MALLEABLE ASPHALT CO. 6555 Broadway
CHICAGO, ILLINOIS

MALLEABLE ASPHALT CO.
6555 Broadway, Chicago, Ill.

Please send me free samples, and complete information. I am interested in your Franchise Plan.

Name
Address
Town
State
Contractor □ Building Material Dealer □

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
**What's New?**

### Built-in Mail Boxes Improved

A number of improvements have been made in a well-known line of built-in mail boxes and chutes. These boxes, as illustrated here, are now made with a front which exactly fits into the courses of a brick wall without any cutting of the brick. Also they are now made with a new and handsome, hand-hammered, Swedish gray iron finish which is furnished when desired on the fronts of all boxes made by this company.

There is also a new side wall box added to the line which is especially adapted to duplexes and flats where an extension is necessary to deliver the mail through a cross wall.

These boxes are made for both frame and brick construction, the former adjustable to wall thicknesses of 6 to 9 3/4 inches and the latter adjustable for wall thicknesses of 9 3/4 to 14 inches. They can be had with the door bell incorporated in the mail box front if desired and either with or without a place for inserting the name of the owner. They have a depth sufficient to prevent any danger of the pilfering of mail and the inner door is so hinged that the weight of excessive mail will open it, eliminating any possibility of the box becoming stuffed or clogged.

### Composition Wood Carvings

An interesting line of wood carvings is illustrated here. These carvings have been on the market for many years and have been proven by the test of time to be a highly satisfactory and economical product for the use of builders, cabinet makers and furniture manufacturers. They are a wood composition which is practically unbreakable and does not chip or crack. They can be shipped safely anywhere, without damage and can even be struck with a hammer without damage.

These carvings are carried in stock ready for immediate shipment, as they do not deteriorate with age, and are available in various woods, oak, mahogany, walnut, gum and birch. They have excellent detail and depth of grain and are as sharp as high grade hand carvings. They are, however, much less expensive than hand carvings, and so make possible greater economy and profit to the user.

### A Lathe in Three Sizes

This new, union, motor in head, speed lathe has recently been placed on the market by a leading manufacturer of machinery. It is built in three sizes. The multi-speed, ball bearing motor, of 1/2 H.P. provides for spindle speeds of 570 R.P.M., 1,140 R.P.M., 1,725 R. P. M. and 3,450 R.P.M., can be supplied for either two or three phase, 50 or 60 cycle.

The beds furnished with the three sizes of lathe are four feet two inches, five feet four inches and six feet four inches long, cast in one piece and machined the entire length. The machines swing work 26 inches, 40 inches and 52 inches, respectively, between centers. The height to the top of the bed is 36 inches and from bed to center six inches. The machine handles work up to 12 inches in diameter over the bed and 9 3/4 inches over the tool rest. Heavy cast legs provide a rigid support to the bed, eliminating all vibration and a shelf is located below the bed in a most convenient position.

These machines are equipped with a perfectly designed, rigidly and accurately constructed tailstock which may be located in position or released from fixed position by a half turn of a special wrench with which the machine is equipped. The tailstock spindle is 1 5/16 inches in diameter, bored for a No. 2 Morse taper. Adjustments are made by means of a conveniently located hand wheel and the spindle is held rigidly in place by a quarter turn of the lever provided for this purpose.

The headstock is the highest grade, polyphase, multi-speed motor which could be purchased with speed controls conveniently mounted integral with the motor. Four distinct stator windings are provided and each winding produces maximum power at its particular speed. The motor shaft acts as the spindle of the lathe and is threaded at each end for a face plate. The motor control referred to is built as an integral part of the motor and regulates the motor speeds while a switch mounted directly underneath the motor on the lathe bed provides for starting and stopping.

The Metropolitan Life Insurance Co., 1 Madison Ave, New York City, has published a booklet under the title "Safety—Preventing Commercial Vehicle Accidents," which should interest all operators of commercial vehicles.
Now—You Can’t Afford to Scrape Floors By Hand!

Floor Surfacing has been Revolutionized by the “AMERICAN EDGER”

It surfaces Butt Ends with the grain of the wood!

The “American Edger” is the first great improvement in floor surfacing machines since their original invention by this company over a quarter of a century ago. It solves the last great drawback to machine floor surfacing—that of sanding edges and matching them with the center area of the floor which has been surfaced with an ordinary drum type machine.

The “American Edger” surfaces edges, butt ends, narrow hallways, closets and all places inaccessible to drum type machines, faster and better than three men working by hand. This means a great saving in labor costs is effected and a better, finer job is produced. No more light borders—no more chatter marks and other hand scraper imperfections!

Radically Different in Design

The “American Edger” operates by means of two abrasive belts, driven by friction over surfacing shoes. This permits working right up to the base board on either side and in front of the machine. Two grits of belts can be used so that it roughs and finishes at the same time. A powerful suction system picks up every particle of dust. It’s light enough for one man to carry with ease, yet powerful enough to work fast and efficiently. Full detailed description of this machine is given in our big illustrated broadside. Send for it today—it’s FREE.

Contractors!

The “American Edger” is the ideal floor surfacing machine for the small contractor or builder who erects only a few houses a year and does most of the work himself. It surfaces open areas or the center of floors as well as every nook and corner of a job with no hand scraping whatever. It is the only machine that gives this complete service. It will pay you to know all about the “American Edger.” With it, you can do the work yourself just when you want it done, and in addition, save many dollars of expense. Check the coupon and mail TODAY.

The American Universal Leads Drum Type Machines

For big jobs where speed is necessary, the “American Universal” has always been the first choice of contractors who demand high quality performance and recognize a machine that is built to “stand the gaff.” It’s a money maker for its owner and is responsible for the success of thousands of floor surfacing businesses. It’s easy to earn $20.00 to $40.00 a day with this machine. Check the coupon below for the full story of “American Universal” floor surfacing business.

The American Floor Surfacing Machine Company
515 So. St. Clair St., Toledo, Ohio

Without obligation, please send your descriptive literature as checked below:

☐ The “American Edger.”  ☐ The “American Universal.”
☐ I am a contractor.  ☐ Interested in surfacing business.

Name: ________________________________
Address: ________________________________
City: ________________________________ State: ___________

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
A Greatly Improved Mixer

ONE of the pioneer manufacturers of concrete mixers has recently announced that, after many years of experiment it has ready for the market a new non-tilt mixer which embodies many improvements entirely new to this type of mixer. First, there are no struts required to stabilize this mixer when at work. It comes on the job ready to pour well mixed concrete. It is compact and rigid and will turn in a 20-foot radius.

The replaceable steel tires on the drum rollers take all of the wear as the roller track is deeply chilled cast iron, cast integral with the ring gear. It is much easier to replace one or even four roller tires than an entire roller track as is necessary where the track takes the wear. The rollers revolve on tapered roller bearings.

Steering is of the compound automobile type, strong, rugged and permitting of easy turning. Steel construction

A New, Non-Tilt Mixer, of Well Known Make, with Features Not Before Used on Mixers of This Type.

is used throughout. The mixing drum is constructed of pressed steel ends, electro-welded to a heavy steel body. The frame is built of seven-inch channels while every other part of the mixer which is subjected to strain or torsion is of steel. The all-steel skip is scientifically designed and is one of the widest ever used on a mixer.

The controls are all grouped at one end of the mixer so that the operator can view both the charging and discharging side without having to move. The efficient knock-out operates as the loader skip reaches its full discharge position at an angle of 55 degrees from the horizontal.

The spool shaft has been placed under the frame and is driven directly from the countershaft through a completely enclosed worm and gear which at all times are running in a bath of oil. The exact amount of water needed for each and every batch is furnished by a newly perfected patented water tank which discharges into the drum at the rate of two gallons per second. This tank makes easy the rapidly growing acceptance of the water cement ratio method for concrete control.

Efficient Automatic Coal Burner

THE demand for an automatic coal burning device which would efficiently burn the cheaper grades of coal, both for heating and power purposes, and eliminate smoke, has resulted in the development of a new device so designed and constructed that when it feeds coal automatically to the fire bed, by the underfeed method, the fuel is evenly distributed over the entire bed.

By the uniform distribution of fuel, air holes in the fire are eliminated, insuring uniform combustion, and preventing blasts of air from impinging on the boiler. This accomplishment not only increases the efficiency of the boiler, cuts fuel costs and prevents smoke, but it makes it easier

An Automatic Coal Burning Device Making Possible the Efficient Use of the Cheap Grades of Coal for Small Boilers.

for the fireman or engineer to clean the fire. It is no longer necessary to run a slice bar constantly through the fire to even the bed. It also lessens the formation of clinkers.

One of the difficulties encountered in the past with automatic firing of small boilers rated up to 200 H.P. has been that the automatic feed has tended to pile the fuel up at the rear of the firebed, and unevenly distributed it, resulting in the loss of heat and the creation of smoke due to incomplete combustion. In this new device it is claimed that this difficulty has been overcome by the design of the retort and the rapid impulses of the feed.

Another feature of this new coal burning device is the adaptation of an adjustable air control to the automatic operation of the stoker. This control may be applied to the burning area to provide for quick variations in quality of coal, changes in load, and changes in weather conditions. A quick and easy manual adjustment of the control immediately establishes a correct mixture of air, maintaining uniform combustion and boiler efficiency, as well as providing for emergency peak loads.

Cut Glass Switch Plates

CUT glass, mirror switch plates, made of French plate glass, cut and mirrored and also of clear glass and opal, have been brought out by a company specializing in builders' hardware and electrical specialties. These plates come in response to a demand which, though new, is already recognized as standard, for glass switch plates. Until recently a glass plate for a duplex convenience outlet was not practical but the fact that it now is has made possible the new popularity of these plates.

In these plates the tendency for the silver mirrored surface to tarnish and peel, caused by moisture in walls and the close pressure of the plates against the wall, has been entirely overcome by coating the backs with copper, making them impervious to atmospheric conditions. To offset the tendency which most metals have to tarnish when in contact with the hands these plates have the small busings finished in chromium plate which is proof against tarnish and which also protects the outlets against chipping and injury from the sharp glass edge.

These plates are made in several styles for regular push button switches, for round metal handle tumbler switches, for square composition handle tumbler switches, for flush type receptacles, for bell push buttons and in any number of multiples and combinations, including bullseyes for pilot lights.
Only WONDER offers you ALL these in one Mixer!

Quality Every Wonder Mixer today has a nineteen-year-old reputation for efficiency and dependability to maintain. Wonder founded the single opening tilting mixer industry—the first and greatest step toward speed and economy in the job of pouring concrete. In the nineteen years since, Wonder has led the way in the improvement and development of better, faster and more economical mixers.

Features Wonder has brought more improvement and progress into the concrete mixer industry than any other mixer—and still leads—but never at the sacrifice of quality in construction or endurance in actual use. No new feature has ever been added to any Wonder Mixer until rigid and severe tests under working conditions have proved positively that it was practical.

Today the Wonder gives you the one mixer for speed and endurance for any kind of concrete work. There is a Wonder just right for any job, large or small. Its ten outstanding features offer you:

1. Fast, thorough mixing—rapid charging and quick pouring discharge—drum bearing guaranteed for the life of the mixer—simple one-man control—rigid, short-turning truck—clutch on main drive shaft—dependable power plant—Wonderquick, self-measuring water tank—Alenite lubrication—and now the Wonder Skip Bumper.

Price With all this Dependability, Endurance—with all these improvements and exclusive features—Wonder prices are now lower. Increasing output to meet the steady growing demand for Wonder Mixers effects production economies. This with savings in method—not materials—brings you lower prices.

Construction Machinery Company
103 Vinton Street
WATERLOO, IOWA

Clip this Coupon and Mail it Today for Our New Low Price List

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Overhead Door Distributors Meet

Nearly 200 distributors of the Overhead Door Corporation, Hartford City, Indiana, gathered from all parts of the United States to attend the second annual distributors' convention of this firm. The two days were devoted to an inspection of the factory with the entire company organization on hand to answer questions, a trap shooting contest, a sales contest, sales meetings and a banquet on Monday evening at which the principal speaker was Ira Nelson, of Montpelier, Indiana.

Elect S. P. A. President

At the thirteenth annual meeting of the Southern Pine Association, held in New Orleans, La., F. W. Reimers, Hammond, La., was elected president of the association to succeed A. J. Peavy, of Shreveport, La.

Wahl Joins Horn Organization

A n announcement has been made that W. H. Wahl, formerly advertising manager of the American-LaFrance Fire Engine Company, has joined the A. C. Horn Company, Long Island City, as sales promotion manager.

G. E. Issues Wiring Specifications

The merchandising department of the General Electric Company, Bridgeport, Conn., is now issuing, for the use of the architect, specifications in which the G-E wiring system is scientifically applied to apartment houses and apartment hotels. These specifications show the wiring layouts for typical apartments of the one-story and two-story types, and also for the simplex, duplex and studio designs.

Although the various materials entering into the G-E wiring system have, of course, been utilized for years in apartment house wiring, they have not before been brought together in such unified manner as is presented by these specifications.

Now Chain Belt Distributor

The Porter Supply Company, 508 First Huntington National Bank Building, Huntington, W. Va., now represents the Chain Belt Company, of Milwaukee, as distributor of its line of Rex mixers and pavers. Charles S. Porter is president of the company, having organized it a number of years ago after 15 years of service in the construction machinery industry. In addition to the Rex line of mixers and pavers the company will also handle the contractors' equipment line which includes buckets, elevators, central mixing plants and Stearns belt conveyors.

A New Wall Covering

Applied to Plaster or Wall Board
Makes a Permanent Wall

Inexpensive—Easily Applied—Washable—Decorative
Built Up in Linseed Oil—No Surface Cracks

Travertile fabric—imitation Italian Travertine Marble—made in any color, satisfying every taste. Applied like wall paper.

Travertile on all walls assures permanency and beauty. Desirable for hotels, apartment houses, banks, public halls, stores, offices, etc.

Can be easily repaired by cutting out and replacing damaged blocks with the same material. Can be removed from the wall, leaving the wall in its original condition.

Lincrusta-Walton is made in a variety of patterns suitable for all rooms.

Write today for free samples and literature.

The new Pfister, Milwaukee, Wis., owned and operated by Ray Smith. Entrance to Presidential Suite done in Travertile. Interior decorations by Harry Hallace, Manager.

LINCRUSTA-WALTON COMPANY
Hackensack New Jersey
Division Tait Paper and Color Industries, Inc.
Let Heatilators save you money—and pay you a profit!

Due to a big price reduction made possible by recent improvements in the design, it now costs no more to build a fireplace with than without a Heatilator Fireplace Unit. This is because of actual savings in labor and materials. The use of the Heatilator not only is an economy but positively assures successful fireplace construction and double heat from same fuel.

Be Guarantee satisfaction, or will refund the full purchase price and pay up to $20 extra to cover cost of removal and return.

The Heatilator is a double-wall form—an enclosed heating chamber that surrounds the fire. Cold air from off the floor (or from outdoors if desired) enters this chamber, is heated, and delivered into the room. Any mason can install it in a few hours, saving at least a day's labor plus smoke damper, smoke chamber and flue.

Extensively Advertised—Full page or full column ads are appearing regularly in consumer magazines reaching millions of people. They show how fireplaces built with Heatilators are guaranteed to give double heat from same fuel and to operate with complete success. Thousands of inquiries received show that people realize the need of Heatilators. They are looking for Heatilator fireplaces in the homes they buy. So the use of Heatilators will not only save you money but increase your profits by increasing resale values.

New Planbook Free—Send today for our big illustrated Planbook. It contains many photographs and drawings of Heatilator installations—interesting, full of ideas. Mail the coupon!

Agents and Dealers—There are many territories where we are looking for additional representatives on an attractive basis. Write for particulars.

HEATILATOR COMPANY
641 Glen Ave., Colvin Station, Syracuse, N.Y.

Heatilator Fireplace Unit

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Sell Frames with a REPUTATION

Bradley-Miller frames have been on the market and in use long enough to demonstrate fully their quality and reliability.

Time has proved their durability. The years have shown that Bradley-Miller Frames will not warp, split or shrink and swell.

Bradley-Miller Frames are unsurpassed in materials, design or workmanship. They are made of the finest wood it is possible to put into frames—Michigan White Pine.

Sell these famous frames that have a reputation for delivering satisfaction and building sales.

Write for the BRADLEY-MILLER booklet.

McKim Joins Federal Truck

THE Federal Motor Truck Company, of Detroit, has announced the appointment of C. D. McKim as advertising manager. For 12 years Mr. McKim was associated with Continental Motors Corporation, having charge of sales and advertising for the greater part of this time.

C. D. McKim, Federal Motor Truck Co.

Truscon Makes Appointments

APPOINTMENT of three vice-presidents of the Truscon Steel Co. of Youngstown, Ohio, was made this week by Julius Kahn, president of the company.

C. I. Auten, who began as an engineer with Truscon 17 years ago, has been named vice-president in charge of sales in the standard building division of the firm. Under his charge will be sales of structural steel, steeldeck roofing and transmission structures. This appointment continues Auten’s connection with the complete building sales end of Truscon.

M. T. Clark is vice-president in charge of sales of the steel window division, with which he has been identified for the last nine years. Clark was originally an architect, and followed a natural interest in industrial standardization into the manufacturing field. He is credited with much of the popularity of standardized steel windows at the present time.

C. D. Loveland, formerly manager of the Pittsburgh district of the Truscon organization, is made vice-president with headquarters at Newark, N. J. He will be in charge of Truscon distribution in that state.

Will Represent Black & Decker

An announcement from the Black & Decker Mfg. Co., Towson, Md., states that R. C. Bastress, formerly of the Fort Wayne Iron Store Company, has joined its organization to handle Indiana and part of Michigan. L. W. Beuhansen, formerly with Slocum & Kilburn, has been employed to handle Black & Decker products through western Massachusetts. G. N. McCarthy will represent the company in the Buffalo territory, taking the place of H. B. Austin, who has been transferred to the Chicago district.

Reopen St. Louis Office

THE North Western Expanded Metal Co., of Chicago, has just re-opened its St. Louis office at 401 Lieudermus Building. Walter Rasmussen will be in charge of this office and is now prepared to render a complete personal service to anyone interested in expanded metal products and lath.
HERE'S a Timken bearing, full one bag tilter, with Automatic Skip Shaker and "Flat Spot" Drum, for the usual price of a half bagger. It's built of the best—steel and forgings and semi-steel gears—light, portable and 50 per cent stronger. Has Jaeger Accurate Measure Water Tank; gives you faster loading, a better mix and a 5 second automatic discharge.

Jaeger Timken Tilters Guarantee More Batches per Day - Ok'd by over 75,000 users

MAKE fast hauls on any roads with this trailer—built for heavy duty with Timken bearings, spring shock absorbers and oversize cushion tires.

Get more batches a day with the "Flat Spot" remixing drum, 5 second discharge and semi-automatic dump. It's powered with Hercules engine, Wico magneto. It's built to last.

The Jaeger Machine Co. 821 Dublin Avenue Columbus, Ohio

Send Coupon for Catalog, Prices and Terms
Buildings Rent Faster sell easier—when radiators are equipped with Trico

Trico Radiator furniture transforms all unsightly radiators into beautiful and useful pieces of furniture—shelves, window seats, consoles. They are furnished in any desired color to harmonize with other room furniture. They stop smudge. Cleaning and redecorating costs are greatly reduced, often as much as 75%.

The patent Trico humidifying waterpan concealed beneath the cover maintains proper moisture in the air, making the rooms far more comfortable and healthful. This moisture is absolutely essential in preventing furniture and woodwork from drying.

Ten years of development in radiator furniture have made Trico the leader in this field. A district manager in every principal city will be glad to consult with you and serve you. Let us estimate on Trico Radiator enclosures. No charge.

Contractors' and Builders' Franchise Plan
If you haven't received a copy of the New Trico Franchise plan, fill out the coupon now. It means money to you and there is no investment on your part. A copy of the latest Trico book of ideas on interior decoration will also be sent you on request. Simply check attached coupon.

TRICO, INC.

TRICO, Inc., Subsidiary to Art Metal Radiator Cover Co., 1719 N. Kolmar Avenue, Chicago, U. S. A.


Name: ____________________________
Address: __________________________

Bates Makes Announcements

The Bates Valve Bag Corporation, of Chicago, has announced the appointment of H. A. Schaffer, formerly conservation engineer of the Portland Cement Association, as Eastern sales manager. The Bates offices in New York City and Nazareth, Pa., will be headquarters for Mr. Schaffer in his new capacity.

J. I. McCants, Bates Valve Bag Corp.

H. A. Schaffer, for many years identified with the cement industry in the South, has recently become affiliated with the Bates sales organization and will represent the company in the South as Southern sales manager.

J. I. McCants, Bates Valve Bag Corp.

Sargent & Company Election

At a recent meeting of the stockholders of Sargent & Company, New Haven, Conn., followed by a meeting of the directors, two new directors were elected, Bertram W. Burtsell and Edward Harding. George Lewis Sargent tendered his resignation from the presidency of the company and Bertram W. Burtsell was elected president and general manager. Mr. Burtsell received his early training with Browne & Sharpe Manufacturing Company, where he learned the machinist trade. He was with the Packard Motor Car Company, as factory manager, for several years and since 1920 has been president and general manager of McKinnon Industries, Ltd., St. Catherines, Ont., and the McKinnon Dash Company, Buffalo, N. Y. Mr. Harding is a member of the legal firm of Campbell, Harding & Goodwin, New York City.

Name T. L. Smith Distributor

The T. L. Smith Company, of Milwaukee, manufacturers of mixers and pavers, announce the appointment of the R. P. Sweeny Company, of Greenville, as its representative for the entire state of South Carolina with the exception of Chester, York, Chesterfield and Marlboro Counties. This account was formerly handled by the Smith distributor at Charlotte, but the new arrangement will put Smith service and sales facilities in a better position to handle the requirements of customers in this territory. The new distributor will handle a full line of contractors' and industrial equipment.
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 Enamed Iron Ware

The COMBINATION BATH is an entirely new departure in the development of modern sanitary comfort, competing, as it does, a regular, foot, shower and child’s bath, all in one.

It possesses many essential common sense features not found in any other type. For instance, it is more comfortable and less wasteful of water; it is possible to bathe and treat the feet without the removal of all clothing, by having only a small amount of water in the foot section. The ledges on the end and both sides of the foot section enable one to treat the feet conveniently, while the dimensions of the foot section allow ample space for the feet when standing or sitting. The mother or maid can bathe a child in comfort under ideal conditions. The child can be bathed on the seat section, and then, if desired, dipped in the water filled foot section.

When one desires to get out of the COMBINATION BATH, he can do so without the aid of grip-rails or even the use of his hands, by merely standing up—just like arising from a chair.

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

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

The COMBINATION BATH can be used as a shower bath it is equal to any standard type shower receptor. The arrangement of the seat and foot bath permits the taking of a head or body shower bath, the latter without wetting the hair. This compensates it, and is a feature which should not be too lightly regarded; in fact, we strongly recommend installation of shower connection with the COMBINATION BATH.

WHEELING SANITARY MFG. CO.
WHEELING, W. VA.
Manufacturers of High Grade Plumbing Fixtures

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

PLATE 11-E Enamed 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.

PLATE 30-E Semi-Vitereous Porcelain Ware, 44x30 inches to tile in recess. Glazed white all sides.

Plate 12-E *The Trans-All white Syphon Jet Water Closet Combination.

PLATE 100-E Lavatory on Pedestal. Two sizes—24x20 inches and 26x22 inches.
When you insulate that next group of houses, to comply with popular demand, don't just—insulate. Go all the way and insulate with **Cabot's Quilt**

Then tell about it in your advertising.

You'll feel better:—less money spent in building—less time spent in selling—more profits—always more profits in **Cabot's Quilt**

_Cut the coupon below (Roll of Quilt) and send it in today for full Quilt Information and U. S. Bureau of Standards Home Insulation Tests._

**FOR EFFECTIVE—ECONOMICAL HOUSE INSULATION, EMPLOY**

**Cabot's Quilt**

IN SUCCESSFUL USE FOR OVER 30 YEARS

---

A. G. C. Has New Manager

**EFFECTIVE May 1, 1928,** Gen. R. C. Marshall, Jr., has resigned as manager of the Associated General Contractors of America, a position which he has held for eight years. He will be succeeded by D. A. Garber, of New York, who was the first president of the contractors' organization which he helped to found. Gen. Marshall becomes president of the Summer Solstice Company, of Chicago. Mr. Garber, in accepting the new position, severs his connection with the North-Eastern Construction Co., New York, of which he has been president since 1904.

S. P. A. Offers B. & L. Service

**ORGANIZATION of a building and loan association service department, as a part of the Southern Pine Association promotional home building activities, was announced by H. C. Berkes, secretary-manager, at the recent annual meeting of the association. The purpose in organizing this service is to make it possible, from association sources, for the average citizen to be given authentic and reliable guidance as to how best he can arrange the financing and building of a home. It is not the purpose to do the actual financing of home building activities but to render service both to prospective home builders and building associations.**

Inland Steel Announcement

THE Inland Steel Company, of Chicago, announces that H. L. McCauley has been appointed district sales manager of the company's Milwaukee office, succeeding C. M. Easterly, who recently resigned. M. E. Gregg will succeed Mr. McCauley as assistant district sales manager in Milwaukee, coming there from a similar position in the St. Paul office.

**STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912 Of American Builder, published monthly at Chicago, Ill., for April, 1928.

State of Illinois County of Cook § §* mea Before me, a notary public in and for the state and county aforesaid personally appeared E. L. Hatfield, who, having been duly sworn according to law, deposes and says that he is the manager of the American Builder and that the following is, to the best of his knowledge and belief, a true statement of the ownership management (and daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed in the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor and business managers are:

   Publisher—American Carpenter & Builder Co., Chicago, Ill.
   Editor—Wm. A. Radford, Chicago, Ill.
   Managing Editor—B. L. Johnson, Chicago, Ill.
   Business Manager—E. L. Hatfield, Chicago, Ill.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 per cent or more of total amount of stock. If not owned by a corporation, the name and addresses of the individual owners must be given. If owned by a company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

   Wm. A. Radford, Chicago, Ill.
   B. L. Johnson, Chicago, Ill.
   H. M. Radford, Chicago, Ill.
   R. D. Radford, Chicago, Ill.
   E. L. Hatfield, Chicago, Ill.
   G. W. Ashby, Berwyn, Ill.
   Wm. A. Radford, Jr., Chicago, Ill.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

   None.

4. That the two paragraphs next above, giving the names of the stockholders, and security holders, if any, contain not only the names and addresses of the stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee in or in any other fiduciary relation, the name of the person or corporation for whose benefit the trust is acting, is given; also, that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the correctness and conditions under which stockholders and security holders do not appear upon the books of the company as trustees, hold such securities in a capacity other than that of a bona fide owner, affiant has no reason to believe that any other person, association or corporation has any interest direct or indirect in the said stock or other securities than as stated by him.

Sworn to and subscribed before me this 2nd day of April, 1928.

E. L. Hatfield

(Notary Public in and for the State of Illinois)

(My commission expires October 25, 1929.)

---

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Style—now within any flooring estimate

*CELLized Oak Floor Blocks may now be laid in any home, at a cost within the most modest budget. For the first time, the builder can figure in any building estimate, a design floor that combines style, utmost beauty, and permanence, and that will enable the owner to plan room decoration upon a floor foundation that is a real style element. Such a floor has heretofore been possible only in the most pretentious homes; but today, the cost, laid and finished, is but little higher than the usual strip flooring.

The blocks are laid directly over a wood or cement sub-floor in "Everbond" (a plastic cement) without nails. Each square is a complete unit, three or more oak strips splined together, and is laid more easily and quickly than strip flooring. "Everbond" is sound-deadening besides, and this method results in a solid, quiet floor that will not squeak.

Remains permanently tight and level

A *CELLized Block floor will not contract or expand. Each square is impregnated by a chemical process (*CELLizing) which protects the wood from moisture, and maintains exact uniformity in the size of the squares. It remains firm and tight—an economical floor, easily finished, with beauty that at once attracts the eye, and adds to the rental or sale value of a home far beyond its cost. It is also insect and rodent proof. Full directions for laying will be mailed on request by *CELLized, Inc.

*CELLized Oak Floor Blocks are sold through lumber dealers everywhere; manufactured by

R.L. BRUCE CO. Memphis, Tenn.
LONG BELL LUMBER CO. Kansas City, Mo.
TENNESSEE OAK FLOORING CO. Nashville, Tenn.
NATIONAL HARDWOOD FLOORING CO., Nashville, Tenn.
BRADLEY LUMBER CO. of Arkansas Warren, Ark.

Write for booklet "Style in Oak Floors" to

*CELLized Inc. MEMPHIS, TENNESSEE

Three sizes—3/4, 5, and 11 inch squares will proportion the design to any room area. Laid in diagonal, half-center, or regular square patterns. In remodeling, lay directly over old floors, in "Everbond", without nails.

The commonly used narrow face flooring, as well as Oak Floor Planks, random widths, are also obtainable chemically treated by the *CELLizing process. Write for literature.
Panorama Picture of Columbus-Union Oil Cloth Company, Columbus, Ohio, with New Additions. The three-story building in the center left, the adjoining one-story building and the boiler house in the center background are of recent construction.

Complete Expansion Program

A new expansion program involving an expenditure of $250,000 has just been completed by the Columbus-Union Oil Cloth Company, Columbus, Ohio, manufacturers of coated textiles. New facilities added to the company's extensive plants, in Columbus include a boiler house, a pyroxfin department, a Wall-Tex color laboratory and a Wall-Tex testing and grading room.

These additions to the company's plant have resulted in a speeding up of production of 40 per cent, in Wall-Tex business. In addition, the flexibility of the new plants will permit a further increase in production of 25 per cent, should the necessity arise.

Establish Experiment Station

To meet the demands made on the School of Forestry, of the University of Idaho, for forest investigations and to facilitate the administration of funds for forestry work, there has been created the Idaho Forest Experiment Sta-

tion. This is purely a research unit and is organized as an independent division of the university to serve forestry in the state in the same way that the Agricultural Experiment Station serves agriculture. Forest research has been a major activity of the School of Forestry for a term of years, but a large part of the cost of the work has been made a charge against instruction rather than against research and the creation of this special research division will make it possible to segregate these expenditures.

Law for the Builder

(Continued from page 128)

"Now, I don't believe an unsigned note's worth the stub pen it's written with," the builder declared.

"Why not? There's Jones' name in his own hand, so what difference does it make whether it's at the end or is the body of the note itself?" the bookkeeper argued.

And the bookkeeper was right.

"It is not necessary that the signature of a party to a contract should appear at the end thereof. If his name is written by him in any part of the contract, or at the top, or the right or left hand, with the intention to sign or for the purpose of authenticating the instrument, it is sufficient to bind him. When a signature is essential to the validity of an instrument it is not necessary that the signature appear at the end of the instrument. If the name of the party whose signature is required is written by him in any part of the instrument, for the purpose of authenticating it, it is a sufficient signature," says the Pennsylvania Supreme Court, quoting from a leading legal textbook.

Unusual Service for the Contractor

Ryerson combined service on all steel products saves time, money and trouble.

The Special Contractors and Builders Division of Ryerson Steel-Service is without parallel in the building fields.

This department has its own warehouses and provides complete service on all reinforcing for concrete, Steel Joist, Metal Lath, Steel Sash, and all the various steel building products are also included.

In addition, structural, bars, plates, sheets, rivets, bolts, wire, etc., are furnished from the general steel departments. Trench braces, jacks, electric drills, and hundreds of other tools needed on every job are supplied by the machinery and small tool departments.

Contractors use the Ryerson Warehouses as if they were their own. Reinforcing steel, lath, bar and other miscellaneous materials are kept under cover until they are ready to use each item. Delivery is according to their schedule.

Large fleets of trucks and private switch tracks help provide service unequaled by any other source of supply.

All types of jobs are figured and lump sum or pound price quotations prepared.

Write for Complete Information.

JOSEPH T. RYERSON & SON INC.

PORTABLE工具

CHICAGO MILWAUKEE ST. LOUIS
CINCINNATI DETROIT CLEVELAND
BUFFALO JERSEY CITY BOSTON

RYERSON REINFORCING-SERVICE
A FRANTIC CALL FOR MEN WHO CAN READ BLUE PRINTS AND RUN JOBS AT $4,000 TO $12,000 A YEAR

SEE how easy it is now for any man to get ahead in the building game. Nowhere else does such simple training count for so much. Nowhere else are there so many countless thousands of openings as there are with contractors, builders and real estate firms, who are constantly calling for practical men who can read blue prints. Seven billion dollars will be spent this year for building. Trained men are at a premium needed at steady salaries far above the wage scale.

90 DAYS' EASY TRAINING PUTS YOU ON THE WAY TO A BIG-PAY "BLUE PRINT" JOB

NO longer is it necessary for building tradesmen to spend years learning all the "mysteries" of blue print plan reading. For now you can get the blue print training in three months that has taken others years to pick up "on the job." We train you at home in spare time by the fascinating "blue-print-method" with lessons that are as easy to read as your newspaper. You do not need more than a common school education. There is no hard, grinding study—the whole course is just like playing some interesting new game.

SIMPLE AND EASY AS A-B-C

These plans and lessons come to you from the oldest and largest school of building construction in the country. This is the kind of training that puts men quickly into the $5,000 to $5,000 a year jobs, and in contracting businesses of their own. You learn from actual blue print plans—

from practical building experts. You learn how to read all the plans—estimate all the costs—and supervise the entire construction of a building. You learn everything a foreman, superintendent or contractor has to know.

A BIG-PAY JOB—OR YOUR OWN BUSINESS

With this quick, easy training, the building field is wide open to building tradesmen who want to become foremen and superintendents—or who would like to go into business for themselves. Burgert, Ill., stepped into a Foremanship at a 200% increase in salary. Clifford Scholl went from laborer to Ass't Superintendent in 8 months. Marchand, La., writes: "My salary is now increased 196%." After finishing his training, Baker, Ohio, made $3,800 clear profit in 3 months as a Contractor. Depke, R.I., increased his salary 700% in 12 months.

If you really want more money—if you hope to own a business of your own—if you want quick advancement in the building business—decide now to get this training that you must have for a real success.

FREE Book

SIMPLY mail the coupon below for an intensely interesting Free book, "How to Read Blue Prints," and full information. See what amazing opportunities open up for you in the seven billion dollar building field. Don't delay. Act now!

Chicago Technical School for Builders, Dept. E-121, 118 E. 26th Street, Chicago, Ill.

Send me without obligation, your free book "How to Read Blue Prints" and full details of the course and the opportunities in the Building field. It is understood that no salesman will call on me.

Name .
Address .
City .
State .
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.

"Construction Job Management," by Charles F. Dingman, published by the McGraw-Hill Book Company, Inc., 370 Seventh Ave., New York City, is planned with the object of placing "before the builder, or man who intends to become a builder, a knowledge of the most effective means to be employed in handling the several branches of building construction and of co-ordinating the work of the men in the different trades employed." Price, $2.50.

"Everybody's Aviation Guide," by Victor W. Pagé, published by the Norman W. Henley Publishing Co., 2 W. 45th St., New York City, is a popular book written in the form of a series of lessons or instructions and is valuable to all who wish to start the study of aeronautics or who have a general interest in aviation. Price, $2.


"Plain Talk About Concrete Floors" is a book now being published by the Master Builders Co., 7016 Euclid Ave., Cleveland, Ohio, containing the results of a survey just completed among industrial plants which developed surprising and illuminating facts concerning the actual costs of installing and maintaining concrete floors. It will be ready for distribution about May 1, and will be sent free to architects, engineers, contractors, building owners and managers upon request.

Outside or In—

Painting the DeVilbiss way saves time and money

No matter what nor when you paint, painting with the DeVilbiss Spray-painting System speeds up your work 3 to 5 times. Hours of time are saved and more dollars of profit made. Besides, improved work is done on every sprayed job and you have better satisfied customers.

Investigate this well established, greater profit DeVilbiss way of painting. Interesting facts will be gladly mailed. Address—

THE DeVILBISS CO. 238 Phillips Ave. TOLEDO, OHIO

Illustrating the Comparative Hiding Power of Brushed and Sprayed Coats of Paint

The hand brush puts on an uneven coating and the thin paint in the grooves wears away quickly... The DeVilbiss Spray Gun applies a strong, even paint film that covers perfectly, that is durable and that wears down uniformly.

(Illustration shows same paint applied on identical surfaces —Photograph is unretouched and greatly reduced in size.)

One brushed coat -- One sprayed coat

For Advertisers' Index See Next to Last Page
Hot Bid

30 to 50 Minutes to Estimate this HOME

Check them all off

No Material List to Struggle Over.
No Sets of Blue Prints to Buy.
No Worry About Leaving Out Items.
No Wasted Time in Finding Comparative Costs.
No Doubts As to the Accuracy of Your Bids.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Other HOLTBIDDERS Have Said

Clear and Accurate
"I received the HoltBid and found it perfectly clear to me after a few evenings' reading the HoltBidder's Instructions. I have checked it up and find it accurate far beyond my expectations."

Uses While Learns
"Have finished about half of the HoltBid Instructions and like it very much. Already sold one house and figured several other buildings. I find in checking with houses we have completed that the HoltBid checks up very closely."

Most Complete
"In my fifty years of building, I have seen many estimating outfits but HoltBid is the most complete I have seen."

Best and Instructions Very Plain
"I have been giving what time I could conveniently spare to the study of the HoltBid Method of estimating building costs and so far have found it to be the best method I have ever tried. I have not bothered yet about sending in any requests to your Service Department, because you have made your Instructions very plain indeed."

It's Great!
"Have just received my HoltBid System and wish to thank you for the layout. I think it is GREAT. I am enclosing $5.00 herewith to prove my satisfaction as my first month's payment."

HoltBids After 7 or 8 Hours' Study
"I had not put in over seven or eight hours learning to HoltBid before I figured a house and sold it and came out about 2% to the good."

The worst job in contracting or carpentering is estimating the cost. It is not only the most tedious work, it is also the most important—because the profit is determined before the job is even started.

HoltBid is a system that guarantees greater accuracy in figuring costs than any method that has ever been developed.

There is no stumbling block on the road to success that trips more men than inability to make accurate bids.

That is why HoltBid has met with such tremendous success—thousands of men are using it.

The entire profit on a job is sometimes lost by the low-bidder because he left out some item in his estimate.

There is no chance for errors of this kind in using HoltBid. The HoltBid Forms preclude any omissions or losses through carelessness or oversight.

Practically every builder has spent money for plans only to have the customer switch to another design or not build at all.

HoltBid will save the expense of plans in developing a sale. All you need is floor plans and pictures as shown in any plan book.
Honest Words of Praise

Paid For Itself
“Sold four or five houses and many smaller buildings, due primarily to the knowledge gained from HoltBid Service, so already feel fully repaid for the money spent with you.”
Waterloo, Iowa.

Lands Nice Jobs
“Local attorney says the HoltBid Forms were the best specifications for contracts that could be gotten. I feel that the HoltBid had a lot to do with my landing a couple nice house jobs last year.”
Amery, Wisc.

Even Easy For Beginners
“I sure appreciate your books because they explain in such detail that a beginner like myself should have little if any trouble to understand them.”
Toledo, Ohio.

Answered Here
Sometimes a builder lets a profitable job slip through his hands because of lack of confidence in figuring the cost. He sticks to the ordinary jobs that he has done over and over.

Every table in HoltBid is based on actual figures. No approximating or averaging was done. A HoltBidder is competent to discuss building costs intelligently and snap up those chances that offer more than ordinary success.

One of Nature’s laws is that no man may stand still—he either must progress or fall back. It is the natural instinct of every man to become independent and successful.

HoltBid will help you succeed because it increases your efficiency. HoltBidders have an advantage over competitors that can neither be over-estimated or overcome.

Regardless of how much experience you may have had—how thoroughly you understand your work—you will admit you have got to keep up with modern methods in this day of keen competition.

HoltBid will enable you to make more money because it will assist you in keeping your business on the basis of service. It’s the jobs that went to the other builder that gives you the feeling of failure.

After all, ability is the deciding factor in any profession or trade. There can be no success unless you know how to carry out your work as well as your fellow men.

We know that HoltBid is worthy of your investigation and that you owe it to yourself to give our method a personal trial. Order coupon on next page is for your convenience.
I GUARANTEE that the HoltBid Method of Estimating Building Costs will be satisfactory to you in every respect. All I ask is that you give it a fair trial, and that is the only condition. If at the end of thirty days you do not find the HoltBid Method exactly as represented, I will refund the small down payment you have made. During the thirty days of free examination it is understood that our corps of expert HoltBidders will hold themselves in readiness to answer any question, and to give you true appreciation of the great value of the HoltBid Method. In accepting your order I place my full confidence in your intentions to give the HoltBid Method a fair trial.

WILLIAM A. RADFORD, President,
The HoltBid Service Company.

PIN A DOLLAR BILL TO THIS COUPON AND MAIL TODAY

William A. Radford, President, HoltBid Service Company,
1827 to 1901 Prairie Ave., Chicago, Ill.

I would like to give your HoltBid Method a personal trial. I enclose herewith $1.00 that you may send me the complete service on 30 days' approval under your money-return guarantee. If I keep the material more than thirty days it is understood that I wish to continue with HoltBid Service and will pay you $5.00 per month until the full price of $85.00 has been paid. The shipment I am to receive includes all units and a year's subscription to American Builder.

Name .................................................. State
Town ................................................... Occupation
Street Address ......................................

Note:—The service must be entered in the name of the individual and not the firm.

(Without the American Builder, we shall deduct $1.00 from the total purchase price. If you already are a subscriber, we can readily extend your subscription for a year.)
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 National Lead Company, 111 Broadway, New York City, has published "The Handbook of Painting," a booklet containing information and formulas for all kinds of painting and varnishing, and also offers a "Color Guide for Painters" containing much valuable information.

The Illinois Master Plumbers' Association, Chicago Heights, Ill., has compiled and published a "Special Bulletin - Factors to Use in Calculating the Radiation Required in Buildings Using Various Types and Kinds of Insulating Materials and the Different Applications of the Material." It is a real contribution to the knowledge of insulation values and their application. Price $1.

The Superior Sheet Steel Co., Canton, Ohio, offers a new pamphlet on its Lead-Sealed products, including roof sheets, etc., flashings, ridge roll, gutters and downspouts.

The Vento Steel Sash Company, Muskegon Heights, offers two new pamphlets on its steel sash and containing much useful information.

"More Home in Less Space" is the title of a new booklet published by the Murphy Door Bed Company, 22 W. Monroe St., Chicago, handsomely illustrated in colors to show the various possible installations of Murphy beds to make rooms doubly serviceable.

"A Treatise on Textured Wall Finishes" has been published by the United States Gypsum Company, 300 W. Adams St., Chicago. This is a very handsomely gotten up, 50-page booklet, containing numerous illustrations in color and very full instruction on the production of wall finishes with this company's plastic paint material, Textone. Price $1.

The Carney Company, 714 Builders' Exchange, Minneapolis, Minn., has published two new booklets. One of these, "A Manual Dealing with a Vital Element in Your Business," points out increased profits through handling Carney cement, while the other, "A Remarkable Combination of Quality and Economy," is devoted to a presentation of the qualities of Carney cement.

"Flat Glass and Libbey-Owens" is the title of an interesting and informative booklet published by the Libbey-Owens Sheet Glass Co., Toledo, Ohio. It is a revised edition of "Flat Glass," by Arthur E. Fowle, and tells, briefly, the development of modern flat glass manufacture and describes the present method as perfected by the Libbey-Owens sheet glass Co.

The Smith & Egge Mfg. Co., Bridgeport, Conn., offers a small pamphlet describing its No. 4 wood trimmer.

The Jaeger Machine Company, 521 Dublin Ave., Columbus, Ohio, presents a new catalog No. T-28, covering the Jaeger mixers of the tilting type.

The International Harvester Company, 606 S. Michigan Ave., Chicago, has prepared a group of pamphlets on the use of its trucks in various lines of industry and business.

The A. S. Aloe Co., 1810 Olive St., St. Louis, Mo., has published a new catalog, Bulletin No. 102, covering its line of contractors' labor-saving equipment.

The Forest City Bit & Tool Co., Rockford, Ill., offers a handsome catalog, No. 25, in stiff covers, containing its line of mortising and boring tools.

The Kawneer Company, 2426 Front St., Niles, Mich., has published a booklet under the title, "Modern Store Fronts for Better Display," very fully illustrated and containing several color plates presenting the Kawneer store fronts.

"Trucks for the Contractor" is the title of a new booklet prepared by the truck division of Dodge Brothers, Inc., Detroit, Mich., presenting its line of Graham Bros. trucks.

\[WHAT PRICE FURNITURE\]

Redybord

Saves

Grief

Worry

Dollars

This illustration shows "REDBORD" attached to a door. Can be fastened to a closed door, bathroom door or on the springs of an In-A-Door Bed.

REDBORD for Homes, Hotels, Apartments

Simple to install and inexpensive, the REDBORD saves the contractor time and money. Hotels furnish one field alone which can be made the source of a good income by energetic contractors who wish to specialize.

Ideally Suited to Pullman Kitchen Units

DISTRIBUTORS (Choice exclusive territory for re - sponsible distributors still available.)

Write for complete information now

REDBORD, Inc.

28 So. Wells St.

Chicago, Ill.

\[Bommer\]

Spring Hinges

are the best to use

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.
HAVE you heard about the latest American Builder service now offered to builders absolutely without charge?

It puts you in touch with leading manufacturers of building material, equipment and supplies whenever you want to know about the latest developments or any information as to products, prices or deliveries.

You may need a hoist, a derrick, a crane, pumps, trucks, tractors, concrete mixers, woodworkers, electric hand saws, unloaders, scaffolding or a steam shovel.

We have left a space below for you to describe any important jobs you have in prospect where you might use better equipment to reduce costs. Be sure and fill this in—it may be the most profitable thing you ever did.

---

AMERICAN BUILDER MARKETING SERVICE, 1901 Prairie Ave., Chicago, Ill.

Gentlemen:
Please put me in touch with all interested manufacturers in regard to the following items for which I am in the market or expect to be in the market shortly: (state exactly what you want—prices, literature, nearest point of distribution, etc., as well as the nature of the material required).

Describe any important job you have in prospect or contracted for where labor-saving contractors' equipment might reduce your costs—

Name __________________________
Street and Number __________________________
City __________________________
State __________________________

Please check your occupation: Building Contractor □ Dealer in Building Materials □
Prospective Home Builder □ Architect □

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
OAK FLOORS

beautify these homes

The texture and pattern of "Perfection" Brand Oak flooring make possible a finish that is seldom found on any other flooring.

You can depend upon "Perfection". In two modern plants operated by skilled lumbermen, only the finest oak is selected. After proper seasoning and kiln-drying, it is perfectly milled and matched so that it lays smooth and stays smooth. It is graded and handled so carefully that upon arrival anywhere, it is always in perfect condition. Leading lumber dealers gladly feature this nationally advertised brand.

ARKANSAS OAK FLOORING CO., PINE BLUFF, ARK.

PERFECTION
BRAND-OAK FLOORING

New! Series 61 Casement Stay

Another Win-Dor triumph!

This casement device gives a new convenience to the women—and one that they appreciate.


Endorsed and supplied by leading steel casement manufacturers. Also applicable to all outswung wood casements. This is just one of a number of valuable casement improvements shown in our new 1928 catalogue.

Write for a copy today.

Win-Dor

CASEMENT HARDWARE
The Casement Hardware Co.
402-A North Wood Street, Chicago

CASEMENT HARDWARE HEADQUARTERS

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Cracks can’t mar the handsome walls of this bedroom

A PROMINENT interior decorator combines beauty and economy in the walls of this smart bedroom. Beauty, because the wall-covering is Wall-Tex No. 8092, a restful flowered pattern in pink and gray. Economy, because Wall-Tex is a strong, wear-resisting fabric that hides cracks in old plaster and keeps new plaster from cracking. And after months of wear, if it should become soiled, it can be wiped clean with a damp cloth.

The 1928 Wall-Tex line is one we are proud of. Many handsome new patterns have been added to cover the entire field of decorative requirements. For living-room, dining-room, bedroom and nursery, as well as kitchen and bath. Dull or glossy finishes. Plain whites for painting and stenciling, rough-cast plastering, or Tiffany finishes. All hung just like wallpaper.

Architects, builders, decorators should write for full information on their particular needs. The Columbus-Union Oilcloth Company, Columbus, Ohio.

T-Bar JOISTS

Have Features That Will Enable You to Make More Speed and Money on the Job!

Straight and true to line, accurately fabricated, each Genfire T-Bar Joist reaches the job ready for placing. No fitting—no fussing. Genfire T-Bar Joists are designed and built to enable you to speed up your work and save money.

The continuous T-Bars which form the top and bottom chords provide added strength and safety. The underslung design and the wide end bearings prevent overturning of the joist during construction. The open web permits the passage of pipes and conduits in any direction. No centering is required. Many floors can be installed at one time. The joists serve as working platforms for the various trades. For all-round satisfaction, use Genfire T-Bar Joists.

Estimates and literature on request

GENFIRE STEEL COMPANY
YOUNGSTOWN, OHIO
Manufacturers of a Complete Line of Firesafe Building Products, also Waterproofings, and Concrete Preservatives

WITH THE NAME THAT'S EASY TO SAY AND HARD TO FORGET
That
dandy—

Thanks to

The
CARBORUNDUM
COMBINATION STONE

A good workman always has good tools.
And a good tool deserves a keen edge.

Today, thousands of carpenters are
using this handy helper to put clean,
fast-cutting edges on chisels, plane
bits, scraper knives—on all the edge
tools in their kits.

They know that any edge tool is only
as good as its edge.

Take out the nicks on the coarse-grit side of
this “combination” or “double duty” stone—
then just a few strokes on the fine-grit side
will finish off your tool to a true, keen edge.

Made of Carborundum—the manufactured
abrasive—much harder, sharper, and faster
cutting than any other material.

Order from your Hardware Dealer
Send for Booklet “How To Sharpen
Woodworking Tools—C 2.”

THE CARBORUNDUM COMPANY, NIAGARA FALLS, N.Y.
Canadian Carborundum Co., Ltd., Niagara Falls, Ont.

This birch panelled living room in the Dr. Shippen
House, recreated by Good Housekeeping Studio for
the Sesqui-Centennial Exposition, Philadelphia,
conveys many valuable tips for the remodeling of
interiors in this premier Northern Hardwood.

The Magic of Color
is building
Better Building Business

Every builder knows that fine appearance,
both inside and out, is the visible evidence
of value which favorably influences the
prospective home-buyer and that also in-
cites the enthusiastic praise of the owner
in the final appraisal of the work of his
building contractor.

For fine interior trim, doors, floors and
veneer paneling, Wisconsin-Michigan birch,
finished in the marvelous new stains, is “the
last word” for colorful harmonious beauty.

And, the wide range of shades and tones in
which these transparent finishes are available—
delicate sky blue to rich seal black—will satisfy
the most ultra-modern or conservative taste in
woodwork. Nearly “mar-proof” hardness is
insurance that a birch interior will retain a fine
appearance permanently.

Complete data regarding this new color develop-
ment on birch will be cheerfully sent upon request,
together with a copy of our “Beautiful Birch”
booklet containing valuable tables giving Physi-
cal Properties of all American Hardwoods.

THE BIRCH MANUFACTURERS
201 F. R. A. Building, Oshkosh, Wis.
IT stands to reason that the carpenter who uses nails that drive straight and grip tight works faster than one who spends part of his precious time pulling out bent ones or sawing out flooring damaged by bent nails.

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In this 3½-S Remmel Mixer you have the fast mixing Remmel Drum, the Remmel Direct Gear Drive and all-steel construction that takes a lot of hard handling without damaging the machine. Low loading height, simple tilting mechanism and positive lock that holds drum in any position. Furnished with solid or pneumatic rubber tires or steel wheels. You'll like our prices. Write right now.

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![Image of Trouble Saver Steel Brackets]


Trouble Saver Nail Attached Brackets Support a ton. Held by four nails and braced by two legs. Fold compactly for cartage or storage.


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- Nail Attached Brackets
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For Rafters

Model B

WODACK SAWS

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Photo at right shows practicability for lightest work where portability is necessary.

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2 Tools in 1

Saves 50 cents on every door you hang. Cuts both face plate and barrel of a lock IN ONE OPERATION, averaging less than a minute per door.

Features a powerful ½ h.p. G. E. universal motor that can be REMOVED from the mortiser to convert to the Wodack ROUTER. This outfit is sold separately or in combination.

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Gasoline equipment

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One man moves it (wheels provided).

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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
This is a 1/4-size reproduction of the CROMAR Full Page which appears in the April 14th issue of the Saturday Evening Post.

Buy...
An Oak Floor like Furniture... completely finished at the factory: scraped, sanded, filled, varnished and polished...

WHEN the Cromar idea was born, some ten years ago, so well did oak floor like furniture, everybody said, "How perfectly obvious—and how sublime!" And since then, each year, millions of feet of beautiful oak flooring have been scraped, sanded, filled, varnished and polished at the Cromar factory. Processed machines did the work—more perfectly than the best trained home hand could do it. Then the floor came to the home, and the last touch was the nailing in, and the home was complete. The next day the whole family walked about the new floor, and went out to give more beautiful and longer-lasting oak floors to many thousands of owners of old and new homes.

The principal thing for you to remember about a Cromar Oak Floor is this: It is laid and used the same day. The nailing in of the flooring takes just a few minutes, and then the room is again ready for use in the evening! And a Cromar Oak Floor costs you no more than a hand-finished hardwood floor.

Write for booklets which tell of Cromar's numerous technical advantages in an interesting non-technical way.

CROMAR is sold by lumber dealers, but carpenters and contractors install it. Consult any of these for further information. If you have the slightest trouble in getting satisfaction, write us and we shall give your inquiry prompt attention.

CROMAR COMPANY, Williamsport, Pa.

These full page monthly messages which we are sending into three million homes, are creating Extra re-laying jobs for you. Jobs that can be Laid and Used the Same Day!

That's absolutely no exaggeration. Two carpenters lay an average-size room in a day. Just think a minute what that means—in convenience to Owners, in quicker use or sale or rental—and to you, Mr. Contractor, in saving of time and labor; and all without need for subletting any part of this profitable work to finishers.

There are owners in your town who want Cromar floors. Talk to your lumber dealer about helping you to land them. Write me for samples and literature.

W. E. Cooksey
Sales Manager
THE CROMAR COMPANY
Williamsport, Pa.
The Concrete Floors in This Garage Are Nine Years Old—But Good As New!

The extreme wear to which these garage floors are subjected has had no effect on them. That's because they are permanently hardened and water-proofed with "ANTI-HYDRO." Furthermore, they were put in use the next day.

Water, oil, grease and wear from tire chains do not harm "ANTI-HYDRO" hardened concrete. Being a liquid integral compound, "ANTI-HYDRO" builds hardness throughout, producing permanent results instead of temporarily hardening the surface.

All concrete garage floors should be hardened and water-proofed—especially in buildings of two or more stories. By using "ANTI-HYDRO" you are sure of concrete that will withstand the most severe conditions.

"ANTI-HYDRO" is easy to use. Simply add it to the mixing water. Requires no skilled labor. Saves time and money.

For 24 years "ANTI-HYDRO" has been used on every type of concrete hardening and water-proofing work. Satisfactory results guaranteed. Use it on your next job.
IN "Steel-Strengthened Plastering" you have a brand-new, sales-making idea. Think what it means to you, Mr. Contractor—Mr. Architect-Builder—Mr. Realtor—to be able to say to your customer or prospect, "My buildings are built like sky-scrapers. I use STEEL-Metal Lath—under the plaster: Steel for fire-safety. Steel to prevent plastering troubles—disfiguring cracks or streaks."

And this argument is yours to use in your sales talk or in your advertising when you use—

**PLASTA-SAVER METAL LATH**

*as a base and reinforcing for your interior plastering*

This 1/8" flat rib North Western PLASTA-SAVER Metal Lath has simply revolutionized plastering. You can now secure wonderfully fine, firm walls and ceilings at but little more than the cost of inferior plastering on ordinary, combustible wood lath. A material which helps you sell and which also contributes so much to the quality of your buildings, is worth investigating.

Write us today for details and a sample of this very economical steel plastering lath.

**NORTH WESTERN EXPANDED METAL COMPANY**

1203 Old Colony Bldg., CHICAGO
ADVERTISERS' INDEX, MAY, 1928—(Continued)

NOTICE TO ADVERTISERS

Forms for the June number of the American Builder will close promptly on May 10. New Copy, changes and orders for omissions of advertisements must reach our business office, 1827 Prairie Ave., Chicago, not later than the above date. If new copy is not received by the 10th of the month preceding date of publication the publishers reserve the right to repeat last advertisement on all unexpired contracts.

AMERICAN BUILDER.
The safe way to build

Before Mr. Smith decided on details of construction, he wrote for Milcor literature and studied it. He recognized the common sense of plastering on Milcor metal lath as protection against fire, cracks and undue depreciation...he liked the modern style which Milcor Expansion Casings offered, instead of wooden trim for doors...he saw how he could eliminate wooden window trim and greatly improve the appearance of his rooms by using Milcor Bull Nose Expansion Corner Bead...he wanted Milcor Concealed Metal Picture Molding as soon as he saw it!

These unique, practical Milcor Products added practically nothing to the cost of Mr. Smith's home. But they added a great deal of real value and satisfaction. It's the safe way to build. Consult Milcor.

Milwaukee Corrugating Company, Milwaukee, Wis.

Milwaukee Metal Building Products

Some idea of the simplicity, correctness and sense of quality expressed in such subtly pleasing manner through Milcor Products in the Smith bungalow is conveyed in this picture of the Living Room.

Send for These Charming Books

Two Milcor Books you will enjoy are these: "Modern Modes in Better Planning" and "Safe Roofs". They are loaded with fine ideas. Whatever your interest in buildings of any type, from homes to skyscrapers, you'll find these books wholesome. We'll send them gladly on request, no charge.
Only the
FRANTZ No. 40 "EZ"
GARAGE SET
Has ALL These Features

1. No blocking or hanging of brackets necessary as track fastens flat on header and swivel bolt construction permits doors to fold flat against the front wall, clear of the opening.

2. Quick and Easy installation.

3. Track construction prevents hanger jumping off. Made of open hearth, rust-resisting steel—it withstands severest weather conditions. Wheel tread shaped to minimize friction.

4. Hanger especially adapted to light weight doors. Patented catch makes it impossible for swivel bolt to engage improperly when door is being closed. Wheels are provided with roller bearings insuring strength and ease of operation.

5. Packed complete as 2 and 3 door Sets in strong, fibre carton with necessary butts, latch, foot bolt and socket wrench. Also end stops and lag screws for track.

6. Product of Proven quality and reliability—from the line of Guaranteed Builders' Hardware.

Three Sets Meet Every Need

"EZ" Garage Door Fixtures are made in 3 sizes: No. 60 for large and heavy doors; No. 50 for average size doors; No. 40 for light doors. From these three sets you can select the correct equipment for folding garage doors and provide permanently satisfactory installations. Write for complete information about "EZ" sets and a wall hanger illustrating the complete line of Frantz Guaranteed Builders' Hardware.

FRANTZ MANUFACTURING CO.
STERLING, ILLINOIS

"No Hardware is Genuine FRANTZ QUALITY Without the Red Label"