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Leads for All Purposes;

Type A Proof Doors;

Wide Nose Corner Bead;

Compact Inexpensive Water System;

Light Weight Blackboards;

Economical Concrete Form Tie;

Trucks Have Improved Engine;

Something New in Concrete;

Hoist-Compenser Combination;

New Type Concrete Mixer;

A Modern Laundry Tray;

Trolley Track Lock Joint;

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This reproduction shows two strips of CROMAR Factory Finished Oak Flooring in . . . Full Size

NOTE especially the tiny surface-seam (PATENTED!) between the two strips. This seam is rounded. It is finished. It is so shallow that the shaft of an ordinary pin will more than fill it!

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Observe the improved CROMAR tongue and groove. It fits quickly and snugly. Gives a thick nailing line.

Note also the nail-holes—all ready punched.

And note the flat beveled edge of the tongue, which permits rapid nailing with no need whatever of "setting" the heads.

Details of these and other CROMAR features—which are true of no other flooring—are given on the opposite page. Read them—now! Each should help you to make quicker and bigger sales—
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CROMAR, an oak flooring, milled exclusively from Appalachian Oak (a medium-textured oak which better takes and holds the finish), is completely scraped, sand- ed, filled, varnished and waxed at the CROMAR plant by patented machines. Because CROMAR is completely finished at the factory, like furniture, all there is left to do is to nail it down.

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CROMAR patented machines apply filler, varnish and wax at the CROMAR plant. Not only is every pore of the wood 'filled, but the filler is actually driven into the oak, under pressure. This prevents the oil of the varnish from becoming absorbed by the wood. And thus the varnish retains its elasticity and does not flake or scratch white.

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The oak lumber is kiln dried to 4% moisture content. This is practical only because CROMAR receives a mould resistant coating on back and edges in addition to its several finishing coats on face. Because CROMAR is 96% dry at the start—and then coated to keep it dry—complaints about “warping” and “drying out” are almost never heard of.

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The improved V-joint type of tongue and groove fits quickly and snugly without “blocking.” Each nail-hole is punched. The off-centre cut gives a flexible joint and equalizes unevenness in sub-floors. CROMAR lays satisfactorily over a rougher sub-floor than ordinary hardwood flooring.

5.—Beveled Tongue Prevents Damage in Nailing

The flat, beveled edge of the tongue permits rapid nailing with no necessity whatever for “setting” the heads and with no sharp edges to show hammer marks. The different shape of the CROMAR tongue prevents damage from breaking or splitting. Specially trained floor-layers are not needed.

6.—Cleanable Surface Seam

The shallow rounded seam, in conjunction with the CROMAR tongue and groove, prevents the opening up of square cracks between the strips. Square cracks pack with dirt, making unsightly dark streaks that cannot be removed. The CROMAR patented seam is only 1/40" deep, and is easily cleaned with a brush or dry mop.

7.—“Lip” on Groove Side of CROMAR Strip Remains Unweakened Even at Time of Refinishing

CROMAR is made 3/8" thick only. The usual objections to thin flooring are entirely overcome in CROMAR by the different shape of the CROMAR “lip” on the groove side. The ordinary “lip” is weakened and often broken during installation by the necessary scraping and sanding of unfinished flooring. Of course, there is no scraping or sanding to be done with CROMAR. But even at the time of refinishing, the different shape of the CROMAR “lip” permits cutting down without weakening. And CROMAR's superior finish makes early refinishing unnecessary.

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CROMAR Strips are packed face to face, 18 or 24 pieces to a bundle. Bundles are clamped in a press, edges protected with crating, and bound with strap iron to prevent rubbing. Fussoned so tightly together, it is impossible for strips to work loose. Thus they are made light-proof, dirt- and dust-proof. Each bundle is stenciled with grade and quantity, so that the material can be stored, without uncrating, until ready for use. Loss from broken tongues and grooves, split ends and damaged faces is completely eliminated.

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Finishing Hydrated LIMF

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But price has kept insulation off so many roofs.

Now, with the new Carey Cork-Insulated Shingle, price no longer stands in the way—this remarkable shingle puts roof insulation within the reach of all. You can offer all the added comforts of weather-insulation along with weather-protection, at very slight additional cost.

**Comfortable, livable homes, under this modern roof**

No longer must people toss and fret in stuffy upstairs bedrooms on sweltering summer nights. No need, now, in mid-winter, to waste ton after ton of coal heating those same rooms. For the unique Carey Cork-Insulated Shingle keeps the heat out in summer—keeps the heat in, in winter.

A roof of Carey Cork-Insulated Shingles, with their deep shadow lines, will add to the appearance of your houses—make them more salable, too. But above all, when you build these extra advantages into the houses you put up for sale, people are going to think of you as an up-to-date builder. And public confidence and good will mean so much to you in your business.

Better write at once for samples and full information.

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Lockland, Cincinnati, O.
SHERWIN-
PAINTS VARNISHES

Cover the Earth

Trade mark registered

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Effects of richest beauty are obtained in interiors of the Walter Head residence, Omaha, by the use of Sherwin-Williams interior protective coatings. “Crackled” finishes prevail. The dining room has a light blue "crackle" over a background of ivory, glazed first in light blue, then in Vandyke brown. The beads on the panels are painted red and covered with gold rubbed with steel wool, shellacked, and then glazed in Vandyke brown. A coat of Sherwin-Williams dull varnish completes the job, enhancing its striking richness.

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In the beautiful Omaha residence of Walter Head, there is offered a striking example of how truly beautiful an interior can be made when high quality protective coatings are used.

On every hand, the visitor in this charming residence is struck by the luxurious richness of the wall finish. Not only the walls, but the ceilings and the door frames and window sills have been treated with Sherwin-Williams products.

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CLEVELAND, OHIO
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This means that you risk nothing in specifying this fitting!

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Its appearance, its marked degree of utmost refinement, is quite apparent. The handles and escutcheons are made of the finest white vitreous china. All exposed metal parts are finished in either nickel—or chromium plate, according to specification. Surely no more attractive shower fitting can be made.

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The shower head consists of two pieces, the head being held to the body by a patented arrangement permitting easy access for cleaning purposes. Special Mueller joint packing makes a leakproof connection.

We will be glad to send you more complete details of this and other fine plumbing fittings upon request. Write today for catalogs and data.

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Canadian Factory: MUELLER, Limited, Sarnia

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"How much will this house cost?" is the question most frequently asked—and the one most often dodged. How many hours have you spent figuring plans and then lost the job? How many times have you spent hours figuring up a job and then had your customer decide not to build? How many times have you left out items?

See Special Offer On Last Page

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Other HOLT BIDDERS
Have Said

Clear and Accurate
"I received the HoltBid and found it perfectly clear to me after a few evenings' reading the HoltBidder's Instructions. I have checked it up and find it accurate far beyond my expecta-
tions."
* * * * * * * Exeter, N. H.

Uses While Learns
"Have finished about half of the HoltBid In-
structions 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 HoltBids check up very closely."
* * * * * * * Laceyville, Penna.

Most Complete
"In my fifty years of building, I have seen
many estimating outfits but HoltBid is the most
complete I have seen."
* * * * * * * Jackson, Miss.

Best and Instructions Very Plain
"I have been giving what time I could con-
veniently 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 De-
partment, because you have made yourInstruc-
tions very plain indeed."
Richmond, Va.

It's Great!
"Have just received my HoltBid System and
wish to thank you for the layout. I think it is
GREAT. I am enclosing $5.00 herewith to
prove my satisfaction as my first months' pay-
ment."
New York, New York.

HoltBids After 7 or 8 Hours' Study
"I had not put in over seven or eight hours
learning to HoltBid before I figured a house
and sold it and came out about 2% to the
good."
Logansport, Ind.

Your Questions

IS HOLT BID SOMETHING ENTIRELY NEW?
HoltBid is the result of twelve years of painstaking
tests by practical men and has never been published
in any other form except as a part of HoltBid
Service.

IS HOLT BID DIFFICULT TO LEARN?
No. HoltBid has been mastered by some of our
members in ten days. We give you a long margin
and say it requires from 30 to 60 days to thoroughly
learn HoltBidding.

WILL HOLT BID HELP THE MAN WHO HAS
HAD YEARS OF EXPERIENCE?
HoltBid is being used by hundreds of experienced
men in the building field. They recognize the Holt-
Bid Method as the "Modern Method of Estimating."

WILL HOLT BID ASSIST THE YOUNGER
MAN OF LIMITED EXPERIENCE?
Yes. HoltBid is simple and easy to learn. It is
not written in a complicated technical manner. No
knowledge of higher mathematics or Geometry is
required to learn HoltBid.

WHY IS HOLT BID ACCURATE?
Because HoltBid has combined the actual material
list with the square foot system. Each HoltBid
unit is based on the actual pieces or quantity of
material required.

WHAT ACCOUNTS FOR HOLT BID'S RE-
MARKABLE SPEED?
Instead of figuring in pieces, you figure in units of
100 square feet. It is not necessary to list the
number of studding, floor, joist, etc. All you need
do is determine the number of "squares" of surface.
Honest Words of Praise

Pays For Itself
"Sold four or five houses and many smaller buildings, due primarily to the knowledge gained from HoltBid Service, so already feel fully repaid for the money spent with you." Waterloo, Iowa.

Lands Nice Jobs
"Local attorney says the HoltBid Forms were the best specifications for contracts that could be gotten. I feel that the HoltBid had a lot to do with my landing a couple nice house jobs last year." Amery, Wis.

Even Easy For Beginners
"I sure appreciate your books because they explain in such detail that a beginner like myself should have little if any trouble to understand them." Toledo, Ohio.

Promoted
"I want you to know that I feel the HoltBid System is largely responsible for my recent promotion." Fargo, N. Dak.

Not Difficult to Learn
"The HoltBid is well organized and am convinced that it is practical and absolutely reliable—not difficult to master—very much pleased—in the beginning I was skeptical as I could not see how it was possible to fit different localities—now I know I shall obtain great benefits and save hours of hard, tiresome estimating which has been my previous experience." Littleton, New Hampshire.

Greatly Benefited
"It certainly is interesting and I feel greatly benefited already. Can see where it will make building a profession instead of a mere vocation." Hoare, Montana.

Answered Here

HOW DO YOU GET A MATERIAL LIST?
After you have made your bid and the customer has accepted your figure, THEN you can take off your “delivery list” or material list from your HoltBid estimate.

HOW CAN HOLTBID GIVE THE DESIRED RESULTS WITHOUT BLUE PRINTS?
Parts two and three of the HoltBid Instructions show you how to analyze picture plans and determine their major factors of proportion. With this information and the floor plans you can figure just as accurately as from scaled drawings.

CAN LABOR COSTS BE ESTIMATED WITH HOLTBID?
Yes, Labor is included if desired. Part 17 of the HoltBid instructions deals entirely with Labor. You may apply your own wage scale to the Labor Schedule in the HoltBidder’s Memo.

WHO IS THE HEAD OF HOLTBID SERVICE CO.?
Mr. Wm. A. Radford, Editor and Publisher of American Builder, Farm Mechanics, Radford’s Cyclopedia of Construction and President of the Radford Architectural Co.

WHAT IS THE ADVANTAGE OF BEING A HOLTBIDDER?
In addition to the immediate value of applying HoltBid, you, as a Registered HoltBidder, have the full resources of our HoltBid Service Department. You are privileged to call upon our staff of HoltBidders at any time for assistance in learning to HoltBid, or on any problems in building.

WHY IS HOLTBID CONSIDERED AS AN INVESTMENT?
Because your personal efficiency will be greatly increased. Besides the great saving in time in accurately figuring jobs, HoltBid gives you exceptional training in developing sales.
For Your Examination

My Personal Guarantee

I GUARANTEE that the HoltBid Method of Estimating Building Costs will be satisfactory to you in every respect. All I ask is that you give it a fair trial, and that is the only condition. If at the end of fifteen days you do not find the HoltBid Method exactly as represented, I will refund the small down payment you have made. During the fifteen 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,
HOLT BID SERVICE CO.,
1827 to 1901 Prairie Ave., Chicago, Ill.

Please send at once HOLT BID SERVICE of accurately estimating building costs. Enclosed find $1.00. If I keep HOLT BID more than thirty days, it is understood that I wish to keep the service and I will pay you $5.00 per month until the balance of the SPECIAL INTRODUCTORY Price of $85 has been paid. The HOLT BID SERVICE includes all units, as well as a year's subscription to American Builder, the World's Greatest Building Paper.

Name: __________________________

Town: __________________________
State: __________________________

Street Address: __________________

Occupation: ____________________

Note: — The service must be entered in the name of the individual and not the firm.

9-A.B.-37

(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.)
**Remarkable Strength and Durability in This Improved Glass Substitute**

Hundreds of contractors and carpenters now recommend and specify GLASS CLOTH instead of glass for scores of building uses. It has all the benefits of glass, and none of the disadvantages.

GLASS CLOTH transmits an abundance of soft light—evenly distributed throughout the room. Eliminates spotty glare and shadow. Absolutely winter-tight. Keeps out all wind, rain, snow and weather. It has remarkable strength. Withstands a blow that will break glass. Best of all, it admits the valuable ultra-violet health rays of the sun. (Plain glass filters out these rays.) Always use GLASS CLOTH instead of glass on poultry houses and brooder houses. Makes hens lay all winter. Baby chicks do better. Ideal for hot beds. Plants grow faster and sturdier.

**Test This Big FREE Sample**

Mail coupon TODAY for sample of the New, Improved, Super-Strength GLASS CLOTH. Just try to tear it! It's as tough as boot-leather. Extraordinarily strong and durable. Much better than glass for scores of building uses—and costs but one-eighths as much. GLASS CLOTH is the only genuine, original, patented glass substitute. Be sure to get the sample and literature explaining how valuable and inexpensive GLASS CLOTH is for many building purposes.
"IT SPREADS LIKE WARM BUTTER"

To build the best—is the silent creed of every reputable builder or realty builder.

To make the best is the ever present driving force that has maintained Tiger leadership and supremacy all these years.

Use the best—is becoming more and more the order of the building fraternity because they not only realize the futility of “or equal” but the economy of the best in every material—making for quick loans—rapid turnover—satisfied ownership.

The Kelley Island Lime & Transport Co.
Cleveland, Ohio

"World's Largest Producer of Lime"

The Famous TIGER FINISH

And—Tiger Mason’s, Tiger Agricultural, Tiger Chemical, Tiger All-Purpose Hydrate in 10 pound packages, and High Calcium and Magnesium Lump Limes
Get at the money in roofing!

Start a roofing department!

Every new home, garage, barn, stable needs a roof. And there are so many buildings with old shingle roofs that need re-roofing. All of them—new and old—are jobs for you—jobs that you can handle with satisfaction to the owners and with profit to yourself.

Genasco Latite Shingles enable you to take care of all this business to the very best advantage. They are famous not only for the protection they afford, but for their distinctive beauty. They are waterproof, weather-resistant, and fire-retardant—and when used for re-roofing they are laid right over the old wooden shingles.

This "Genasco way" of re-roofing is so desirable because of the patented "key" locking device on every Genasco Latite which holds the shingles tightly against each other. And it saves the time, trouble, labor and expense of ripping off the old roofs—besides making roofing a business that can be handled all year around without exposing the interior of the buildings to the weather.

Genasco Latite Shingles are made of tough, long-fibred rag felt, heavily saturated and then coated on both sides with Trinidad Lake Asphalt Cement—nature's unequaled waterproofer. The undercoating is the famous "Sealbac" feature—exclusive with Genasco—and protects the body of the shingle from condensed moisture, and it also tends to make the shingles adhere closer to each other. And Genasco Latite are beautiful in their four non-fading colors—red, green, blue-black, and the new Mix-Tone.

Not only have Genasco Latite Shingles outstanding merits that make it easy to get business, but we help because of the patented "key" locking device on every Genasco Latite which holds the shingles tightly against each other. And it saves the time, trouble, labor and expense of ripping off the old roofs—besides making roofing a business that can be handled all year around to apply Genasco Latite, to handle the entire transaction to your advantage and profit. And the complete details are yours for the asking—without obligation. Write us today—use the coupon right now.

The Barber Asphalt Company

The patented "key," invisible on the completed roof, locks each shingle tightly to those underneath.

The turned-under corner holding the "key" makes a double-thick butt that adds distinction.
When an iron pipe installation begins to go, the owner usually makes a few repairs and replacements before he tears out the whole job.

Use Alpha brass pipe in your replacements so that when the inevitable complete replacement comes you will receive the first consideration. Since you have been doing the replacement work the owner feels that you know about his plumbing, that you understand the use of brass pipe, and are logically the one to choose for completing the job.

Alpha pipe is a nationally advertised pipe. It has a good will value which you can use, for good materials help to build a good reputation.

Then, too, Alpha brass contains more copper and lead than ordinary brass pipe, which means that it is easier to cut cleaner and sharper threads, and that Alpha pipe can be bent cold without using sand or rosin. These and other advantages make Alpha pipe easier to sell and use, and yet it costs no more than any other brass pipe.

*Why we call it “ALPHA”*

When brass is seen under the microscope the surface seems to be made of small blocks or crystals of different shapes. Scientists divide these metallic crystals into two classes, “Alpha” and “Beta.” Severe service tests have proved that Alpha crystals are very strong and durable, while Beta crystals are eaten away in time by corrosive water. There are Beta crystals in all brass that contains less than 63% copper. (Muntz tubes contain only 60% copper.)

Several years ago we began making a brass with 66% copper (3 parts extra to make sure). This brass we call “Alpha” because it is made up entirely of Alpha crystals, which give it wonderful lasting qualities.
REPLACEMENTS
with ALPHA

CHASE COMPANIES
INCORPORATED
WATERBURY, CONNECTICUT
Chase Metal Works — Chase Rolling Mills
OFFICES
Boston New York Philadelphia Rochester
Pittsburgh Chicago St. Louis Atlanta
Newark Cleveland San Francisco Los Angeles
Members Copper and Brass Research Association

Chase Companies, Inc., Waterbury, Conn. 2-1324-6
Please send me free of charge a copy of your book on
Alpha Brass Pipe.

Name
Firm
Position
Address

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
More Concrete Per Day
More Jobs Per Season

Wonder Mixers are built for top-notch speed! They contain many high speed features for getting the concrete into the forms with greater speed.

The easy charging, free flowing skip rushes the materials into the large drum opening—an automatic knockout stops the skip in discharging position and applies the brake—a big handwheel tilts the drum and the mixed concrete pours out quickly and cleanly. It requires but five seconds to discharge!

And there's the famous Wonder figure "8" kneading mixing action. It's fast. It's thorough and insures uniform concrete with maximum strength.

The Wonder track loader with its extension advantages reduces distribution costs—husky, dependable engines insure ample power—an accurate measuring, easy operating, fast discharging tank gets the proper amount of water into the drum quickly—there's cushion tired wheels for easy moving—and the Wonder ball bearing drum with its guaranteed drum bearing is assurance of low operating costs.

Watch a Wonder on the job! Note it's speed—how it hustles the materials into the mixing drum and the concrete into the forms. That means More Concrete Per Day—More Jobs Per Season—More Profits for you.

The new Wonder catalog clearly pictures and describes. It contains the outstanding Mixer value of the year. Send for your copy today—also new low prices.

Construction Machinery Co.
Nationally Distributed From Convenient Points
103 Vinton Street Waterloo, Iowa
Will this home be in condition 10 years from now?

Everyone has keen interest in the investment side of building—the possibilities of a profitable, quick sale within the next 10 or 15 years. Owner and contractor now study those materials that are built in "for good"—materials that can't be added later with complete success.

They learn that plaster over a steel base such as YPS Z-Rib Lath is far the most satisfactory—that it is cheaper to use corner bead than not—that copper steel basement windows cost less than wood sash—that copper steel coal doors save their cost in protecting foundation exteriors—that steel bridging is the least expensive.

In short, they learn the all-important value of steel reinforcing as a long-time investment—in boosting resale possibilities!

In working out your home building plans, take advantage of the service the YPS dealer in your town or city is ready to give you. Our latest printed information on the subject is in the new YPS Handbook, a copy of which we'll gladly send you.

**Other YPS Products**—Metal Lath—Channel Corner Bead—Stuccomesh—Economy Stucco Nails—Copper Steel Coal Doors and Basement Windows—Steel Bridging—Joint Pin Anchors—Expanded Metal.

**The Youngstown Pressed Steel Co., Warren, Ohio**

Please send the new YPS Handbook by return mail and have your YPS Dealer look me up.

Name

Address

Business

City __________________ State __________________

A. B. 9-27
EVERYBODY wants running water under pressure in the house. And now no suburban or farm home need be without it—this health-giving convenience so necessary to happy, modern home life.

Fairbanks-Morse has brought the price of a big capacity, completely equipped Electric Home Water System within the reach of all. The low price shown above puts running water in ANY home. Plentiful water under pressure—enough for the whole family’s use.

Thousands have marveled at so much quality in a water system costing so little. Yet, due to Fairbanks-Morse volume production, efficient manufacturing methods and world-wide distribution—low price and uncompromised quality can be combined in a system that far outstrips any water system value ever offered.

**Biggest capacity for price**

See this new home water system! You will be impressed with its advanced design—it’s smooth, entirely automatic operation—its big, 210-gallon-per-hour capacity—its fine workmanship throughout, even to the finish of beautiful dolphi blue automobile lacquer. Never before have you seen a water system so modern, so trim and compact—so matchless in real value!

**FAIRBANKS-MORSE**

**Home Water Systems**

**Fairbanks-Morse Products**

“Every Line a Leader”

Branches and Service Stations Covering Every State in the Union

**Expert counsel and advice on water service problems**
Here's the whole works!

HE'S ALL SET TO SAND ANYTHING

In one hand he carries up the sander that finishes 800 to 1,600 square feet of floor in 8 hours—the sander that does every kind of job—the sander that connects to any light socket, requires no special wiring, needs no truck nor crew to move it.

Power--Speed--Quality--Economy--the Clarke Has Them All!

YOU"LL welcome the big savings of time, work and money brought by the powerful, fast-cutting Clarke Vacuum Portable Sander.

Works in the small places—closets, hallways, bathrooms, stair landings as well as in the wide open spaces.

Works so close to the wall that the baseboard and quarter round cover what's left.

No pressure—no heavy weight—this machine is easy to run, a boy can do it—and the way it bites in—knocks off high joints—smooths out the low spots—and makes floors good to look at, is something that causes you to know the profit is there.

Creates no dust—vacuum suction leaves the air so clean you can paint or varnish nearby.

And think of this! The Clarke is so light you can pick it up in your hand and use it in the shop or on the job for interior trim and assembled jobs.

Thousands of contractors, woodworkers, manufacturing plants are doing better, cheaper sanding with this remarkable machine. They're using it for shop work, bench work, floor work and for removing old varnish in remodeling work, because it saves time, saves labor and makes more profit.

It's money in your pocket to know the real facts.

Let us tell you.

Mail the Coupon Today

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
A sensational success everywhere!

The Bestwall BEVELED Edge

The great success of Beaver BESTWALL, “the superior plaster wall board,” is evident everywhere. Sales have reached the highest point in Bestwall history. This triumph of quality is due to three factors:

First, the amazing strength of Bestwall, produced by the super-fine rock plaster core and tough fibre facing.

Second, the exclusive Bestwall Beveled Edge, insuring invisible joints and seamless walls.

Third, experience. Bestwall is made by a company that has more years of wall board experience than any other concern in the business. Bestwall is fire-resistant—has Board of Fire Underwriters' Approval. It is an excellent insulator, and takes decoration better. Yet it cost no more!

All plaster wall board is not Beaver Bestwall. But you cannot be confused if you call for it by name and look for the cream-colored fibre surface—and the beveled edge. Bestwall is also made with the square edge for those who prefer it. For test sample and literature address our Dept. 1309.

THE BEAVER PRODUCTS CO., Inc.
Buffalo, N. Y.
Manufacturers also of Beaver Board, Beaver American Plaster, Gypsum Lath, Gypsum Block, Thermacrete (cellular gypsum), Varnishes and Enamels, Beaver Vulcanite Asphalt Shingles, Mineral- and Smooth-Surfaced Roll Roofings, Asphalt Paints and Cements.

THE SUPERIOR PLASTER WALL BOARD
No more defective doors
to sell at a loss

Elmer & Moody Co.
Seattle, Wash.

"Yes, we used to have 'junk' doors at bargain prices, but not any more—not since we've been handling Laminex doors."

Many builders tell us that they dislike the annoyance and threatened loss of good will more than they do the expense of repairs when doors give trouble.

Laminex doors save this expense and annoyance for builders and retail dealers because they do not warp, split or come apart—we guarantee them.

We are perfectly willing to guarantee Laminex doors, for unlike ordinary doors, their stiles and cross-rails are built on a core of stress-balancing blocks and any attempt of one block to warp, shrink or swell is immediately counterbalanced by forces in the opposite direction exerted by neighboring blocks. All parts, including the plywood panels, are firmly united with Laminex cement (a secret), which is absolutely waterproof and actually stronger than wood.

Progressive millwork and lumber dealers can supply you with popular designs of Laminex doors from their ample stocks. They will point with pride to the replacement guarantee label and the word "LAMINEX" which appears only on genuine Laminex doors. Fill in and mail the coupon on the next page for valuable literature and a sample of Laminex wood to test.

LAMINEX DOORS
WILL NOT SHRINK, SWELL OR WARP
Now you can safely recommend one panel doors

No danger of warping or winding if you use Laminex

ORDINARY one-panel doors are more popular for their style than for the service they give. It takes mighty sturdy construction to make up for the absence of a lock-rail, and no matter how well built, any solid door is likely to warp.

You can safely recommend Laminex one-panel doors because they cannot sag or warp. You'll never need to take one down and plane it off; you'll never have one split or rattle. Laminex scientific, built-up construction and Laminex waterproof cement (a secret) are responsible.

Laminex one-panel doors are just as beautiful as they are troubleproof; are handled by progressive lumber and millwork dealers; cost little if any more than ordinary stock one-panel softwood doors; and save you the annoyance and expense of going back to refit, rehang and refinish them.

Every Laminex door is guaranteed by the world's largest door manufacturer—it must make good or we will. This fact alone should make you hesitate before you take a chance on an ordinary door.

Mail the coupon for valuable literature about the complete line of Laminex doors.

LAMINEX DOORS
WILL NOT SHRINK, SWELL OR WARP

The Wheeler, Ogden Company, Tacoma, Washington

Gentlemen:

Please send me illustrated literature and sample of Laminex wood to test.

Name ...........................................................
Address ...........................................................
City ......................................................... State .............................
In this living-room the floor of patterned linoleum provides the perfect setting for attractively grouped period furniture. W & J Sloane Contract Marble Tile No. 146. There are grades and prices to suit every purpose. W & J Sloane Manufacturing Company, Trenton, N. J.

W. & J. SLOANE LINOLEUM
THE LINOLEUM OF QUALITY
TWENTY-NINE houses, all equipped with Lupton Steel Casement Windows, were recently completed in Washington, D.C., by the Joseph Shapiro Co., development builders. Plans by Jos. W. Geddes, architect.

And these, in turn, are but a part of the great number of Lupton-equipped homes erected by investment builders who have learned that up-to-date windows attract buyers. People know that Lupton Casements are not only the windows in good taste but the practical windows, too—weather-tight, easy to open and close, handy to clean from inside the room, and convenient to curtain and screen.

Yet, with all these advantages, Lupton Windows are remarkably low in cost. Do you realize for how little they can be installed throughout a house? Let us send free Catalogue No. C-122 giving all details.

DAVID LUPTON’S SONS CO.
2203-8 E. Allegheny Ave., Philadelphia
Pioneer Makers of Quality Steel Windows for Every Type of Building

LUPTON STEEL CASEMENT WINDOWS

FOR ADVERTISERS’ INDEX SEE NEXT TO LAST PAGE
A Closed Track Job
At
Flat Track Price

CANNON BALL JUNIOR

BEATS 'EM ALL

DOORS are the only part of a building that "works." Your reputation as a builder can be wrecked by a balky door.

So you want good door hangers.

You can pay a lot more but you can't get a track and hanger that will handle doors up to 250 lbs. any better than Cannon Ball Junior.

You can save the friends you do work for a lot of money by using Cannon Ball Junior; you can make money for yourself; and not risk your reputation.

Cannon Ball Junior is easiest to hang—saves you lots of time and trouble. It runs easy. The track is perfectly round; the wheels are ball shaped with long roller bearings that can't twist or pile up. Cannon Ball Junior hangers never go back on you. They run even, bear even, wear even, for years and years, no matter how the building sags or settles.

TRACK ANY LENGTH YOU WANT

Track comes in 3, 4, 6 and 8 ft. lengths, with brackets for single track or parallel installations to hang from side wall or ceiling.

Send now for big 228-page catalog, which shows all kinds of door fittings and other things you want to be posted on.

Hunt-Helm-Ferris & Co., Inc.

Established 1883


Cannon Ball Junior For Garage Doors

Self-Cleaning Round Track 16-Gauge Steel. Solid Ball Wheels (Roller Bearing) Lathe-Turned of Cold Rolled Steel

Illustration below shows how track protects the hangers and how the slot in the bottom of the track lets the dirt, dust, rust and moisture drop out so that Hangers Can't Clog or Bind.
Plan Homes for the "95%"

When you plan and equip kitchens for new houses and apartments, don't forget that over 95% of America's home makers do their own housework. To these women, the kitchen is the most important room in the new home, the Gas Range, with Red Wheel Self-regulating Oven, the most necessary piece of equipment.

The 5% who employ permanent help find that maids are more contented and more efficient where Red Wheel Gas Ranges are installed, because all oven cooking and baking is done by accurate oven temperatures, measured and automatically maintained by the Lorain Red Wheel. There is no waste, for foods are never burned, never underdone, never thrown out because of spoilage in the baking.

Lorain is the first thermostat ever designed for the automatic control of gas range oven heat. Lorain-equipped Gas Ranges are nationally known, having been advertised in the leading national publications for more than eight years.

Over 2100 schools, colleges and universities use Red Wheel Gas Ranges to teach the art of cookery. Each of the six Red Wheel makes, Clark Jewel, Dangler, Direct Action, New Process, Quick Meal and Reliable offer a wide variety of sizes, styles and finishes suitable for kitchens in houses, apartments, schools and every building where cooking is to be done. For specifications, see Sweet's Catalog, 21st Edition, Pages C2977 — C2986 or send for our Handbook on Gas Ranges for Architects and Builders.

AMERICAN STOVE COMPANY, 233 Chouteau Avenue, St. Louis, Mo.
Largest Makers of Gas Ranges in the World

LORAIN
If you have houses to sell or apartments to rent—do this: Add "Frigidaire-Equipped" to the "For Sale" or "For Rent" sign. Then watch the results! You'll find that Frigidaire is an important factor in getting favorable decisions—that it is an investment that pays big returns.

This FRIGIDAIRE now only $180

Now, a new Frigidaire is offered at the amazing factory price of only $180. It is the lowest-priced electric refrigerator ever built. See it demonstrated at the nearest Frigidaire Sales office. Or write today for complete information about other Frigidaire models.

FRIGIDAIRE CORPORATION, Subsidiary of General Motors Corporation, Dept. R-110, DAYTON, OHIO

FRIGIDAIRE CORPORATION, Dept. R-110, Dayton, Ohio
Please send me complete information about all Frigidaire models.

Name..........................................................
Address......................................................
An Artist
Remodels his Home

Here are "before-and-after" views of the Glen Ellyn, Illinois, home of Mr. William A. Hottinger, an illustrator of Chicago. Despite the very pronounced difference in appearance, few changes were made. The eaves were cut down, the porch space thrown into the living room, chimney and entrance added. The shingles on the walls went on over the narrow siding. The Winthrop Tapered Asphalt Shingles on the roof went on over the old wooden shingles. Winthrops are unequalled for going on over old roofing.

For the roof on this warm gray, wide-shingled house, with cream trim and brownish red chimney, Mr. Hottinger selected Slatefield Blend and then mixed in, with the Slatefield Blend, a few red Winthrops. The result is individuality—a personal note. No other roof anywhere is exactly like it. Just a few reds among the heather greens, purples and heather blues of the Slatefield Blend. Here's an example of what intelligent remodeling can accomplish and an example of the individuality that can be given a home with Winthrop colors. There are 13—8 solid and 5 combinations. All are lasting. None is artificial. All are natural slate, crushed and embedded in the everlasting asphalt.

Winthrops are the only tapered asphalt shingles made. The thick butt doubles the wearing thickness. Winthrops lie flat. They do not rot, split, crack nor rust. They are fire resistant and bear the Class "C" Label of Underwriters' Laboratories. They reduce insurance costs. Mr. Hottinger got a rebate as soon as his Winthrop roof was completed.

Write for Samples
Winthrops are supplied to most good lumber dealers from our three modern factories, in Chicago, in Detroit and in Lockport, N. Y., but you will find that samples of your own, help with prospective builders or remodelers. We will send you a full set upon request on your business stationery.

BECKMAN-DAWSON ROOFING COMPANY
1032 Brooks Building, 223 W. Jackson Boulevard, Chicago, Illinois
AN ALL WEATHER—ALL YEAR DOOR

The fiery heat of summer; the fierce winds of March; the deep snows and ice of winter; the uncertain weather of fall—none of these CAN interfere with the operation of the OVERHEAD DOOR. When open it is up—overhead, out of way and out of the weather; when closed it fits tight at top, sides and bottom. It's a sturdy, rugged door that stays put and gives perfect service month after month, year after year. And best of all it's so simply constructed, easily installed and so EASY to handle that even

A Child Can Operate It

FOR THAT DOORWAY

The Door fits tight at Top, Sides and Bottom

The Door is in Perfect Balance in all positions

OPENS — out of the way

on GARAGE—FACTORY—WAREHOUSE

OVERHEAD DOOR CORPORATION

W. Kickapoo St. HARTFORD CITY, IND. U. S. A.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
The beauty of finest African mahogany and the permanence of solid construction are built into Roddis Flush Doors. Their cost is no more than for many of our native woods. Finely grained woods are matched with ingenious skill and joined with such precision that joints can scarcely be detected.

Beautiful beyond comparison are flush doors built by Roddis, finished in African mahogany, walnut, oak, birch and other finest of woods. Permanence, too, beyond comparison is assured. Roddis cross and surface veneers are literally welded to solid cores made up of narrow strips of soft wood. At top and bottom, as well as sides, a hardwood strip prevents moisture from reaching the core. Roddis Doors never warp, sag, swell or shrink. Homes finished with Roddis Doors win instant approval. It pays to use them.

RODDIS LUMBER AND VENEER COMPANY, Marshfield, Wis.
Branches in Principal Cities

Send for this Roddis Book for Builders

The Roddis design book shows Flush, French and Outside Doors in their finished colors. Immediate shipment from warehouse in principal cities. Ask for the booklet, "Roddis Doors".

RODDIS DOORS
Made by the World's Largest Producer of
FLUSH AND FRENCH DOORS
Meet Mr. Lou Arterburn and “Asbestos George” Lowry... they know their shingles

These two live wires are with the Alexander Lumber Company, well-known operators of 110 yards in Illinois. They deliver high voltage in and around Champaign. Mr. Lowry gets his “trade name” from the facts and figures he volcanoes when anyone mentions roofing. If Mr. Arterburn had a nickname, we are quite sure it would be “Eternit Lou.”

For both gentlemen are two of the most enthusiastic and delightful boosters of Eternit Asbestos Shingles we ever met. They’re selling Eternits, car after car. There’s nothing secret about their system. They’ve made a real study of roofing and roofing products. They know what’s what.

“We’ve heard nothing but praise for Eternits,” Mr. Arterburn writes. “They lay faster than other shingles of their type. They are more flexible, more uniform, more thoroughly seasoned. They really stick... The only people who aren’t enthusiastic about this product are those who don’t know what it’s all about.”

And there you are. Mr. Arterburn puts into quick words a great big engrossing fact. Any dealer, contractor, builder or home owner—who gets down to figures—can’t help taking Eternits every time... No one will pass up a real opportunity to save money or to make money. It isn’t possible to make ten or fifteen years equal a lifetime, at any price. Fire-resistant isn’t fire-proof! Pretty good can never be as strong as the best... Just compare Eternits, point for point, with any other shingle and you’ll see what we mean. But be sure the shingle you test is plainly stamped with the trade-mark Eternit.

Mail us the coupon today. There’s a lot more to this asbestos shingle business—and we believe you want to know the facts. Eternit, Inc., Philadelphia, Boston, St. Louis, New Orleans, Jacksonville.


Name____________________________Street________________________

City____________________________State________________________

☐ Check square if you are a dealer. If you are a builder or roofer give dealer’s name here:

ASBESTOS SHINGLES
Hardware is important in the homes you build

ONE of the first things a prospective buyer sees as he is shown through a house is hardware—door-knobs, and hinges, and locks. He is trying to determine the quality you have put into the house, and the hardware keeps forcing itself on his attention. He knows that solid brass or bronze will last for decades; that plated hardware soon gives trouble. If you have built with Sargent Hardware, you have insured a good impression on the buyer.

The attractive appearance of Sargent Hardware is more than a surface finish because Sargent Hardware is fine material to the core. When a buyer sees you have used hardware that will give him satisfaction and service, he will take it for granted that you have built the same quality into the hidden details of the house.

Sargent Hardware is made in designs to harmonize with any interior. And it is mechanically perfect—the materials are the best and the manufacture is careful and exacting. Sargent Hardware helps you sell houses, assures the finest hardware service after they are sold. Very few things are as much of an asset to a builder as a good word-of-mouth reputation. And Sargent Hardware of time-defying brass and bronze helps you to establish a reputation for carefully constructed houses.

Write us for the new book of designs, "Hardware for Utility and Ornamentation." Representatives in all cities will be glad to furnish estimates and help you make selections. Sargent & Company, Hardware Manufacturers, 51 Water Street, New Haven, Conn.
Husky but Handy

*It cuts and rips both—*

1. The heaviest timbers
2. Your operating costs

THOUSANDS of builders and contractors have cut their operating costs with this combined rip and cut-off saw. It is furnished with either gasoline or electric motor and the extension tables are collapsible. This is a great convenience in moving. It is capable of a large variety of work and will cut the heaviest timbers where you need them cut—on the job.

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AND RADIATORS
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| No fumes or gases in this garage. It is safety and economically ventilated with ILG Electric Ventilators. |
| An inviting basement store correctly ventilated with ILG Electric Ventilators. |
| ILG ELECTRIC VENTILATING COMPANY 2852 N. Crawford Avenue CHICAGO, ILL. |

**AIR CHANGE DATA**

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—Thus inaugurating a new standard of economy and efficiency in plaster mixing to the entire building industry.
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Send for full details

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The secret of classic beauty
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MANY homes and other buildings, doomed to be plain and commonplace, are given a touch of classic elegance—a note of beauty and charm—by the happy use of a few stately columns.

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Pergolas
Rose Arbors

Colonial Entrances
Garden Equipment

Koll
Columns
The MORTON
"Venetian"

In keeping with present-day tendencies to beautify the bathroom, the MORTON "Venetian" Cabinet—Model F—arouses admiration wherever it is seen. Women are quick to appreciate its beauty, for the attractively etched mirror completely conceals the steel white enameled cabinet. It adds distinction to any bathroom.

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The "Venetian" is as sturdy as it is beautiful.

MORTON Steel Cabinets are also made in six additional models, four sizes to each, to recess or hang on the wall. All are reasonably priced, including the "Venetian", which offers the architect, contractor and builder an exceptional opportunity to combine utility and unusual beauty in the bathroom.

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THE FINISHING TOUCH FOR THE KITCHEN

Another Mark of A MODERN HOME

Majestic COAL WINDOW

Majestic Coal Windows look better and last longer—they are the recognized leaders—more are in use than all other makes combined. Construction is guaranteed break-proof—of Certified Malleable Iron and Keystone Copper Steel—rust-proofed. When you use Majestics you are using the best.

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This revolutionary equipment—not hidden or recessed radiators, not radiator shields or screens—employs an entirely different heating principle. Built in two types—Concealed Heaters, perfectly hidden between the walls—and Heat Cabinets, finished in any tone or grain to match fine furniture. Adaptable to any heating system where radiators are ordinarily used.

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-CANNOT CRACK or "pinhole" because pyroxylin impregnated—not filled with colored chalk.

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Owners, architect, builders and interior decorator worked on The Camlin, Seattle’s ultra-exclusive apartment hotel, with the single aim of making each of its ninety-one apartments a comfortably luxurious home.

The Camlin is equipped throughout with Murphy In-a-Dor Beds. They permit spacious apartments on comparatively small floor areas.

Murphy In-a-Dor Beds swing through standard three-foot doors. They are easily installed and a contractor who carefully follows the simple principles has no complaints to adjust. There is variety enough in style and finish to enable the interior decorator or home furnisher to follow a desired plan of furnishing. There is ease of operation and sleep-inducing comfort.

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The Only Concern in the World Making a Complete Line of Structural Clay Products

FOR ADVERTISERS’ INDEX SEE NEXT TO LAST PAGE
Color Variety
adds new distinction to these charming kitchen units

Alluring new possibilities for effective kitchen planning unfold with the introduction of color in Kitchen Maid Units. Five exclusive finishes to choose from! Dove Gray . . . Cactus Green . . . Lama Tan . . . Travertine Ivory . . . Shasta White. Each with a tasteful decoration of contrasting color. And, if desired, the interior finish may be of one color—the exterior of another.

Thus, in addition to their exclusive rounded inside corners, smooth doors, concealed hinges and many convenience features, Kitchen Maid Units now offer another important element that will appeal instantly to your prospects.

Since each unit is complete in itself, you may choose as few or as many as fit the needs of the kitchens you plan. If you wish to sell or rent your property more easily and at a better price, write for the Kitchen Maid catalogue.

WASMUTH-ENDICOTT COMPANY, 1309 Snowden St., Andrews, Ind.

"Let the Kitchen Maid Be Your Kitchen Aid!"

Complete Harmonized Equipment for Every Size and Type of Modern Kitchen.
Three types of heads
Below is an excellent design, with its many small panels and lights, and it is available with square or Gothic as well as round-arched heads. It is Door C-1065 and is made in both white pine and oak.

With broken pediment
For Colonial and Georgian work this new entrance with broken pediment and fluted pilasters has an architectural quality heretofore unequalled in designs ready to use. The door is C-1020 and is made in white pine; the frame is C-1716 and is made to fit frame or masonry walls.

Six-panel variation
Below is a new design (C-3052)—with both square and round-arched heads—to supplement the regular six-panel door that Curtis has always offered in a beautifully proportioned design.

More New Doors and Windows by Curtis

THOSE builders who received with approval the announcement by Curtis seven years ago of a complete line of woodwork forms embodying designs of genuine architectural character, will be interested in the enlargement of that line by the addition of a great many new designs.

These new designs were detailed expressly for manufacture by Curtis in the office of Frederick Lee Ackerman, New York City, and submitted by him for criticism to a score of the country's foremost architects, whose generous co-operation we wish hereby to acknowledge.

The new items include complete entrances as well as new doors, new exterior moldings and porchwork, new windows, new interior doors and trim, and many new items of cabinetwork. Only a few can be shown here. Some can be seen at most Curtis dealers. These designs are all available in acceptable woods and sizes.

There's a Curtis dealer near you
The leading dealer in woodwork in your community (if you live east of the Rockies) is probably a Curtis dealer. He will be glad to show you his stock and to give you full information about the opportunity for profit that Curtis Woodwork offers contractors and builders. Write us for the name of nearest dealer and for descriptive literature.

The Curtis Companies Service Bureau
690 Curtis Bldg., Clinton, Iowa

Representing—

Curtis Companies Incorporated, Clinton, Iowa

Italian in feeling
Here is a distinctive design showing Italian influence, but suitable of course for other types of houses. It is Door C-3064 and is made in birch only and this wood is capable of a variety of finishes. The stiles are 4 3/4 inches face measurement.

New round-arched window
The new Curtis windows include several designs, of which this round-arched design is an example. It is made to harmonize with sixteen-light double-hung sash. A similar design is made for twelve-light windows and another for casement sash.
A year ago this announcement of a new price policy made steel basement window history. It placed Fenestra Steel Basement Windows on a price basis which permits their use in even the smallest houses. As a result, builders in every section of the country are today using these better steel windows. They have found that daylighted basements help sell houses, and that Fenestra Steel Basement Windows, conveniently stocked by building supply and lumber dealers, are as economical as they are useful.
These
Are the Winners
in
The Pondosa Pine Question Contest

The Pondosa Pine prize question contest has been an entire success. Spurred on by the $4000 in cash prizes, those who are planning to build, those who hope to build some day, architects, building contractors and lumber dealers from Maine to Florida and from coast to coast literally buried us under questions about the use of Pondosa Pine in building.

This contest has definitely proved two things. An intense and intelligent desire on the part of those who intend to build to know what Pondosa Pine will give them in better homes, better construction, more beautiful finish and trim. An equally intense desire on the part of architects, contractors and lumber dealers to know why they should recommend, use and handle Pondosa Pine so they can better serve their clients and customers.

This contest has had two very happy results. Twenty-four question askers have divided $4000 among themselves and are chuckling with glee. Thousands of question askers today know more about good lumber and how to get and how to produce satisfactory building results than ever before. The prizes spurred them to make an effort they might never have made. What they have learned will be valuable to them as long as they live.

If you did not compete in this contest, you can still obtain the great benefit it was planned to confer. Go to your architect, your builder or the local lumber dealer and ask him the questions you may have intended to send in—or which may have just come to your mind. You can't overestimate the importance of Pondosa in any building plan. You can't possibly know too much about it.

Pondosa Pine can help you too, Mr. Architect, Contractor or Lumber Dealer to protect your reputation. It gives the most lumber value for every dollar spent by your clients and customers, and with it the satisfaction that lumber ONLY affords. Address Dept. 22, Western Pine Manufacturers Association of Portland, Oregon.
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In all of the 360 Model Homes, being built under the supervision of the Home Owner's Service Institute, the Kernerator is also standard equipment.

For detailed information see Sweet's 21st edition, pages C-3054 C-3055. Or phone your local Kernerator representative. Offices in eighty-nine cities.

KERNER INCINERATOR CO. 753 East Water St., Milwaukee, Wisc.

THE CHIMNEY-FED INCINERATOR

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How to Get Them

All you have to do is to write your name and address plainly on the coupon at the bottom of the next page, pin a dollar bill to it and mail it to us. We trust you as a member of the building trade and send you the entire set of books immediately. We prepay all express charges and thus it does not cost you one penny for examination. When you get the books they are yours for five days to examine them just as leisurely and as carefully as you please. You have the privilege of calling in your family, your friends, your associates to look them over and help you to make a decision. After you have had the chance to go through them page by page, if you should decide that you do not want to keep the books, all that you have to do is drop us a postal telling us so. We will immediately send back to you the payment of $1.00 which you sent us with the order blank. We do this without any argument, without any red tape and without any haggling whatever. Furthermore, we will remove the set of books without cost to you at once. Therefore, you are nothing out on the deal, you have not spent a cent, you have lost nothing whatever.
HE MAN WHO STOOD STILL. He is one of the tragic figures of life. Day after day he follows in the same groove. In good health and in bad he has to work. Growing older and older he sees no relief from the ceaseless toil that he has known all through life. There is no opportunity for him to cease a single day the everlasting “humdrum” that he has known for so long. When he had the chance there was no Cyclopedia such as this, at so low a cost, and so easy to get. He allowed other men—the men who had studied and knew how—to pass him by. They left him standing on the threshold of success. But they left him behind. He heeded not the beckonings of opportunity. He is THE MAN WHO STOOD STILL.

SPECIAL FREE PREMIUMS IF YOU ORDER AT ONCE

If we receive your order at once, we will send with this Cyclopedia one year’s subscription (12 numbers) to the American Builder, the world’s greatest building paper. We will send free of all extra cost, one complete set of blue printed working plans and typewritten specifications of any of the houses illustrated in three Books of Plans, which we also send to you free of cost, so that you may make your selection. These plans and specifications are as complete as those charged $50.00 to $75.00 for by many architects. These plans will be very valuable to contractors, builders and draughtsmen. The only reason we can offer to do this is because we have the largest architectural establishment of its kind in the world, and are able to produce these complete blue printed working plans and specifications at the very lowest possible price, and to the purchasers of this big Cyclopedia we are willing to give the benefit. Without American Builder $1.00 less. We make this liberal offer because we want you to have our Cyclopedia, and we believe by having it in your hands we will have a greater opportunity of disposing of others in your locality, and it is with the distinct understanding that if it is entirely satisfactory, you will write us a letter and assist us in making other sales. Our special price to you for advertising purposes is only $37.50, and our liberal terms are only One Dollar down and $3.00 per month until the amount is paid. We give you five days to look the books over and see if they are entirely satisfactory. If you conclude not to keep them, we will refund your money and pay the express charges both ways. Order today. Fit yourself at once to increase your earning power.

The Radford Architectural Co., 1827 Prairie Avenue, Chicago, Ill., U. S. A.
Stop—Look—Read

No more weights
No more pulleys
No more cords

THE AUSTRAL SASH SUSTAINER

Used in City Houses, Rural Houses, Bungalows, etc.

STRONG—COMPACT—EASILY OPERATED—CUTS
ONE-THIRD OFF THE COST OF YOUR WINDOWS
—COSTS ONLY HALF AS MUCH FOR APPLICATION
—REQUIRES ONLY HALF THE LABOR—AUTOMATICALLY SUSTAINS THE SASH IN ANY POSITION.

Here's a Big Opportunity

Over 7,000 builders are now using the Austral Sash Sustainer.

SEND FOR A SAMPLE PAIR

WE WANT TO PLACE THE AUSTRAL SASH SUSTAINER IN THE
BUILDER'S HANDS, because when he sees what it is he will appreciate its
superior advantages.

Ask your mills for plank frames with sash mortised for
AUSTRAL SASH SUSTAINERS and save time and money.

AUSTRAL WINDOW CO.
101 Park Avenue

101 Park Avenue
New York

Gentlemen:
Please send me a
sample pair of AUSTRAL
SASH SUSTAINERS for
which I am enclosing 50 cents
(this covers actual production
cost together with postage and
handling).

Name:______________________________________
Concern:_________________________________
Address:__________________________________

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
They wanted it quiet!

The old Pharaohs went to a deal of trouble to insure quiet and peaceful rest for their kingly bones. Their sweating subjects dutifully walled up the regal remains in solid masonry. They heaped on the twenty-ton stones in vast piles, at prodigious cost in money and muscle.

How much simpler it is today to gain quiet and privacy! Structolite concrete in floor and roof slabs seals out sound with a fraction of the weight of older materials. It insulates. It is fireproof. It answers every need of the modern light-occupancy building. In hospitals, hotels, apartments, office buildings, it brings quiet, privacy, greatly lowered dead-load.

And better yet, Structolite concrete is economical. The concrete cost is low and the saving is progressive, because of the lesser weight of material to hoist, handle and place, as well as the speed of construction introduced by the quick set.

The full story of Structolite is mighty interesting. May we send it? Just have the coupon mailed.

UNITED STATES GYPSUM COMPANY
General Offices: Dept. A, 300 West Adams Street, Chicago, Illinois


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

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
ANNOUNCING

.. Edgwood red cedar shingles .. cut edge-grain — positive insurance against warping, cupping, curling, splitting .. will build a 40-year roof .. walls of enduring beauty .. and provide extraordinary insulating protection against heat and cold ..

A group of lumbermen, with a belief in the public's preference for a superior product, have been manufacturing for years a red cedar shingle that is cut all edge-grain and made from selected British Columbia red cedar — where this wood attains its greatest degree of perfection, owing to soil and climatic conditions.

To advertise the superior merits of this product and to identify it from all others, every bundle will bear the trade mark "EDGWOOD" .. a name registered in the Canadian and United States patent offices for your protection.

Because Edgwood shingles are cut all edge-grain, they will never warp, cup, curl or split and, what is of greater importance, will lay flat and tight on roof and sidewalls — a fire resisting qualification recognized by insurance authorities.

Properly nailed with zinc coated, pure zinc or copper nails, Edgwood shingled roofs and sidewalls will last for 40 years or more with little or no upkeep, and retain their inherent beauty, emphasized by the beautiful deep shadow-line effect so desirable. Edgwood shingled roof and sidewalls give you the five essentials of good building — appearance, durability, insulation, economy and safety.

Edgwood shingles may be obtained unstained (natural) or stained — NO other exterior lines, as beautiful as if Roof of edge-grain shingles portrayed the artistry of this product and to identify it vehicle for color .. colors that will blend with the flowers, the foliage, the lawn and all the decorative features of doorway, window and chimney.

To Building Supply Dealers: Edgwood sets a new standard in red cedar shingle manufacturing and merchandising. Write for sales plans and list of Edgwood mills — the quality name Edgwood appears on every bundle together with the manufacturer's label—a double guarantee.

The Consolidated Shingle Mills of British Columbia Ltd.
907-B Metropolitan Building, Vancouver, B.C.

Properly nailed with zinc coated, pure zinc or copper nails, Edgwood shingled roofs and sidewalls will last for 40 years or more with little or no upkeep, and retain their inherent beauty, emphasized by the beautiful deep shadow-line effect so desirable. Edgwood shingled roof and sidewalls give you the five essentials of good building — appearance, durability, insulation, economy and safety.

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The Consolidated Shingle Mills of British Columbia Ltd.
907-B Metropolitan Building, Vancouver, B.C.
A New Campaign To Help You Sell More and Better Homes

ABOVE is reproduced the first of a new series of advertisements by the American Face Brick Association which is specifically designed to promote a reader sale for houses built of Face Brick. The copy—which will appear in the leading periodicals—tells the public why it is advisable to patronize the builder who uses high grade materials for the basic construction of his houses. This campaign is certain to be a constructive force for those who capitalize it.

AMERICAN FACE BRICK ASSOCIATION
1763 Peoples Life Building, Chicago, Illinois

Booklets Every Builder Should Have
"The Story of Brick," a beautifully illustrated booklet for the home-buyer and home-builder. Sent free.
"A Manual of Face Brick Construction," 116 pages, a text book on three types of Face Brick wall construction, giving the contractor all the information he needs in building Face Brick houses. Sent for $1.00.
"Face Brick Bungalow and Small House Plans,"—Four booklets showing designs and floor plans for inexpensive 3 to 4-room, 5-room, 6-room and 7 to 8-room houses. Each 25 cents, the set $1.00.
"The Home of Beauty," fifty 6-room houses selected from a nation-wide architectural competition. Sent for 50 cents.
"Two Apartment and Double House Plans," 14 attractive designs of duplex and double houses, showing 28 plans of 5 and 6 rooms each. Sent for 25 cents.

AMERICAN FACE BRICK ASSOCIATION
1763 Peoples Life Building, Chicago, Illinois
Foremost in the Store Front Field

The rising popularity of Kawneer Solid Copper Store Fronts throughout the country proves that architects and contractors realize the advantages of resilient hollow metal construction for store fronts.

Ease and simplicity of installation, perfect ventilating and drainage features and the assurance of a permanent and attractive installation are reasons why Kawneer Solid Copper Store Front Construction is foremost in the store front field.

Send for Book of Designs and F. S. Details

The literature described at the right will prove helpful to contractors.

THE
Kawneer
COMPANY
NILES, MICHIGAN

When writing advertisers please mention the American Builder
Soundproof Banner Lime plaster consists of billions of tiny, uncommunicating dead-air spaces, each surrounded with rigid partitions—a cellular mass that has a quieting effect on sound. Try it for correct acoustics.

After Design comes Banner Lime

School play tonight. Harry occupies the lime light. Esther's the heroine. Bill speaks a piece between the acts. Harriet plays the violin. Clear, sweet tones greet appreciative ears. No confusion of words here. The acoustics in this auditorium are perfect—a tribute to correct architectural design—and, to Soundproof Banner Lime. This exceptional lime has a quieting effect in auditorium, church, apartment house, or home. Banner insulates from outside racket and improves acoustics within. It retards echoes, and eliminates reverberations.

Use Soundproof Banner on your next job—one coat, two or three coats. There is a Banner Dealer not far away ready to supply you.

National Mortar and Supply Company
Federal Reserve Building, Pittsburgh, Pa.

Tap a patented plaster wall. It rings! And then echoes.
Tap a Banner three-coat wall. You hear a muffled thud.
The Banner wall deadens sound, through the myriad of uncommunicating, tiny air spaces which are part of its composition. No echoes here, no reverberations. It's the inherent quality of Banner Lime. It's soundproof!

Specify Banner Lime
Hotel walls are subject to real wear and tear, and the cost of wall covering upkeep amounts to a sizeable sum.

The architect of the McCormick Hotel, Chicago, writes: "Sanitas has been used in the entire building as originally contemplated because of the various reports from the hotel men as to their experience with the original cost and maintenance charge with this product in comparison with paper, paint and calcimine."

Sanitas is made on cloth with a tensile strength of 40 pounds to the square inch. Surface is of durable oil colors. Patterns, colors and finishes to suit any size and style of room. Can be used on old walls or new; cracks do not show through Sanitas. Non-fading, non-tearing and easily cleanable.

May we send you samples of Sanitas, Sanitas Prepared Canvas, Sanitas Lining and Sanalining with information regarding the application of these materials to walls and ceilings.

Fill out the coupon and mail it.

THE STANDARD TEXTILE PRODUCTS CO.
320 BROADWAY, NEW YORK

The Standard Textile Products Co.,
320 Broadway, Dept. K., New York

Gentlemen:
Please send me samples and literature regarding Sanitas Modern Wall Covering.

Firm Name: __________________________
Address: __________________________

EJM

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
HOLLOW BUILDING TILE construction affords the wanted economies both during and after construction.

In all types of buildings important savings are effected in foundation cost, mortar cost, speeding up of construction! Hollow Tile walls are light, sturdy, fire-proof and easily carry the required load.

Superior insulation is automatically provided by the layer after layer of sealed-in dead air spaces, thus reducing the cost of heating equipment.

Hollow Tile made for floors gives unusual strength and lightness — also in partitions, fire stops, etc. A warm, dry Hollow Tile basement floor can be cheaply constructed for residences, garages and other buildings.

Exteriors can be Face Hollow Tile, Face Brick veneer or stucco to meet every architectural design or individual preference. Competent engineering counsel free on request.

Building material dealers will arrange direct-to-job shipments.

Send to our Service Department your firm name, address and Hollow Tile construction experience to be included in special contractor directory.

Dealers are urged to write for full information to the nearest manufacturer.

Hollow Tile
The Most Economical Form of Permanent Construction

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
When a successful manufacturer talks, his words carry weight. When H. W. Sewall, of Benton Harbor, says that Duntile is a permanent building material destined to revolutionize the building business, he can back up his claims by the proof of his scores of enthusiastic builder-customers and the living, active evidence of his thriving, profitable manufacturing plant.

Sewall started with but a little capital and the firm belief that the country is on a giant swing toward better, permanent construction. He investigated Duntile because he saw in it a better permanent material—lower in cost. Like the big industrial leaders of today, Sewall saw that big business and big profits lie in manufacturing—not in the small distributive enterprises.

Leadership and success always bring prominence. Sewall’s outstanding record is public property today. His accomplishments are sign posts that ambitious men will heed and follow.

Duntile Working Specifications in “Sweet’s”

Visualize what you can accomplish in your locality manufacturing a building unit that provides the best permanent construction at a cost 30% less than brick. A material with a color range of forty distinct and beautiful shades. Beautiful in texture. Strong beyond all requirements. A splendid insulator. Adaptable for complete walls, and partitions—for every type of building from cottage to skyscraper.

There are over 400 Duntile manufacturers in all parts of the country today. Sewall’s success, sensational though it may seem, is not at all unusual. You owe it to yourself to get the complete facts on this opportunity, which has started so many ambitious men on the straight, quick road to manufacturing independence.

Our book, “Basic Facts,” tells the story in simple words and plain figures. It is yours without cost or obligation. Use the coupon.

W. E. Dunn Manufacturing Co.
415 W. 23d Street
Holland, Michigan

When writing advertisers please mention the American Builder
Now your buildings can escape

PLASTER LIGHTNING

(\textit{Cracks in plaster})

All your walls and ceilings are under constant strain

Section showing \textsc{steeltex} and how it is used
\begin{itemize}
\item[\textcircled{1}] Waterproof backing
\item[\textcircled{2}] Waterproof compound
\item[\textcircled{3}] Second tough backing
\item[\textcircled{4}] Furring device
\item[\textcircled{5}] Rust-proofed steel reinforcing fabric
\item[\textcircled{6}] Scratch coat of plaster
\item[\textcircled{7}] Straightening coat
\item[\textcircled{8}] Finishing coat
\end{itemize}

\textsc{steeltex} supersedes ordinary lath with rigid steel fabric, galvanized (rust-proofed), electrically welded—resists strains from all directions. It is nailed to the framework in sheets 50" x 52". The plaster is applied just as over lath. See how the steel is completely embedded.

Your customer will appreciate \textsc{steeltex} as the plaster-base because most people have had trouble at some time or other with Plaster Lightning and lath marks.

The cost of a finished \textsc{steeltex} job is only slightly more than that of a wood lath job. \textsc{steeltex} can be obtained from local supply dealers almost everywhere. If no dealer in your locality has a supply of \textsc{steeltex} write us and we will see that a nearby dealer supplies you.

And send for our new book "Reinforced Plaster Construction" which describes \textsc{steeltex}. It will serve to show both you and your customers how \textsc{steeltex} eliminates this eye-sore called "Plaster Lightning."

\textsc{steeltex}

STOPS PLASTER LIGHTNING (Cracks in plaster)
Switch-and-Receptacle in Hand-etched Art Plate

Specify No. 8998 for

- Breakfast Nooks — for lighting switch and toaster or percolator plug.
- Kitchens — for lighting switch and iron or washing-machine plug.
- Pantries — for light and electric refrigerator plug.
- Halls — for light switch and cleaner plug.
- Bath Rooms — for lights and electric heater plug.
- Bed Rooms — for dressing-table lamp and electric curling iron or vibrator; or for lights and heating pad.
- Porch — for porch light and washing-machine plug.
- Offices — for overhead lights and dictating or multigraphing machine; desk fan or lamp.

Here, your prospect sees a double convenience in controlling electric lights and a useful appliance. Glance through the list of uses at left.

The switch may be wired to control only the lighting, with the current in the receptacle always "ON." Or the switch may control the receptacle part only.

Your owner gets a two-fold service through one wall plate — and a beautiful plate at that. The hand-etched Art Plate in Butlers Silver calls special notice to this ultra thing in electrical convenience.

Glad to send you descriptive circular on the "8998" Combination, now available with H&H Art Plates in four handsome finishes.
Special Fall Offer

We offer to send you this magazine the last four months of this year and the twelve months of 1928, a total of sixteen numbers, and also send you postpaid, a copy of our big plan book, deluxe edition—

200 BEAUTIFUL HOMES—All for $2.00

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

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

Take advantage of this offer today

KEITH CORPORATION
100 No. 7th Street Minneapolis, Minn.
Here is the McKinney Hinge Strap of Warwick design—a beautiful piece of Elizabethan hardware that increases the value of a house by many times its cost.

Make Your Houses INTERESTING with McKinney Forged Iron Hardware

The illustrations shown here indicate how character and interest can be added to various types of doors and windows by trimming with McKinney Forged Iron Hardware.

There is a tremendous sales appeal to forged iron hardware. It is one important item in lifting a house out of the rut of ordinary commonplace design—and when interest is added, the sales value of a house rises.

In the past, builders have foregone its use fearing delays in finishing and an over-burdening of costs. Today, McKinney has overcome these two obstacles and the financial and reputation-building advantages of forged iron hardware are within every builder’s grasp.

McKinney has so simplified the forging of authentic iron hardware that McKinney pieces are now maintained in stock by most builders’ hardware establishments. And by means of this great innovation, prices have been brought down to a point which has made both contracting and operation builders enthusiastic.

The variety of designs and finishes in which McKinney Forged Iron can be obtained makes it ideal for trimming group operations and apartments. Although all pieces are available for equipping a house throughout, charming effects can be obtained by concentrating on the entrance door and shutters.

In the McKinney Book on Forged Iron Hardware you will find much inspiration. Besides giving a complete representation of the entire line, many suggestions of authentic trim are given. Send for this Book.

McKINNEY
FORGED IRON HARDWARE

Forge Division, McKinney Mfg. Co.
Pittsburgh, Pa.
Please send, free of cost, the McKinney Book on Forged Iron Hardware.

Name........................................
Address.....................................
Are the homes you build actually modern throughout?

They may be—almost. But are they insulated? Insulated homes, are as far ahead of the buildings of 20 years ago as the automobile is ahead of the horseless carriage.

Structural insulation—which takes the place of ordinary structural materials and adds insulation at the same time—is being accepted as the most desirable and practical type.

Insulite is the pioneer structural insulation—it has been used successfully for over sixteen years. During that period it has gone through all the tests which time, nature and science could bring about.

Insulite is all wood, being manufactured from pure spruce fiber, fabricated in sheets 4 feet wide and 8', 8' 6", 9', 10' and 12' long, for use as sheathing and wall board, and in a special size 18" x 48" with shiplapped edges, for plaster base.

Official tests made in unbiased laboratories, and on actual jobs have proven that Insulite Sheathing properly applied adds greater bracing strength than materials ordinarily used for this purpose, and that Insulite Plaster Base bonds with plaster with a grip over twice that of ordinary lath.

If you will put your name and address to the coupon below we will be glad to send you samples and descriptive literature.

The Insulite Co.
1100 Builders Exchange
Minneapolis, Minn.

Insulite

In Summer keeps you cool—In Winter saves your fuel.

Please send me without obligation a sample of Insulite and more information.

Name

Address

City State

A. B. 927
This distinctive home has stood for over two centuries—an example of the long life of Pine construction. The Frary House is the oldest home in Deerfield, Massachusetts, the main section being erected in 1683.

Just as time and the elements have proven Pine, so have they revealed the costliness of weak construction and the true character of lumber substitutes. Flimsy building is subsiding and builders are constructing the real American home, built throughout of enduring Pine.

Today Shevlin Pine gives long life to homes. It is not only durable but is easy to work with and lends a distinctive appearance. There is no guesswork about a home properly constructed of this wood. Since the nation's first homes were built, Pine like this has been the most economical building material in the long run.

There is no shortage of the tested building material of our ancestors. The Shevlin interests have selected pine tracts sufficient to supply the nation for years ahead.


Write for a copy of the new book, "Specify Shevlin Pine." For the architect, builder and dealer it will be full of valuable information and interesting lumbering illustrations.

Shevlin, Carpenter & Clarke Company
900 First National-Soo Line Bldg., Minneapolis, Minn.
Chicago Sales Office: 1866 Continental and Commercial Bank Building
Weathertight Frame Mullions

Window frame mullions are vulnerable spots for the entrance of cold air. The new Andersen Frame mullion makes this point weathertight.

A tongued filler piece slips down grooves in the blind stops, forming a double wall against the weather. The space between the filler and the casing acts as dead air insulation. Some builders place insulation material there to increase the protection.

This is only one of several Andersen Frame features giving your clients weathertight windows. Genuine White Pine sills and casings assure long lasting satisfaction. When you build for resale these points aid considerably in selling.

Most dealers can supply Andersen Frames. Let us send you catalog No. 300.

Andersen Lumber Company
Dept. D-9, Bayport, Minn.
Advanced Ideas in Kitchen Equipment

An unlimited number of ways you can add the "Sellers Touch"

No sectional kitchen equipment has won wider recognition than Sellers. Due to scientific arrangement—practical combinations—easier installation—unusual flexibility and beauty of product itself, Sellers Sectional Kitchen Equipment is today as outstanding as the celebrated Kitchen Cabinet bearing the same name and now used in millions of homes throughout the country.

Note above one of the sectional unit combinations available. The number of these combinations is unlimited. Forty-one different standard sections can be used to make them up. Combinations range from the needs of the smallest kitchenette to the most elaborate installation, including cabinet, refrigerator, side sections and sink cupboards. Flexibility of these splendid kitchen ensembles assures a correct installation for kitchens of any size or style.

Simple, too, is installation. Just a few bolts to be drawn up, in holes already provided. And a quarter round is all that is needed to finish it off.

A wide choice of beautiful, colorful finishes, the dependability of seasoned, kiln-dried lumber, the superior manufacturing facilities of Sellers, the many Sellers time- and labor-saving features—all these are offered you. And all enhanced by the years of consistent national advertising and the esteem in which Sellers is already held by the women of America.

Cost? Due to volume production no higher than that of the average manufactured "built-in" outfit.

Our new illustrated book shows in colors the many Sellers units and already has proved helpful to many. May we send you a copy?

G. I. SELLERS & SONS CO.
Department 609
ELWOOD, INDIANA

SELLERS
Sectional Kitchen Equipment
THE above diagram shows how profit percentages are multiplied for dealers who purchase their fibre wall board stock in small quantities, from near-by warehouses. As an example, each of the two dealers above purchases $500 worth of wall board yearly. The pool-car buyer invests $166.66 at a time, gets 3 turnovers and makes a profit of 100% on his average capital investment. But the Cornell dealer invests only $41.66 at a time and turns his stock 12 times at the same mark-up as the pool-car dealer. He makes 400% on his average capital investment. This is one of the reasons why more and more dealers are ordering in small quantities through Cornell's remarkable system of warehouse stocks. Let us give you the details.

CORNELL WOOD PRODUCTS COMPANY
190 North State St., Chicago, Ill.

COMPAR B THE PROFITS
of the pool-car buyer with the Cornell dealer
DEPENDABLE
Information for Builders

36 pages of authentic information, compiled by the Engineering Department of the NATIONAL BUILDING UNITS CORPORATION, with blueprints, tests, specifications and illustrated suggestions for the use of Cinder Concrete Building Units in varied types of building construction—just issued in convenient form for handling and filing.

Your copy is now ready. Your name and business address on the coupon below will bring you one of these books by return mail.

NATIONAL BUILDING UNITS CORP.
Dept. A
1600 Arch Street, Philadelphia, Pa.

Name: ___________________________ Organization: ___________________________
Address: ____________________________________________
A New Development — Ideal for small and Large Buildings—Cuts Plastering and Lathing Costs

WHEELING Arch Lath is a development of thirty-six years' experience in the design and manufacture of building products.

From the start it has enjoyed the enthusiastic endorsement of builders and architects, everywhere. The reason is that Wheeling Arch Lath combines the best advantages of a metal lath and plaster reinforcement. Its low cost permits it to be used in the smallest homes as well as larger homes and buildings.

Easy to apply and work with, Wheeling Arch Lath assists rapid and excellent workmanship, insuring smooth, even coats. By unique contouring of the arches, the keying advantages are increased, plaster is saved and better walls or ceilings are assured.

Let us send you a sample of this product for close-up inspection.

Any way you look at it—

There is no better sheathing than Gyplap—any way you look at it!

Consider the edges. Patented, exclusive, tongue-and-groove joints that seal out wind and weather, and add strength.

Think of the bracing strength. Six times greater, by actual, scientific distortion tests, than ordinary sheathing when nailed in place! Look at the thickness. Full half inch. Won't bulge, buckle or warp. Its gypsum core is fire-fighting—protects wood framing—reduces fire hazards. Gyplap many, many times has saved the structure it sheathed from fire, with never a scorching of the wood studs beneath.

Figure the time it saves—these broad sheets going up so quickly. Not only better construction, but quicker. Any way you look at it—a better sheathing!

Use Gyplap on your next job. May we send you a handy office sample? Just use coupon.

UNITED STATES GYPSUM COMPANY
General Offices: Dept. 401, 300 West Adams Street, Chicago, Illinois

GYPLAP

The FIREPROOF Sheathing
Made by the United States Gypsum Company

Mail this today!

UNITED STATES GYPSUM COMPANY, Dept. 401, 300 West Adams Street, Chicago, Illinois
Please send me a sample and folder about Gyplap.

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

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
OUR STRONGEST SELLING POINT—

Owner Satisfaction

Day after day, letters praising the Master Woodworker and Master Floor Sander, pour into our offices—

Letters written by owners—Contractors and Builders—and unsolicited for the most part—

The reward of more than 15 years' constant effort to place on the market a machine of remarkable worth and value.

Investigate the machines and then you will understand why owner satisfaction is such a tremendous factor in our sales.

A Few Details

The Master Woodworker, shown at the right, is a complete woodworking shop. It performs the following operations with skill and efficiency: Crosscutting, ripping, dadoing, routing, planing, rabbeting, boring, grinding, stair housing, jointing, moulding, tenoning, mitering, plowing and mortising.

An ordinary power hook-up can be used and the machine can be transported from job to job with ease.

Every Master Woodworker and Master Floor Sander carries an absolute guarantee against defects in workmanship or material.

Send in the Coupon TODAY for full particulars.

MASTER WOODWORKER MANUFACTURING COMPANY
Brush and Congress Sts. Detroit, Michigan

☐ Please send me information on all Master Woodworker Models
☐ Please send me information on the Master Floor Sander

( Check square before information desired)

Name

Address
Something new . . .
in Oil Burners

Greater Simplicity—More Dependable

The Rexoil Automatic is a new departure in oil burner design. A compact, single unit of such dependability that in a house closed up last winter non-freezing temperature was maintained without attention except for the oil supply man to read the gauge at grade entrance and keep the tank filled.

Rexoil can be installed easily with any type of hot air furnace, steam or hot water vapor boiler. One size for dealer to handle. Simple valve adjustment for changing requirements.

Read This Letter:

"Your oil-burning equipment installed in my residence and applied with a Type 'A' American Radiator Heat Machine is satisfactory: * * * * * * My equipment has splendidly stood the test of zero weather and I am ready to recommend your burner and your serv-

"Cordially yours,
HANS BUERK."

Write for description and prices. Investigate this oil burner before you install. If we have no dealer in your locality, we will gladly supply you through your heating contractor. Name of architect and heating contractor appreciated. Reif-Rexoil, Inc., 52 E. North St., Buffalo, N. Y.

Dealers — Write for Selling Plan

Automatic

REXOIL Heaters

THE CHOICE OF MEN WHO KNOW.
Here’s another way you can save time and money with BRIXMENT mortar — big job or little job. *Mix it in your concrete mixer.* Mix and use it as you need it. No lime. No waste. A better job. And better profits. Louisville Cement Company, Incorporated; General Offices: Louisville, Kentucky. Mills: BRIXMENT, NEW YORK, and SPEED, INDIANA

Make Sure of the Mortar Joint!

*Use BRIXMENT for Mortar*
The American Builder survey recently completed reveals an astonishingly high percentage of new houses planned as well as erected by builders. Taken on the dollar basis, our builder subscribers planned 70 per cent of the new houses they built, building 30 per cent from the plans of others. On the number basis, the percentages were:

- Houses built from their own plans: 69%
- Houses built from plans of others: 31%

This confirms evidence previously gathered from building commissioners and shows the builder as the supreme specifying and buying factor. He is who decides, in most instances, just what building material, finish and equipment shall be used in the new houses he erects. Even where he does not prepare the plans, he is still the chief buying factor, but it is surprising in what a large majority of cases he is the sole buying factor to be considered. The material and equipment he buys includes not only lumber, brick, concrete and masonry materials, but also roofing, insulation, millwork, trim, hardware, plumbing and fixtures, wiring, outlets and lighting fixtures, heating plants, piping, paint and varnish, hot water heaters, boilers, radiators, kitchen cabinets, gas ranges, refrigerators and numerous other items, running into a value of hundreds of millions of dollars annually.

That a large amount of the annual residential building is erected by investment builders for resale is well known to those familiar with the building field. The figures of our survey showing these builders as constituting the principal designing factor are a further confirmation.

The returns also indicate that builders plan as well as build apartment houses, two-flats, garages and many other types of structures. The money value of the single dwellings planned and built by builders who are mail subscribers to American Builder totaled $1,765,122,828.

Of the apartment houses built by American Builder subscribers, 49 per cent were planned by the builders themselves who employ, in many cases, their own architects or draftsmen.

Of the duplexes and two-flats reported built, 56 per cent were also reported as planned by our builders. Of the hotels built by our readers, 30 per cent were from their own plans.

The details of the number planned and built by builders, also average values, are shown in the tabulation below, which indicates that the builders themselves designed 65 per cent of all classes of buildings reported, as an average.

### Number of Buildings Planned, Number Built by Subscribers And Average Values Shown in American Builder Survey

<table>
<thead>
<tr>
<th>Kind</th>
<th>Number Built</th>
<th>Number Planned by Builders</th>
<th>% Planned by Builders</th>
<th>Average Value Each Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Houses</td>
<td>270,816</td>
<td>188,076</td>
<td>69%</td>
<td>$6,817.00</td>
</tr>
<tr>
<td>Two-Flats and Duplexes</td>
<td>18,732</td>
<td>10,584</td>
<td>56%</td>
<td>9,818.00</td>
</tr>
<tr>
<td>Apartment Buildings</td>
<td>7,728</td>
<td>3,780</td>
<td>49%</td>
<td>70,474.00</td>
</tr>
<tr>
<td>Private Garages</td>
<td>86,352</td>
<td>62,496</td>
<td>72%</td>
<td>45,777.00</td>
</tr>
<tr>
<td>Schools</td>
<td>7,112</td>
<td>1,680</td>
<td>29%</td>
<td>256,619.00</td>
</tr>
<tr>
<td>Hotels and Restaurants</td>
<td>712</td>
<td>214</td>
<td>30%</td>
<td>256,619.00</td>
</tr>
<tr>
<td>Theaters and Halls</td>
<td>1,343</td>
<td>336</td>
<td>25%</td>
<td>64,428.00</td>
</tr>
<tr>
<td>Club and Fraternal Buildings</td>
<td>869</td>
<td>445</td>
<td>32%</td>
<td>96,359.00</td>
</tr>
<tr>
<td>Office Buildings</td>
<td>1,489</td>
<td>445</td>
<td>32%</td>
<td>28,202.00</td>
</tr>
<tr>
<td>Retail Stores, Store Fronts and Business Blocks</td>
<td>16,212</td>
<td>8,064</td>
<td>50%</td>
<td>11,995.00</td>
</tr>
<tr>
<td>Banks</td>
<td>219</td>
<td>55</td>
<td>25%</td>
<td>30,228.00</td>
</tr>
<tr>
<td>State, County and Municipal Buildings</td>
<td>1,058</td>
<td>356</td>
<td>33%</td>
<td>68,096.00</td>
</tr>
<tr>
<td>Churches</td>
<td>2,176</td>
<td>1,048</td>
<td>47%</td>
<td>19,598.00</td>
</tr>
<tr>
<td>Hospitals and Institutions</td>
<td>791</td>
<td>267</td>
<td>34%</td>
<td>236,564.00</td>
</tr>
<tr>
<td>Warehouses</td>
<td>6,533</td>
<td>2,651</td>
<td>41%</td>
<td>10,167.00</td>
</tr>
<tr>
<td>Public Garages</td>
<td>6,233</td>
<td>4,536</td>
<td>73%</td>
<td>9,648.00</td>
</tr>
<tr>
<td>Filling Stations</td>
<td>1,295</td>
<td>786</td>
<td>61%</td>
<td>8,413.00</td>
</tr>
<tr>
<td>Factories and Shops</td>
<td>2,408</td>
<td>1,735</td>
<td>72%</td>
<td>34,377.00</td>
</tr>
<tr>
<td>Community Centers</td>
<td>356</td>
<td>0</td>
<td>0%</td>
<td>65,478.00</td>
</tr>
<tr>
<td>Farm Buildings</td>
<td>28,173</td>
<td>14,985</td>
<td>53%</td>
<td>1,346.00</td>
</tr>
</tbody>
</table>

**NOTE—Miscellaneous groups omitted. Total average planned by builders for all types of buildings, 65 per cent. No construction reports from the 4,313 architect and engineer subscribers are included in the above figures.**
PROGRESS

The Miracle Door

A Miracle of Strength and Beauty

Paine Lumber Company, Ltd.

Oshkosh, Wisconsin.

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
The July Contract Record

JULY construction contracts, in 37 states which represent about 91 per cent of the total construction volume of the country, reached a total of $334,309,900, according to the F. W. Dodge Corporation. There was an increase of three per cent over July of last year, although the figure fell 16 per cent below the previous month, which holds the high record for all time.

"The July record brought the total of construction started during the past seven months up to $3,722,383,200, this being a two per cent increase over the first seven months of last year," says the report. "This increase is at variance with the building permit records compiled by various companies, which have been showing a decrease from last year. The principal reason for this is that building permit records include little or no engineering work, which has been very important this year. Records of shipments of building materials, as reported by the U. S. Department of Commerce, show an increase this year thus confirming the contract totals.

"Included in last month's record were the following items: $186,935,100, or 35 per cent of all construction for residential buildings; $143,915,800, or 27 per cent, for public works and utilities (mainly civil engineering work); $83,010,100, or 16 per cent, for commercial buildings; $36,433,600, or seven per cent, for educational buildings; and $30,302,900, or six per cent, for industrial buildings.

"Contemplated new work reported last month amounted to $692,959,700, this being a decrease of five per cent from the amount reported in June and an increase of three per cent over the amount reported in July, 1926."

†

Bricklaying by Electric Light

DURING the short days of the past winter and spring electric light has played a large part in the outside work of building construction throughout the country. Strings of lamps installed in the canvas-protected working platforms that are slung alongside a building frame have turned the last hour of the day into a gain instead of a loss. Many construction companies use lights for this purpose, their experience being similar to that of the White Construction Co., whose general superintendent in New York City, H. E. Tear, discussed the subject thus:

"In this vicinity, the working hours of the bricklayers are from 8 A. M. to 5 P. M., whereas practically all other trades stop work at 4:30 P. M., the difference being made up with a half hour lunch period instead of an hour that the bricklayer's rules call for. From the first of December to the early part of February it becomes too dark to lay up brick work satisfactorily later than 4:30 P. M. In view of this, it has been our custom to install electric lights on the exterior hanging scaffolds during this season of short daylight, and, as the scaffolds are protected by canvas against cold, thereby further darkening the working platform, we have found it of material benefit to turn on the lights at or shortly after 4 P. M. The mason work is thereby done with practically the same efficiency during the last hour as would be done during full daylight.

"On several buildings which we erected during this last winter, this plan was followed and we believe that at least one-half of the bricklayer's time was saved to us during this last hour, due solely to illumination. As each operation employed an average force of from 50 to 70 men, together with the same number of helpers, we feel that it has meant a saving to us of approximately $80 per working day for each job so constructed. This is of course independent of the safety and working lights installed throughout the interior of the buildings, a great many of which are burned continually throughout the day."

†

Uncle Sam Recommends Weatherstrips and Storm Windows

PUT weather stripping around doors and windows and save 15 to 20 per cent in your coal bill, says a new publication of the United States Bureau of Standards—in effect. Put on storm windows and save 5 to 15 per cent more. Between the stripping and the extra windows you can effect as much fuel economy as if you were to add half-inch insulating material to the whole surface of the walls and roof. That is one phase of the interpretation building engineers give to Letter Circular 227, just issued by the governmental authority on standards of all sorts.

This circular, the engineers say, goes far toward clearing up the confusion resulting from conflicting claims for different insulation materials, and at the same time points out that fuel and heat may be economized in other ways.

The circular renders an important service in giving the heat losses through different materials for the thicknesses actually used in building construction, along with the heat losses per inch thickness, which as sometimes cited, give an exaggerated idea of the fuel economies possible. It fails, however, to make allowance for the so-called "surface resistances," which also affect results.

The outstanding feature of the circular is Table 3, which shows that storm windows and weather stripping will accomplish as much fuel economy (25 to 35 per cent) as one-half inch insulation over the whole walls and roof of a dwelling. Weather stripping alone accounts for 15 to 20 per cent fuel economy; storm windows added to this means 10 or 15 per cent more.

The estimates of fuel economies with different thicknesses of insulation are based on the addition of these materials to the wall structure; not on their substitution for other materials in the wall. From this it is inferred that the insulating effects of materials that are substituted for instead of added to the normal wall constructions are regarded as relatively small.
Cold-weather concreting, always practicable, is made more feasible than ever by the use of High-Early-Strength Universal Concrete which shortens the period during which protection from freezing is required and makes possible the early removal of forms. For full details send in the accompanying coupon.

---

Name: ..............................................................................................................
Address: ............................................................................................................

UNIVERSAL PORTLAND CEMENT CO.
210 South La Salle Street, Chicago

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

AB 9-27

---

When time is money... use High-Early-Strength concrete made with standard (not special) Universal Cement

Don't Let Winter Months Interfere With Building Plans

Now winter concreting is even more practicable than before. High-Early-Strength Universal Concrete (which has a 3-day strength equal to the 28-day strength of ordinary concrete) shortens the period during which protection from freezing is necessary. It hastens removal of forms.

Having a greater ultimate strength in addition to a higher early strength, it also is permanently better and stronger concrete, as shown in the diagram.

Don't postpone your plans because they carry construction into winter! Take advantage of plentiful materials and good labor conditions during cold weather. Then in the spring, when other buildings are being started, your job will be completed or well under way.

For full details on High-Early-Strength Universal Concrete, made with the usual materials, usual labor, usual equipment and standard Universal cement, all applied according to fully tested methods, send in the accompanying coupon.

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

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
New Things and Better Ones

Everybody's Business

By FLOYD W. PARSONS

We read with astonishment the history of our forefathers. They seemed to be so tied to the customs and practices that were current in their day. Every suggestion of change was regarded with suspicion. The inscription on the stone over the grave of an eminent citizen of New England in the Colonial days tells of the virtues of the deceased and states that he was "An Enemy to Priestcraft and Enthusiasm."

But might it not have been that these ancestors of ours were just the same sort of folks we are except that they were victims of circumstances? If they did not often get excited, perhaps it was because there was not much to get excited about. We wonder if they would have turned out by the million to greet Lindbergh, and yet it appears that the answer is contained in the record of their time. Turn back the pages and read what happens when the Atlantic was bridged and the first cable became a proved success. Business was suspended, offices closed, guns fired, people rushed into the streets to hear the news, and bells were rung for an hour in many cities to give utterances of the general rejoicing.

It was years later before Edison produced the first American locomotive to run on current supplied from a power house. The bicycle and the sewing machine were the wonders of the day. Not even the first telephone line with loading coils had been put into commercial use. Nevertheless, people had already commenced to talk about this "new and astonishing age". One great editorial writer was bold enough to look into the future and he ended his visionary recital by saying, "There is even talk of flying machines, and who knows but what such things may be possible in the years to come!"

Today we can ride between Bagdad and Damascus over desert waste in a luxurious motor car made in Philadelphia. Tungsten that was only a laboratory curiosity is now mined by the ton and each pound saves the users of electric light in the United States more than $300,000 a year. The idea back of a little English invention called the "Wheel of Life" has been developed into the great motion picture industry.

The labor leader has become a capitalist, and capitalist a labor leader. The banks of the unions are competing for the fruits of ownership, and labor may finally conquer capital by itself becoming capital.

Forces that yesterday were combatants now have their eyes focused on the same ideals. Not only has the old order passed, but there will never again be any such thing as a new order, for each succeeding month must now be regarded as an era that is totally different and distinct from all that has gone before. In London a fellow has a farm where he raises trillions of germs. Those that are deadly to man he kills by the million so that the chemical quality contained in their dead bodies may be utilized to destroy their living brethren when the two meet in the human blood stream. The germs that are friendly to man and that can be arrayed against our enemies are so petted and pampered in this unique farm that a few of them placed in a glass tube filled with yellow broth will multiply so rapidly that within a single fortnight the tube will contain a population of individual organisms greater than the human population of the earth.

The only thing static about life at present is that bothersome electrical something which fills the air at times and spoils our reception of an interesting radio program. But even here we find an example of how science is making valuable servants out of things that have only been regarded as nuisances. During the war everyone was interested in the experiments with static electricity for the purpose of extracting synthetic nitrates from the air. As an outgrowth of this work some Germans are taking this all-pervading electrical energy from space and sending it in the form of currents through the soil to purify and nurture vegetation.

If we are to judge by the results of applying this discovery to a wheat field near Berlin, we may entertain the hope that many farms in the future will be transformed into areas spiked with thousands of antenna poles and networks of wire permitting the utilization of atmospheric electricity as a fertilizing and stimulating agent in the production of crops.

Who would have thought a few years ago that man would find a way to take cornstalks, ordinary straw, the sage brush of the prairie, or the cactus of the desert and convert these things into wardrobe trunks, milk containers and high explosives? Who would have believed that the same vegetable fiber from which we make paper would find a way to take cornstalks, ordinary straw, the sage brush of the prairie, or the cactus of the desert and transform these things into wardrobe trunks, milk containers and high explosives? Who would have believed that the same vegetable fiber from which we make paper would multiply so rapidly that within a single fortnight the tube will contain a population of individual organisms greater than the human population of the earth.

In London a fellow has a farm where he raises trillions of germs. Those that are deadly to man he kills by the million so that the chemical quality contained in their dead bodies may be utilized to destroy their living brethren when the two meet in the human blood stream. The germs that are friendly to man and that can be arrayed against our enemies are so petted and pampered in this unique farm that a few of them placed in a glass tube filled with yellow broth will multiply so rapidly that within a single fortnight the tube will contain a population of individual organisms greater than the human population of the earth.

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It is no wonder that complacent managements of sleepy corporations are being shaken out of their lethargy by overnight developments in unsuspected quarters. It is time to sit up and take notice when a business like the steel industry finds itself in competition with articles made of paper. Car wheels are being made out of calendered rye-straw board subjected to a pressure of 500
tons. After steel tires and iron hubs are added, the finished product is a wheel capable of standing up under heavy railroad service.

In this age of speed there is no time to wait for things to grow slowly. We must force trees to reach a size in 50 years that required a century or more in the past. Efforts in this direction indicate that plant life is greatly benefited by the application of metals to growing vegetation. Nickel, copper, zinc, arsenic and boron greatly stimulate plant growth when not present in excess. In Ireland they have perfected a super-flax seed that promises to help a lot in making linen as cheap as cotton. The fiber grown from this seed is free of the sticky substance that has made hand work necessary in preparing the raw thread.

Often we go ahead and design something to fill a specific need or perform a certain task, and then later discover that our invention has a far greater usefulness in performing work or satisfying a demand than we ever dreamed of in the beginning. The new vitaglass that allows the violet rays to pass through was perfected primarily as an aid to human health. Recently the directors of a zoo became worried about animals that were sickly and ill-natured, and when they substituted the health glass for the ordinary window glass in the cages, the animals at once started growing new coats of healthy hair and quickly regained normal vitality.

Vegetables and flowers grown behind these ultra-violet ray windows at a western university not only became more luxuriant, but matured faster. Hens under the glass became fattier and produced more eggs. While the introduction of unskimmed natural light into our lives will mean fewer malformed bones, better attendance at school and less sickness among indoor workers, doubtless it will also mean the production of tropical fruits in northerly latitudes and the eventual elimination of the seasonal factor in the growing of vegetables.

Dr. Coolidge's cathode rays will likely have so many uses before long that they will surpass the X-ray as an asset to life. Ever so many possibilities are developing with this new form of radiation and among these is the likelihood of using the ray to test for impurities in metals. But of supreme importance are the successful experiments which utilized these marvelous waves to turn acetylene gas into a solid yellowish compound, and also to solidify castor oil. Who can say but that these remarkable accomplishments may end up by showing us the way to such an epoch-making achievement as the chemical transmutation of liquids into solids?

Chemists in Denmark have a process ready for commercialization that makes it possible to produce synthetic milk by using vegetable fats to replace the butter fat of cow's milk and at the same time add a sufficiency of essential vitamins. The billions of grasshoppers that have caused such losses to the farmers in South Africa now perish in deep trenches dug across their line of march, and a superior automobile lubricant is being pressed from their bodies. Out on our American prairies rabbits have become so destructive to crops that the animals are rounded up by organized drives. If a plan recently proposed is brought to realization, Kansans and other western states will have rabbit-packing plants that will produce a highly nutritious meat, a base for cosmetics and fur for felt. This will provide an income to offset the estimated yearly damage of $1.04 per rabbit.

Each day discloses something new that is sure to upset established plans in one industry or another. Twenty-five years ago when platinum was nine dollars an ounce no one wanted it. Gold was supreme in the jewelry business. But everybody wants to wear what looks like money, so when platinum went to a hundred dollars an ounce, it immediately became the rage for jewelry settings.

"White gold"—an alloy of gold, nickel and zinc—which may contain as much as 80 per cent base metal, looks exactly like platinum. Nickel also resembles platinum so closely that not even a jewelry expert can distinguish between it and platinum by a mere visual examination. Government officials who are experts in rare metals tell me that lots of folks today are wearing diamonds set in nickel, or an alloy of gold, believing that the setting is pure platinum. Surely here is a market where the average person must be guided by faith. Furthermore, a recent find of platinum ore in the Transvaal may cut the price of the metal in half.

Fortunately, business ethics are improving, and this is particularly true in the jewelry industry. We are too prone to condemn the whole body industrial because of the many little deficiencies that still exist in the great structure we have set up. Little Abie heard people talking about "Business Ethics," and asked his father the meaning of the term. "Well," said his daddy, "I will explain. A customer comes in the store and buys a six-dollar pair of shoes. He hands me a ten-dollar bill. On the way to the cash register I notice that there are two ten-dollar bills sticking together. Now, here's where the 'business ethics' come in—should I tell my partner?"

A tremendous movement is underway to eliminate waste and make life easier, happier and better. But let no one overlook that the present moment is a time of great necessity for analyzing everything we are doing to see if some improvement can be introduced.

A Modern Version of Old England

There is a bit of Old England on the north branch of the St. Clair River about 40 miles northeast of Detroit, Michigan. It is a fashionable subdivision having all the conveniences of a modern development, yet retaining all the earmarks of an Old English lodge architecturally.

The outstanding example of the ingenuity used in retaining the architectural style is the treatment of the Horton elevated tank, which stands at the entrance to the grounds. The tower of a standard structure of 60,000 gallons capacity is enclosed with a cylindrical shell of 3/16-inch steel plates, and surmounted with a pagoda roof. The shell, which is of welded construction, extends from the balcony line of the tank to a 3 1/2-foot masonry course at the base which gives the structure the proper weight and balance. An ornamental doorway with a 2-inch, iron-strapped, plank door and a vertical row of inset windows complete the effect. The covering around the tower and the tank shell are painted the same cream color as the other structures on the property.
Clubhouse and Grounds of the Lincoln Fields Racetrack, Near Chicago, Where Jack Dempsey Has Established His Training Headquarters for the Heavyweight Championship Fight in Which He Will Attempt to Regain His Old Title from Gene Tunney, at Soldiers' Field, Chicago.

Fifty Miles from Chicago, at the Cedar Crest Country Club, Near Lake Villa, Ill., Gene Tunney, Heavyweight Boxing Champion, Is Training to Defend His Title. Elaborate training quarters have been established in this 45-room clubhouse with its 250-acre estate.
Design Approved by the American Battle Monuments Commission for a Chapel to Be Erected in the Oise-Aisne American Cemetery Near Fere-En-Tardenois, France. Gram and Ferguson, of Boston, are the architects.

Above—Chapel to Be Erected in the Aisne-Marne American Cemetery Near Belleau Wood, France. Gram and Ferguson, of Boston, are the architects.

To Right—Chapel to Be Erected in Flanders Fields American Cemetery Near Waerghem, Belgium; Architect, Paul F. Cret, of Philadelphia.

Design Approved by the American Battle Monument Commission for a Monument to Be Erected Near Chateau Thierry, France, to Commemorate the Services of American Forces in the Operations in the Aisne-Marne Region. The monument will be 60 feet tall and the colonade 55 feet long. Paul F. Cret, of Philadelphia, is the architect.
Design Approved by the American Battle Monuments Commission for a Chapel to Be Erected in the St. Mihiel American Cemetery Near Thiaucourt, France. It is designed by Thomas Harlan Ellett, of New York.

Chapel to Be Erected in the Meuse Argonne American Cemetery Near Romagne-sous-Montfaucon, France. York and Sawyer, of New York, Architects.

Above—Design Approved by the American Battle Monuments Commission for a Chapel to Be Erected in the Suresnes American Cemetery Near Suresnes, France. The chapel is designed by Charles A. Platt, of New York.

Design Approved by the American Battle Monuments Commission for a Monument to Be Erected at Montfaucon, France, to Commemorate Services of American Forces in Operation in the Meuse Argonne District of France. The monument will be 155 feet high and the column 24 feet in diameter. John Russell Pope, of New York, is the architect.
A. C. Steere, Master Developer

Something of the Methods He Has Used So Successfully in Shreveport, Louisiana

Three years ago Broadmoor was nothing more than a cotton plantation on the southern outskirts of Shreveport, Louisiana. Today Broadmoor has more than 250 homes, a community retail center, a golf course with fine club house and a park. Now Broadmoor is pointed out as being a select residential district, free from the city's noises, but less than 10 minutes by motor from the business district.

Thirteen years ago South Highlands, embracing Broadmoor, was nothing more than a series of pine-wooded knolls and vales to the south of the city. Today South Highlands proper contains many fine homes that cost from $15,000 to well over $50,000 to build. Figures often speak louder than words. Here are a few:

Assessed valuation of South Highlands, including Broadmoor, in 1916, was $133,736; in 1926, $4,871,280; 1927 (estimated), $5,750,000.

Taxes paid by South Highland, including Broadmoor, in 1924, $4,212.66; in 1926, $149,791.86.

South Highlands and Broadmoor have 20.78 miles of gas lines; 104.92 miles of electric service lines; 25.54 miles of water lines; 21.62 miles of sewer lines; eleven miles and over of paved asphalt streets; 10.5 miles of improved hard surfaced streets; approximately 750 homes; a population of about 4,250; one 25-acre park, completely equipped and landscaped with children's playground, etc., valued at about $105,000; another park area of over 12 acres; the Broadmoor golf club house and course, 140 acres; another park area of about 40 acres, estimated value $60,000.

Back of every worth-while achievement is a man—a dreamer with the initiative to materialize his dreams. The remainder of this story will concern itself with the man responsible for the development of South Highlands (Broadmoor included) with his methods and his achievements.

"A. C. Steere, community builder, was born and educated in Shreveport," said a recent article in the Shreveport Banker. "About two years after attending Vanderbilt University, he formed a partnership with his old schoolmate and lifelong friend, the late Robert R. Emery. The firm, known as Steere & Emery, was engaged in the fire insurance business and did some real estate business. After this firm had operated about a year, Steere sold out his interest to his partner and struck out for the far West.

He arrived in Los Angeles just when that city was commencing to wake up to its great future possibilities and after working for a time on various construction jobs he landed a position as salesman on a commission basis with one of the largest real estate development firms in Los Angeles. This firm was opening up great subdivisions, paving streets, landscaping them and building hundreds of..."
Mr. Steere Uses Billboards Only on the Property Under Development and These Are All of a Distinctive and Artistic Type Picturing Houses.

homes. He got a true vision of development work in this connection. The Huntington interests were radiating interurban lines out from Los Angeles in all directions. He had an opportunity to see the development that invariably followed in the wake of these interurban extensions.

"Later, while visiting Shreveport, Steere spent his spare time with his old friend and partner, Robert Emery, who kept urging him to return and enter the real estate fields, pointing out the wonderful possibilities that Shreveport offered. Emery sold him on the opportunities, and on January 1, 1907, he 'hung out his shingle' as a real estate agent in Shreveport.

"A few commission sales were made, but the memory of his Los Angeles experience was with him. Development work was his goal. By the middle of the year a number of lots had been contracted for, and houses were well under way by the fall of 1907. Right in the middle of this work the great panic of 1907 swept over the entire country. Steere never stopped the construction of these homes. He completed all houses that were under construction, sold them and never stopped building.

"About this time it was necessary to grade in some lots that were not level, so that a few teams were contracted for. There has never been a working day since that date, weather permitting, that the enormous grading outfits owned by this development company have not been busily engaged, somewhere in Shreveport or the suburbs, in breaking in streets, landscaping and developing property."

This Shreveport development firm has been one of the leaders in development work in the Southwest. It has probably put as many people into their own homes, graded in and improved as many streets, laid as many sidewalks, curbs, gutters, water mains, etc., and contracted for as many street railway extensions, as any other firm. "Were all of the various public utilities mentioned, says The Shreveport Banker, "laid end to end, they would stretch from Shreveport over the City of New Orleans and go a good way into the Gulf of Mexico."

Mr. Steere had behind him a real background of experience and observation for development work when he began operations in Shreveport. Of particular value were the ideas and impressions that he had gathered in California. "Choose a good town," is one of the things that he would say to other men, aspiring to do development work. In selecting Shreveport as a field for operation, he came back home to a community that he had known intimately from childhood, to people he knew and who knew him. Incidentally, he began operations in Shreveport at a time when the city was just on the eve of making a very substantial growth—permanent and expansive, but not a mushroom character.

"We have followed a well defined policy in all our development work," Mr. Steere said. "The first plank in our platform is to buy acreage in the path of the city's growth. No amount of advertising and high pressure methods can make people live where they don't want to live. If a developer runs counter to this law of city expansion, he is twisting a rope to hang himself with. Next, we buy right, taking care not to pay too high a price; we subdivide right and sell right at the lowest possible price to the homeowner.

"But then we do not consider that our task is finished. We stay by the tract under development, seeing that the right kind of people buy holdings so that neighborhoods will be congenial, lending aid in putting in car lines, good schools and playgrounds for the children and parks for both children and adults.

"So far as dollars and cents and profits are concerned, I do not view development work as being any different from the work of any manufacturing establishment. The manufacturer knows what he must pay for his raw material; he knows what it costs him to make the particular commodity and put it into the hands of the consumer. Therefore, he can figure rather closely the selling price that he must charge to make a profit.

"So it is with a developer. Only, I believe, that in this work the personal equations—the likes and dislikes of patrons—must be more carefully noted than is true..."
of the manufacturing business. People demand good schools, good churches, good streets, car lines and whatnot, in their neighborhoods, and it is nothing but sound business for a developer to see that they get the things they want."

Aside from the things mentioned, one of the things that accounts for the success of much of Mr. Steere’s development work is financial aid that he extends to home owners and home builders. Of course, many of the purchasers of the building sites in South Highlands are men of some means and thus were able to finance their buildings themselves. This has not been true in all cases of young business men, many of whom have become interested in Broadmoor.

Not only has Mr. Steere financed many homes for such men, but he even encourages home builders to avail themselves of his financial service.

At least one home building firm has constructed more than fifty homes in Broadmoor, second mortgages on which are handled by the A. C. Steere Company, Inc., for the home builders, no premium being asked, only the regular banking interest being charged.

So well has Mr. Steere judged as to the ability and integrity of those to whom he has granted credit that in the course of 20 years of operation only four houses have been returned to him through mortgage payment lapses, and these were extraordinary cases, caused by death or some unusual misfortune.

As to specific methods of merchandising, Mr. Steere emphatically stated that he is opposed to all high-pressure methods. He never uses them. Practically all of the building plots that he develops are sold to Shreveport people, who buy them for the purpose of building homes upon them instead of for speculative purposes. The purpose in Mr. Steere’s mind has been and is to give these people such honest values that they in turn will feel like speaking a good word for his development projects. And this they do. His satisfied customers are his best advertisers. Fully 90 per cent of purchasers of Steere promoted properties have been able to turn over their investments at a substantial profit, counting bad years in with the good.

Mr. Steere considers the newspaper the best medium of getting a particular message before the public, and newspapers are made the medium of acquainting the people with new offerings. Generous space is taken, especially when a new project is being opened—usually these advertisements comprise nearly a half-page, running the long way instead of across the page. The advertisements are usually unillustrated. Billboards are used but only on the company properties. These boards are larger than those usually seen, are handsome, painted affairs, showing the pictures of homes, and are electrically illuminated at night. A field office is maintained in Broadmoor, but Mr. Steere’s projects are so numerous that he had found it advantageous to maintain central offices in an office building in the business district.

Some thing has been said about honest values. When the company advertises that certain improvements such as water lines, gas lines and electric connections will go in by a certain date, buyers in Shreveport know that this development work will be done on time. No little pains and expense are gone to to make the different residential districts comfortable, convenient and attractive to the eye.

(Continued to page 126)
An "American Builder" Home
Built in Merchantville, N. J.
Owner, GEORGE C. KREWSON, JR.

THE good work which AMERICAN BUILDER is doing in promoting the building of homes all over the United States is well illustrated by the photograph sent in recently by Mr. George C. Krewson, Jr., and illustrated here-with. This house was built from plans based on a design published in the June, 1925, issue of AMERICAN BUILDER, Homes in Colors, Colorplate I-VII.

This design was called the "Iberia" and was described as—"A house design from Old Mexico suggestive of the Cliff Dwellers. The walled-in garden back of the living room and the big roof balcony are features of this design."

Mr. Krewson, the owner of this handsome and comfortable home, is in the real estate business at 11 West Park Avenue, Merchantville, New Jersey. He is quite evidently pleased with his unique and attractive home, the floor plans of which are reproduced on this page.

The plan as originally published is shown in the left hand column and, as actually built, at the right. The two plans are reproduced in parallel columns to illustrate a practice often followed by builders; that is, changing plans from right to left hand or reverse, either because the house is built facing east instead of west, north instead of south, or vice versa, or because the owner prefers the reversed room arrangement.

Home of George C. Krewson, Jr., Merchantville, New Jersey. This design, which owes its inspiration to the far Southwest, has many practical advantages for a northern owner like Mr. Krewson, who found the design in the pages of American Builder.

This Is the Floor Plan as Originally Published in American Builder with the Entrance and Living Room at the Left Hand.

This Is the Floor Plan of the House as Actually Built and Illustrates a Practice Quite Often Followed by Builders of Changing Plans from Right to Left Hand or Vice Versa.
Our Future Builders
College Trained

BUILDERS can probably remember the tail end of the period, but a few years back, when the carpenter, the mason and the other artisans on small jobs constituted practically the only men skilled in building on the average modest residence. The result of the builder’s art was then a composite job, to which the individual skill of the different craftsmen contributed in greater or less degree.

Each member of the different building trades then gave his own interpretation of the designer’s plans, if any existed, or else, from the rough sketch or verbal order of the builder he produced so much masonry or so much footage of framed lumber according to his own ideas of how best the individual job was done.

Building is now in the van of standardization. Larger communities and many smaller ones have enacted building codes; labor saving machinery, institutional advertising and an awakened public interest have wrought the same changes in the building profession which have overtaken all the other manufacturing trades, and nowadays the skill of the oldtime craftsman is replaced by the art of the college trained building specialist to a greater degree with every passing year in a tumultuous age of gigantic building programs.

To meet the newly-created demand for trained specialists, some of the country’s greatest educational institutions have organized courses in building, which cover almost every phase of the subject. The courses are usually somewhat of a combination of engineering and architecture and a great deal of attention is paid to actual field inspection of building projects, this consuming a large proportion of the time of the latter years of the courses, which usually cover four years.

The Massachusetts Institute of Technology, world-famous technical college, provides a four year course, leading up to the degree of Bachelor of Science, in which great stress is laid on actual field work.

The course is under the technical and administrative direction of Professor Ross Francis Tucker, widely known as an authority on design and construction, and an educator of prominence.

Under Professor Tucker the course has been arranged so that it is based on civil engineering with the mathematics and scientific training associated with that profession. In addition subjects are taken from the course in architecture. Subjects in building finance and management, cost accounting and professional and industrial relations are also included.

Finally, a broad course covering three years is given in the analysis, details and assembly of the materials of building. The structures covered include dwellings and industrial structures.

According to Professor Tucker, the course is designed not only to develop professional builders, equipped for the business of building, but to be of real value also to the manufacturers and to the distributors of materials, particularly as a recruiting station for their technical forces. Furthermore, it is intended to make the department of real service to the public, at least to the homebuilder, as a place where the technical side of building may be seen and studied and where he may receive advice as to methods and materials.

The course has a strong professional foundation. It is based on a conception of all the allied subjects which enter into the complex business of building. It is, according to Professor Tucker, an excellent course for the architect who wishes to emphasize the constructional rather than the artistic side of his profession.

A Class from Massachusetts Tech. Making a Field Study of Shoring and Underpinning.
Inasmuch as the course leads to the degree of Bachelor of Science, it is manifest that the scientific requirements are maintained at the high standards for which the Institute is famous. In addition to the strictly professional work, a large amount of time is given to the essentially practical side of the course.

An intensive and thorough study is made of materials, their details and the sequence of their assembly in the building, their relation to one another and to the analysis of quantities and costs. The course is divided into four parts:

First, wood construction, as represented by the dwelling; second, timber construction as represented by the mill; third, reinforced concrete construction of which the industrial building is typical; fourth, steel construction, of which the office or commercial building represents the type.

Each of these distinct types of building is studied in detail; each is "built" on paper in the same sequence and in as nearly the same manner as it is built on the field. Wherever possible, the study is made to parallel and closely follow the methods of actual construction.

Materials are studied in their proper order; details of their assembly are worked out largely in isometric projection in order to more thoroughly fix their pictures in the minds of the students.

In the fourth year, the course concerns itself with foundations and the heavier constructional work below grade, excavation, shoring and sheet piling, blasting and the use of machine tools.

In what may be called the executive branch of the course the student studies economics, accounting, building finance, business management, professional relations, job management, and the many details of a commercial nature which enter into what is presumably to be his life work.

It is easily apparent that the student is thereby provided with an extremely broad equipment for the business of building and that there is no branch of building into which he has not gained somewhat of an insight.

But, according to Professor Tucker, there is a great difference in men, and some of them will be more suited to actual building and its branches than others. The work in the field requires certain types of men. Work in the office requires certain other types, but there are still others who may find their most suitable sphere of activity outside entirely of the construction field, and who will consequently find their way into the manufacturing or the distributing of the materials of building. But in whatever direction they may go, it is certain in his mind that they will find that their technical training will stand them in good stead.

Professor Tucker cites the jerry building of the war period and its aftermath of inflation, as emphasizing the necessity for better educational facilities for the prospective home owner, in order that he may avoid the pitfalls with which the occasional unscrupulous builder may strew his path toward the ownership of a well built home.

It is proposed that there shall be developed in connection with the course under Professor Tucker's direction a representative exhibition of the materials and methods of building, where the public may see proper construction portrayed in its actual form. Unbiased information in regard to any detail of building upon which the prospective homebuilder may seek enlightenment will also be provided.

Thus while the course as established is designed primarily for the training of men to enter successfully into the business of building, it seeks a larger service to the public in general and to the building industry in particular. It seeks to be an integral part of the industry itself.

Professor Tucker states that he believes that better and safer buildings through the land will directly follow the entrance into the field of numbers of men trained in the best and safest methods of construction. He says that

Drawing Room Study Made by One of Students in Field Class Shown on Opposite Page.
the enormous fire losses that constitute one of our greatest national wastes can be combatted and practically eliminated by proper building.

The numbers of poorly constructed buildings put up during and immediately after the war will create a situation of need for replacement with better constructional methods and materials used in their successors. Hence, says Professor Tucker, the Institute seeks contact with representative builders and manufacturers and distributors, not only because it has men who will be of value to their organizations but because there is a big work to be done in education for better building.

This extensive work by a world-famous educational institution having the undoubted standing of the Massachusetts Institute of Technology cannot, it is felt, fail to have a wide influence over the building of the future. This is especially true of home building, since that branch of the profession is given large attention in the course.

The old days of the individual craftsmen produced some truly remarkable examples of real artistry and enduring workmanship, as is evidenced by our heritages of the Colonial architectures. The aim of the college courses will be to most efficiently and enduringly perpetuate these heritages through a great army of trained men and through the effect of the great school laboratories to develop new and more worthy traditions of the ancient profession of building.

A Master Developer

(Continued from page 122)

All building plots are kept carpeted with a fine coat of grass, and the grass is cut at regular intervals. No unsightly weed patches on vacant lots are found in developments fostered by Mr. Steere to prejudice a prospective buyer against a purchase. Shade trees are set out and given a good growing start.

In the home building program of Boardmoor, the work of Peyton & Johnson is notable. This firm has built more than fifty homes in Boardmoor, ranging in price, exclusive of lot, from $5,000 to $9,000. It was largely the success of J. M. Peyton in building brick veneers that caused him to begin building in Broadmoor. Something different from the usual small frame house was wanted. Mr. Peyton's exteriors are quaint and attractive and are in both brick veneer and stucco finishes. California bungalows and English cottages predominate; Mediterranean stucco finishes, serving to break the monotony.

When Peyton & Johnson built their fiftieth home in Broadmoor this year, they made a Demonstration Home of it. The progress from day to day was photographed, the pictures run in one of the city papers that sponsored the event, and the public was invited to drive out and view the construction of the home. Often there were from 50 to 60 people about the home at the same time.

The foundations, body, roof and all were raised in 11 days' time. Five carpenters and two bricklayers were employed. The carpentry work and the brick work was completed in seven days. The painters and decorators checked out in four more days. The work was supervised by a Shreveport building and loan association, and nothing in the way of permanence, beauty or comfort was sacrificed.

The advertising campaign, run in the newspapers, attracted much attention. Two hours after the house was opened, completely furnished, for inspection, it was sold. It was kept open for display for five days more. The house, exclusive of the lot, cost $6,750, which figure included a solid paved drive and double garage, shrubbery and landscape work.

A. W. Roe.
Completely Furnished Apartments
In This Well Equipped Building

The Brinwood Apartment Hotel, Chicago, Typical of Many Being Built in Cities Throughout the United States

The apartment hotel, while primarily a large city feature, is being built, in increasing numbers in many cities. The mode of life offered by these apartment hotels seems to have an appeal for those who wish some of the privacy of fixed homes together with freedom from housekeeping responsibilities.

One feature in connection with the building of these apartment hotels is the great number of conveniences usually installed and the fact that most of them are completely furnished at the time of construction and these furnishings included in the building loan appraisal.

The Brinwood, illustrated on this page, is being built at 5441 Kenmore Avenue, Chicago, financed by the well-known bond house, the Garard Trust Company.

The building contains 85 furnished apartments, is 62½ feet wide by 135 feet long, eight stories high and is of fireproof reinforced concrete construction.

Most of the suites are of two rooms—a large living room with concealed beds and a combination service or dining room and kitchenette. Two suites on each floor have bedrooms, in addition to disappearing beds in the living room. They also have service and dining room and kitchenette. All, of course, have bathrooms, dressing rooms and bed closets.

The exterior is designed in a splendid combination of Gothic and Elizabethan architecture. The use of especially designed terra cotta, with variegated red brick and leaded glass windows for the first floor and bay windows across the upper floors of the building, gives to the entire facade an exceedingly dignified and graceful contour, quite compatible with the interior design.

A large lounge, the ceiling of which is groined, with caen stone fireplace, completely furnished and beautifully decorated, five apartments, electric passenger and freight elevators, storage, trunk, laundry, drying, incinerator, boiler and mechanical refrigeration rooms, occupy the first floor.

The second to seventh floor contain eighty apartments of two and three rooms.

The eighth floor contains two seven-room apartments, having unusually large living room with stone fireplace, two master chambers with bath, servants' room and bath, large dining room, sun parlor and kitchen. These are splendidly arranged apartments and due to their elevation have a fine view of the lake and territory for miles around.

Vestibule, lobby, lounge, corridors and all apartments are attractively decorated and furnished with substantial appurtenances and mechanical refrigeration is used throughout the building. Excellent hotel service is furnished to tenants.
THIS typical floor plan of the Ingleside Court Apartments, Chicago, shows that the architect, Mr. A. C. Lund, has been successful in providing attractive living quarters—rooms of generous size with ample light and air—for a large number of families on a somewhat shallow lot, 47 feet 6 inches by 252 feet 6 inches.

The building is set back from the street far enough for grass, shrubbery and flowers in front as well as in the two main courts, which have front entrances. There are two other courts opening towards the rear and service entrances and stairways are provided reaching every suite. All told, there are 20 stairways in the building. The area of the site is so well utilized that a good income-producing building has resulted, with probably 250 rentable rooms arranged in suites of 3, 4 and 5. These are the sizes most in demand in the large cities at the present time.

It will be noticed that there is cross-ventilation in every suite with excellent daylighting from numerous windows of good size.

Elevator apartment buildings are necessary in the more congested districts and many of them are exceptionally well equipped, but it must be admitted that the arrangement of apartments in a building of this height and shape is far more attractive and homelike.

The irregular arrangement of the front and the five wings of this building are exceptionally pleasing, and there is no monotony of walls to give a bleak impression. On the contrary, the building is attractive in appearance and a distinct gain—an architectural asset—to the neighborhood. For photographs of this building see opposite page.
Attractive Design for a Large Apartment Building

A. C. LUND, Architect

THE Ingleside Court Apartments, Ingleside and 81st Street, Chicago, though of the typical court type, do not have the box-like appearance of so many court buildings. This has been overcome by the very irregular outline of the front wall. Each part has also been treated differently. Although it covers the full area allowed under the zoning ordinance of the city of Chicago, it does not appear to be at all crowded on the lot. The courts have been given a roomy appearance by setting back the central wing, and setting the sun parlors at the end of each wing in a diagonal position.

There are 69 apartments, 3, 4, and 5 rooms. Individual apartments have large rooms, and the maximum of light and air, afforded by the court type of plan. Every apartment faces the street or a front court. Ample closet space has been provided, and the smaller apartments are equipped with disappearing beds. The kitchens have either pantries or kitchen cases. The bath rooms are of tile and have built-in tubs and pedestal lavatories. Oak floors and hardwood trim were used throughout. The building is heated by a battery of two boilers, so that only one boiler need be fired during chilly fall and spring days. The high basement provides light and roomy laundries, storage compartments, as well as three basement apartments.

Plate Glass Protects Stained Glass Windows

Plate glass, in large sizes, has been installed throughout Sacred Heart Church, Flower City Park, Rochester, N. Y., as a protection for the many stained glass windows in the building. The installation of plate glass, instead of the rough or ribbed glass commonly used for this purpose, greatly enhances the exterior of the building since it permits the art glass to be viewed from the outside. This is the second church in Rochester to use plate glass in this way.

Close-Up View of the Central Portion of the Front, Ingleside Court Apartments, Chicago. The projecting bays and contours of this building provide architecture of an unusual and pleasing variety. Besides the light colored stone facing, a touch of color is provided by the tile roofs, octagon in shape, and adding the effect of towers marking the two main courts.

General View of the Ingleside Court Apartments, Located in Chicago's Far South Side. The architecture is exceptionally pleasing and the orientation and daylighting particularly good. The building contains 69 suites of three, four and five rooms and is well finished and equipped. Attention is called to the typical floor plan on the opposite page which shows skillful arrangement. A. C. Lund, Architect.
Large De Luxe Apartment on New York’s East River Front
CROSS AND CROSS, Architects

NEW YORK’S East Side has for years been associated with tenement houses of the poorer sort, freight wharves, tugs, steamers and the sort of dwellings which one might expect amid such surroundings. But the district is undergoing a significant change, sumptuous apartment houses taking the place of the usual squalor in a dock district.

A development of this sort is the splendid, large co-operative apartment building pictured on this page and known as Number One Sutton Place South. Here the tenant-owners of this building are assured of unobstructed light and air on the river side of the building and the further advantage of a private wharf for the accommodation of yachts, speed boats and the like. Most of these owners can afford craft of this character, which means that an avenue is always open through which to escape the heat and dust of the city, being able to embark at will unobstructed by crowds or traffic. Furthermore, they have

New York Co-operative Apartment Building Known as Number One Sutton Place South. This luxurious apartment building displaced the former slum surroundings of New York’s East Side waterfront. It has an overhanging garden and private wharf on the river.
direct access to Long Island Sound by way of Hellgate; also to the lower reaches of New York Bay and the open ocean beyond or equally ready access by way of the Harlem River to the Hudson River and its scenic route through the Palisades and past West Point to Albany.

For those who remain at home, the site is one of the coolest in Manhattan; the building is equipped with every luxury and convenience and there is a garden overhanging the East River enclosed between the rear wings of the building. A few hundred yards to the north of this apartment building, the Williamsburgh Bridge spans the East River which, at this point, has two channels divided by an island which shows as a background in our picture.

The building has open frontage on all four sides, planned in the shape of a "U," with two simplex apartments on each floor and a duplex in the center of the "U" running through two floors; also maisonettes on the ground floor and a very large apartment covering 50 per cent of the roof.

Typical Floor Plan Shows That Every Living Room, Library and Dining Room Commands a View of the River. The garden on the river front is enclosed between the two wings.

Each Wing of the Building Has Its Entire Floor Area Devoted to One Suite, with Four Master Bedrooms, Four Bathrooms and Either Three or Four Maid's Rooms.

The three lower stories are faced with limestone. The entrance hall, to which the covered driveway leads, is treated in walls and floors of Bottocino marble. Five large windows look out from this hall across the garden to the river beyond. This hallway is about 25 by 60, continued at each end by extensions to the hall leading to the passenger elevators of the north and south apartments. There are three passenger elevators, each serving its own tier of apartments.

As the building is 100 per cent co-operatively owned, each tenant has arranged his own apartment to suit himself and many of the rooms are beautifully paneled and decorated with rare antique mantelpieces and tapestries.

Perhaps the unique feature is that facing east across the river, it will have permanent sunlight which cannot be affected by any construction in the future. It was the pioneer building on the river front for high class tenants and is now succeeded by similar enterprises at Tudor City, Beekman Place and Eighty-sixth Street.

Examination of the typical floor plan shows that the suites are quite large and commodious, there being only two and one-half suites per floor, the center suite extending two stories in height with a circular stairway connection. The second floors of these suites is devoted entirely to bedrooms.

It will be noted that every living room, library and dining room has a view out over the river. The suites in the south wing have four master bedrooms, four bathrooms and four maids' rooms. Those in the north end of the building have four master bedrooms, three bathrooms and three maids' rooms. The duplexes have five master bedrooms and four bathrooms on the upper floor and three maids' rooms and baths on the lower floor.

The occupants of the suite on the top floor have a unique dwelling place—practically a roof garden with no neighbors.
New People's Church Building
Also Houses Masonic Lodge

J. E. O. PRIDMORE, Architect—CONDRON and POST, Engineers

The People's Church and Uptown Temple Building on Lawrence Avenue near Sheridan Road, Chicago, has an unusual feature, in that, prior to its erection, arrangements were made with a Masonic lodge for a long term lease of two upper floors. These were designed and built especially for the accommodation of this secret fraternal organization. However, it proved a nice solution of the financial problem involved in the erection of the new structure by providing an income feature in connection with the building investment.

The voice of Doctor Bradley, the pastor, is, doubtless, familiar to many AMERICAN BUILDER subscribers throughout the United States, as the services have been broadcast by radio, even before the erection of this splendid new building. He is heard every Sunday forenoon over “WMAQ” except during warm weather.

The People's Church occupies the lower portion of the building and basement, and the lodge halls the upper part. The church auditorium consists of main floor, mezzanine and balcony and seats over 1,800 people, all well within sight and hearing of the preacher and choir.

The church interior is carried out in wood paneling, the...
walls up to main cornice being paneled; the fronts of mezzanine and balcony are also richly paneled in birch.

The semi-circular walls of choir have a high paneled wainscot finished handsomely in birch. The main church ceiling is barrel vaulted and ornamented with bands of decorative plaster. The choir ceiling is in the form of a half-elliptical dome.

The basement of the church has been especially designed, ventilated and waterproofed for Sunday School use and for the social activities of the church, and also contains the boiler room, kitchen, ventilating plant, etc.

One of the innovations in this church design is a smoking room, indicating the liberal policy of the church officers. This smoking room, of course, is located in the basement in connection with the social activities of the church on week days. There is also a ladies parlor and separate toilet facilities. The plan includes a check room—a modern feature in church buildings, first introduced by another liberal denomination. In fact, church designers of today are introducing many comfort features formerly unorthodox, but which, in reality, do not detract from, but rather add to the dignity of the services by eliminating unnecessary movement and distractions within the auditorium.

The lodge halls above the church are reached by wide terrazzo and iron stairs at each end of street frontage, as well as by elevator.

The lodge hall portion contains one very large two-story lodge hall and two smaller halls together with parlors, platforms, side stage and all of the sundry rooms, closets, toilets, etc., which go to the making of a complete lodge installation.

The engineering problems involved in the construction of this building were, in many ways, similar to those of a large theater with office floors above, as the floor loads of the lodge halls had to be carried to either side of the large church auditorium on the main floor. This was accomplished by the engineers, Condron and Post, without any interior columns obstructing the view of the congregation. The balcony is carried on cantilever trusses from columns in the front wall of the building and having a bearing on columns at the line of the foyer. Four interior columns at the front and back of the auditorium carry the floor loads of the upper lodge room floors. The distance between these columns is spanned by 60-foot Pratt trusses.

The construction of the building generally is of steel frame and brick. The mezzanine, balcony and lodge floors are a combination of structural steel and reinforced concrete.

The design of the building generally is in the late English Renaissance style. The front has the first story in rusticated stone work with handsome doorways; above the first story, the whole facade is of brick with bold pilasters in stone running up four stories in height and surmounted by stone entablature and pediment.
Perfectly Useless

Mrs. Newrich (looking over house plan): "And what's this thing here going to be?"
Architect: "That's an Italian staircase."
"Just a waste of money. We probably won't ever have any Italians coming to see us."—Answers.

Work Well Done

A southern old lady saw old 'Rastus setting out with his fishing tackle for a day on the river, and she thought it a fitting time to rebuke him for his notorious idleness, since she and everybody else knew that his entire family was supported by Rastus' old wife as a washerwoman.
"Rastus," she said severely, "do you think it is right to leave your wife hard at work over the wash tub while you pass your time fishing?"
"Yassum, ma'am," replied the old darky earnestly. "It's all right. Mah wife don't need any watchin'. She'll wuk jes' as hard as if I was dah!"

Shure!

Boss—Mike, how did the accident happen?
Mike—Well, boss, ye see, 'twas like this. I was drivin' me truck up State street when I had to stop suddenly, and a fellow in a big Packard crashed into the rear end of me truck. Shure it didn't hurt his machine very much but he jumped off and ran up to me and shakin' his fist said "Hey you little Harp, why didn't you put out your hand?" "Put out me hand!" says I. "Ye dang fool, if ye couldn't see the truck, how the devil could ye see me hand?"

A Handy Man

Foreman: "Here, you, Murphy, what about carrying some more bricks?"
Murphy: "I ain't feeling well, gov-nor; I'm trembling all over."
Foreman: "Well, then, lend a hand with the sieve."

Sure

A certain newspaper that made a practice of answering inquiries from readers received this one:
"Please tell me what is the matter with my chickens. They go to roost apparently well. The next morning we find one or more on their backs on the floor, stiff, combs white and their feet in the air."

It was the editor's busy day and this was the answer his reader received:
"Dear sir, your chickens are dead."—Kreolite News.

For Every Floor

The bride of a month spent considerable time experimenting with the making of Welsh rarebit. One morning the janitor knocked at her door. "Faron me, lady," he said, "but you must stop throwing those pieces of linoleum in the garbage can. 'Taint to be used for trash, you know."

A Tip on Psychology

A colored porter in a hotel was asked why rich men usually gave him small tips while poor men were liberal.
"Well, suh, boss," he answered, "I don't know, 'cept the rich man don' want nobod' t' know he's rich, an' the po' man don' want nobod' t' know he's po'."—Almanac.

Why Call on Them?

Ralph: "How do you like the new job as a salesman?"
Tom: "Oh, it's dandy. You meet some fine fellows at the hotels and have lots of fun in the evenings, but what I don't like is calling on those dealers."

According to Darwin

An Irishman was seated in a train beside a pompous individual who was accompanied by a dog.
"Feine dog ye have," said the Irishman. "'Pwhat kind is it?"
"A cross between an Irishman and an ape," the man replied.
"Sure, an' it's related to both of us," the Irishman rejoined.—Science.

Calling in the Cash

The man who has something good to sell And goes and whispers it down a well Isn't half so likely to collar the dollars As he who climbs a tree and hollers.

—Farm Market Sayings.
"Financial Independence Is Won Through Saving For The New Home."

—William A. Radford

"When my ship comes in" is a favorite expression with many—promising themselves action on their long cherished wish to build a new and modern home. But too often the "ship" does not come in; and the home building hope flounders. Now the trouble with such planning—or lack of planning—is that home building is looked upon as an expense and a luxury—something on which to spend accumulated savings; instead of being, as it really is, the surest means of getting ahead.

Home building or home buying in the great majority of cases is the first important step toward financial independence.

Instead of waiting for your "ship to come in" before undertaking to acquire your own home—you rent payers—should make a start now, today, and pay that rent money to yourself as landlord and owner. Thus your financial ship can come in helped along by your own savings and foresight.

The active men of the building industry are doing a great work in carrying this message to the home seeking public. They are salesmen of the best commodity in the world—the true American Home!

In putting your savings into a new home, or in advising others to build, make sure that the building is well planned, well built and up-to-date in its equipment. There is nothing more pathetic than to see hard earned money thrown away on cheap, ramshackle construction. The man putting his savings into a home has the right to expect that home to stand up and give him a lifetime of service without expensive repairs or extortionate upkeep cost. It is the well-built and easily-heated house that is the most easily paid for.

Then in addition to good, lasting construction, if the new home can have style—the good looks that come from good architectural design; and if it can have inside those items of modern equipment which present-day American standards demand, then the new home will really be a sound and permanent investment, growing more valuable with the years. Like ships of old bearing rich cargoes, the well planned home brings into port for its owner a cargo of financial independence and lasting satisfaction.
The KALAMAZOO
Six-Room Colonial Home with Attached Garage Illustrated Above, ColorKeeD Floor Plans on Page Opposite

The most convenient garage and the one most easily heated is the kind attached directly to or made a part of the house. It is a good fire precaution to use metal lath and plaster on the walls and ceiling of the garage or motor room, giving particular care to the ceiling and to the partition separating it from the rest of the house.

This design requires 36 feet in width since the house proper is 28 by 24 feet wide, and the garage 20 by 12. The driveway goes straight in, and in addition to the double door entrance there is a rear entry at the back connecting also with the house proper through the dining room. Above the motor room there is a large well lighted bedroom on the same level as the other rooms of the second floor.

The layout of this design, both exterior and interior, is very satisfactory. The open brick terrace serves as a front porch opening into the large reception and stair hall. There has been a reaction against the big roofed-over porches of fifteen years ago because they darken the rooms. The advantages of sun light for health and cheerfulness are better appreciated today and this design puts sunshine into all rooms. The ColorKeeD plans with their recommendations for modern equipment make plain the first and second floor arrangements and also the modern basement plan. The basement is a very important part of the modern home, containing as it does the heating plant, laundry and many other modern mechanical items. The ideas
ColorKeeD Floor Plans of “The KALAMAZOO”

embodied in this basement plan should be considered as applying to every other home design in this collection.

Lack of space on the other pages prevents our showing the basement plan; but each can be worked out with size and outline similar to the first floor plan, and the needed accommodations located for heating plant, fuel storage, laundry, cold cellar, workshop or play room, and trunk storage. A grade entrance or outside basement door and stair should always be provided as it is not satisfactory to have to use the kitchen stairs and the kitchen as a run way when taking out ashes, putting in the winter store of vegetables, etc.

SECOND FLOOR

Key to Equipment

1 Ventilating Fan
2 Kitchen Cabinets
3 Gas or Electric Range
4 Electric Refrigerator
5 Thermostat
6 Built-in Mail Box
7 Fireplace Throat and Damper
8 Tub Shower
9 Efficiency Wardrobes
10 Water Softener
11 Hot Water Supply
12 Water Meter
13 Laundry Drier
14 Ironing Machine
15 Washing Machine
16 Laundry Stove
17 Electric Panel
18 Heating Plant
19 Cast Iron Cleanout Doors
20 Coal Chute
21 Weatherstrips
22 Storm Sash
23 Screens
24 Lighting Fixtures
25 Convenience Outlets
26 Oil Burner
27 Water Supply System
28 Radiant Gas Heaters
29 Casement Windows
30 Dishwashing Sink

KEY To ELECTRICAL SYMBOLS

® CEILING OUTLET © FLOOR RECEPTACLE
® BRACKET OUTLET ® SPECIAL OUTLET
© CONVENIENCE OUTLET ® SWITCH

COLORKeeD HOME PLANS

Color Key to Plans

- Living Room
- Dining Room
- Kitchen
- Pantry
- Halls
- Closet
- Bed Room
- Bath and Lav.
- Porch
- Roof
- Basement
- Fruit Cellar
- Fuel Room
- Stairs

BASEMENT PLAN
The KANRAK

A PUEBLO or Spanish Mexican design of unusual interest featuring a large living room opening onto a private garden terrace. There is also a large pleasant dining room and a well arranged kitchen on the first floor. Upstairs the ColorKeeD plan shows three bedrooms and bath, the smaller bedroom opening through double doors onto the balcony or roof garden.

Key to Equipment

1. Ventilating Fan
2. Kitchen Cabinets
3. Gas or Electric Range
4. Electric Refrigerator
5. Thermostat
6. Built-in Mail Box
7. Fireplace Throat and Damper
8. Tub Shower
9. Efficiency Wardrobes
10. Weatherstrips
11. Storm Sash
12. Screens
13. Lighting Fixtures
14. Convenience Outlets
15. Electric Panel
16. Washing Machine
17. Clothes Dryer
18. Coal Chute
19. Heating Plant
20. Oil Burner
21. Water Supply System
22. Hot Water Supply
23. Water Softener
24. Radiant Gas Heaters
25. Casement Windows
26. Dishwashing Sink
The KEENAN

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

A FOUR-APARTMENT building, two apartments on the first floor and two on the second, each apartment containing four rooms and bath. Overall dimensions are 41½ feet by 40 feet wide, making this a practical design to go on a fifty-foot lot with space left for a driveway.

Key to Equipment

- Ventilating Fan
- Kitchen Cabinets
- Range
- Refrigerator
- Medicine Cabinet
- Clothes Chute
- Thermostat
- Built-in Mail Boxes
- Fireplace Throat and Damper
- Weatherstrips
- Storm Sash
- Screens
- Lighting Fixtures
- Convenience Outlets
- Electric Panel
- Washing Machine
- Clothes Drier
- Coal Chute
- Heating Plant
- Oil Burner
- Water Supply System
- Hot Water Supply
- Water Softener
- Radiant Gas Heaters
- Casement Windows
- Dishwashing Sink
The KEMPER

This modern home designed in the manner of the Irish peasant cottage is rich in art atmosphere. From its commanding position on a terraced site and with its casement windows, tinted rough stucco walls, shingle thatched roof and paneled doorway, this little home is charming in its appeal. Inside, the arrangement is very satisfactory with three rooms downstairs and three rooms and bath upstairs. The color sketch above suggests a pleasing treatment for the fireplace side of the living room.
The KENDALL

Above and to the left a five-room cottage 22 by 32 feet.

The KENDRICK

Below and to the right a six-room English design in stucco, 22 by 26 feet.
The KENNARD
Above and to the left a unique cottage of three rooms and bath.

The KENNEDY
Below and to the right a five-room brick home for a narrow lot.
The KEOKUK

A GOOD example of the simple Colonial style, 26 by 28 feet, not counting the open porch. The ColorKeeD floor plans show six well arranged rooms with many special features.

Key to Equipment

1. Ventilating Fan  
2. Kitchen Cabinets  
3. Refrigerator  
4. Range  
5. Ironing Board  
6. Breakfast Nook  
7. Thermostat  
8. Fireplace Throat and Damper  
9. Built-in Mail Box  
10. Mirror Door  
11. Disappearing Stairs

- Efficiency Closets  
- Medicine Case  
- Tub Shower  
- Weatherstrips  
- Storm Sash  
- Screens  
- Lighting Fixtures  
- Convenience Outlets  
- Electric Panel  
- Washing Machine  
- Clothes Drier

Coal Chute  
Heating Plant  
Oil Burner  
Water Supply  
System  
Hot Water Supply  
Water Softener  
Radiant Gas  
Heaters  
Casement Windows  
Dishwashing Sink
The KERRIGAN

In their quest for novelties the architects evolved this combination of rough stucco for the gable ends and vertical boards and battens for the side walls. It gives a pleasing color scheme, sharply contrasting with the massive red brick chimney. The floor plan is just as interesting as the exterior, showing a four-room layout with five-room efficiency. The color sketch above illustrates the fine dining room.
Entrace Details are most important in fixing the architectural status of your new home. The arched opening and massive door, pictured above, typify the old Spanish missions, while the two-story columns and formal balance of shuttered windows fix the lower photograph as of the Southern Colonial or Georgian style.
A MAN'S HOME is his castle, it is said; in this case evidently his fortress as well. Although guarded by a cannon this entrance smiles a welcome.

An example of the simple Colonial porch perfected by the early American craftsmen guided by their study of Classic Greek structures.
The KEYMAR

A BRICK bungalow of the type so popular in Chicago and in many other cities. The width is a little over 25 feet so it will go on a narrow building site with light and air on all four sides. The main entrance is at grade with the steps inside, a welcome change from the customary outside high porch. The living rooms in this layout are cheerful and roomy while the sleeping rooms are well insulated for quiet and privacy.

Key to Equipment

- Ventilating Fan
- Kitchen Cabinet
- Range
- Refrigerator
- Thermostat
- Built-in Mail Box
- Fireplace Throat and Damper
- Tub Shower
- Disappearing Stairs
- Weatherstrips
- Storm Sash
- Screens
- Lighting Fixtures
- Convenience Outlets
- Electric Panel
- Washing Machine
- Clothes Drier
- Coal Chute
- Heating Plant
- Oil Burner
- Water Supply System
- Hot Water Supply
- Water Softener
- Radiant Gas Heaters
- Casement Windows
- Dishwashing Sink
The KILDARE

THE Dutch Colonial home of moderate size has many friends. The lines are softened and the eaves brought low, giving a very homelike, restful air. This design follows the conventional lines with details very carefully worked out. A pleasing novelty is the use of shutters for the entrance door matching the window shutters at the upper windows. The massive stone chimney and the brick entrance terrace anchor this home effectively. The floor plans show a very well handled interior.
The KINCAID

An attractive home of English lines containing six rooms and bath. A graceful sweep of the roof over the entrance porch, together with the half timber paneling in the gables and the arched openings onto the porch, are notable features of this design.

Key to Equipment

- Ventilating Fan
- Kitchen Cabinets
- Range
- Refrigerator
- Thermostat
- Built-in Mail Box
- Fireplace Throat and Damper
- Tub Shower
- Disappearing Stairs
- Weatherstrips
- Storm Sash
- Screens
- Lighting Fixtures

Convenience Outlets
Electric Panel
Washing Machine
Clothes Drier
Coal Chute
Heating Plant
Oil Burner
Water Supply System
Hot Water Supply
Water Softener
Radiant Gas Heaters
Casement Windows
Dishwashing Sink
A House Like This Need Never Be Sold—It Will Sell Itself
to Anyone Who Is Looking for a Home of Distinction

It seems hardly worth while to waste words commenting on Our Front Cover Home this month for the photograph and plans, shown on this and the pages that follow and in colors on page one, speak so ably for themselves that little remains to be said. To call special attention to a few of the many details which add beauty and convenience to this charming house is all that can be done.

Here is a house possessing an abundance of charm both in style and treatment. The wide, white painted siding, the vestibule and chimney of face brick, the Colonial entrance, perfectly harmonized, and the many paneled casement windows of the sun porch, suggesting the light and airy rooms they screen, all combined to catch the eye and instantly win our admiration.

The floor plan is noteworthy for its well placed entrance vestibule and stair hall, its cozy living room, compact kitchen and convenient dining room with doors from both living room and dining room admitting to the sun porch.

Above stairs there are three ample bed rooms and bath, not to mention the large, moth-proof closet. The latter, like other appointments of both first and second floor, shows the thoughtful planning which has, in this design, provided all those special items of equipment that make the home thoroughly modern and assure a large amount of satisfaction to the future owner.

A Charming House in a Beautiful Natural Setting. Here is a combination that fulfills every external requirement of an ideal home. For the answer to the question as to how the interior will appear, turn to the pages which follow.
Floor Plans of Our Front Cover Home Tell a Story of Skillful Design Resulting in a Remarkably Compact, Convenient and Complete Home.
For the Actual Building of the House This Basement Plan and Detailed Section Drawings Will Assist While on the Next Pages Will Be Found Elevation Views.
The Front and Right Side Elevations of Our Front Cover Home Furnish Important Points on the Construction, Particularly of the Vestibule and Chimney.
As in the Front Elevation, That of the Rear Shows the Treatment of Roof Lines Which Is So Important in Producing the Effective Style of Our Front Cover Home.
Steel and Try Squares
By W. S. DAVENPORT

Our steel and try squares have not been much improved or changed for many years. The only changes that I recall are a recent introduction of a 2-foot aluminum square and the adoption by woodworkers of the metal workers' 12-inch sliding blade square. This has a reach of about 10½ inches and the average reach of the older fixed blade try square is 7½ inches, ranging between 6 and 10 inches. There are larger try squares, but I think that for longer measurements most woodworkers use the 2-foot steel square.

The try square is meant for finishing work where the edges of the work are planed and true. For laying out stock with rough sawn edges the body of the try square is somewhat short to get a good average bearing. Boards are still common up to a foot wide, but not over a foot. Hence a square should have a reach on the tongue of about a foot, very little more and not a bit less. The next smaller steel square is 18 by 12 inches with a reach of less than a foot and the 2-foot square is the only one we have to lay out stock of the usual size.

The 2-foot square was not designed for this purpose. It is primarily a trigonometrical instrument, the right hand of the building carpenter. The long blade is made wider than the tongue to give more purchase in holding it up against the downward pull of the tongue. This makes the steel square irreversible in practice because it is unnatural and objectionable to grasp it by the narrow light tongue. If the tongue is too short we shove it along and continue the line. If the square were designed for laying out stock up to a foot wide it would have different dimensions. As it is, the tongue is too long and also the blade. Laid up against the edge of a board the lower end projects down below it, or if not, then the upper end is above the board over a too great length and the contact is insecure. The huge size and clumsiness of this square are unnecessary for this use, which is a quite common use.

These ideas occurred to me last summer while laying out boards of several thicknesses and widths up to a scant foot, and I began to cut down two squares to get the best dimensions for my purpose, the more interested because my purpose was not unusual at all. I cut the blade little by little to 10½ inches inside which proved to be a little short, and on a second square I stopped at 12 inches. The tongue being the same, this gave me a square with the two arms of the same length and I fell to wondering whether this was logical. After all, try squares have body shorter than tongue and steel squares have tongue shorter than blade there may be a use for a square in between with the arms of equal length. This the more, since neither pattern is reversible to give us a choice of two length on an arm, or at best only awkwardly reversible, when used as a try square.

I did not quite like the looks of this cut-down square with a 2-inch blade and 1½-inch tongue. So I cut off a ½-inch strip from the inside length of the blade and another ½ inch from the end of the tongue thus arriving at a perfect symmetry, a square 12 by 12 inches inside, 1½ inches wide on both arms and weighing only 18 ounces. It held perfectly easily and looked as though it had been born that way. The symmetry proved to be quite pleasant when the square was used lying on a surface, as it need not be turned over to get any possible position; just moved about on the surface.

Another advantage in a square turned out this size by manufacturers would be that two of the outside scales, on one side, could start from the outside corner and the two on the other side from a point opposite the start of the inside scales, as shown in the sketch. This is useful in running a line parallel to the edge to rip a board narrower.

I believe that this square would be useful to more woodworkers than the 18 by 12-inch, although of course it would not replace the 2-foot square. The 18 by 12-inch square would be more easily reversible if both arm and body were 1½ inches wide, but even so for this particular purpose it would be still better with a couple of inches off the blade and onto the tongue.

For my own use I would have it with all eight scales in eighths of an inch. It would never be as interesting as the 2-foot square; nobody would write a book about it in two volumes, it would not read blue prints, cut octagons on 10-inch square timber, figure board feet or lay off roof rafters, but it would be quite handy in laying out the usual sizes of stock.

Windows of New Building Will Admit Ultra-Violet Rays

When the new building of the Equitable Trust Company, now under construction in New York City, is completed it will offer one feature which is unique in large office buildings. The windows of the entire 18 floors of this building are being glazed with a special type of glass which admits a large percentage of the ultra-violet rays which are excluded by the ordinary window or plate glass. Since the ultra-violet rays, in sunlight, are the rays which have the greatest influence for health, it is expected that this will increase the efficiency of the workers employed in the building and reduce the amount of time lost through sickness of employees.

New Lumber Fireproof Process

A new process of fireproofing and drying lumber has been developed by the Fireproofing & Lumber Drying Corporation, of New York, which, according to the reports that have reached the National Lumber Manufacturers' Association engineers, are worthy of thorough investigation. Samples of maple, fir, yellow pine, white pine and white oak fireproofed by this process and tested at the engineering laboratories of Columbia University are reported to have passed, satisfactorily, the requirements of the New York City Bureau of Buildings for fireproof wood to be used in skyscraper interiors.
Stair Building

Some General Principles of Good Stair Construction and
Definition of Commonly Used Terms

By C. V. OLSON,
Instructor in Carpentry at the Lane Technical High School, Chicago

This is the second of a series of articles on stair building, by Mr. Olson, which will be published each month.

To be able to lay out stair work successfully we must take into consideration every phase of the particular stair we are about to build. Plans do not indicate the construction of the stair and unless the specifications give specific instruction, the nature of the building would have to guide the builder as to the type of construction, kind of material and type of stair best suited for it.

It would be impossible to set down any set of rules and expect them to apply to all conditions as found on the job. Rules are given simply as a guide to the builder and it is the ability to use good judgment in applying them as well as good workmanship that differentiates mechanics.

To have a stair with good proportion is our first aim. Such a stair should have steps whose rise plus run plus rise would equal 24 inches. Another rule used is to have the rise plus run equal 17 inches, or not more than 17\(\frac{3}{4}\) inches. With this as a base it can readily be seen that a rise of 7 inches to 7\(\frac{3}{4}\) inches would make a good step. A rise over 8 inches should rarely be used and then only in a stair which has only occasional use.

Knowing that a step having a rise of 7 inches makes an ideal step, we therefore use 7 as a trial divisor to determine the number of risers required. Let us assume that we have a total rise of 74 inches, this divided by 7 will give 10 with a remainder of 4, therefore 10 would be the number of risers required. The remainder 4 is simply forgotten. To find the height of each riser all that is necessary is to divide the total rise by the number of risers. With 74 inches as the total rise and 10 as the number of risers we would have a rise in each step of 7.4 inches.

Where decimals are obtained and the result must be changed to the 8th or 16th part of an inch, a quick and practical way to make the change would be to take a pair of dividers and step off the required distance on the steel square. All good squares have the 10th and 100th scale stamped thereon. Then step off the distance on the rule and take a reading.

Another method of changing 10ths to 16ths would be: Multiply the number of 10th by 16 and divide by 10 and the result will be in 16ths.

In the above problem to change .4 to 16ths you would multiply 4 by 16 and divide by 10 the result will be 6.4 sixteenths or for practical purposes 6 sixteenths. Therefore the height of the risers would be 7 and 6 sixteenths inches.

If the decimal multiplied were hundredths instead of tenths the result would have to be divided by 100 instead of 10 as in the above case.

Having determined the number of risers and the height of each, our next step is to find the total run. As each flight of stairs has one more riser than it has treads, in the above case we would have 9 treads. Applying our rule of proportion and substituting 7 and 6 sixteenths inches in place of the word rise it would read as follows: 7 and 6 sixteenths plus tread plus 7 and 6 sixteenths equals 24 inches. Worked out further it would read 14 and 12 sixteenths inches plus the tread equals 24 inches, therefore, to find the tread we subtract 14 and 12 sixteenths inches from 24 with 9\(\frac{3}{4}\) as a remainder. Therefore the tread would have a run of 9\(\frac{3}{4}\) inches. As there are 9 treads the stair would have a total run of 9 times 9\(\frac{3}{4}\) inches or 83\(\frac{3}{4}\) inches.

In a case where a certain run is required the total run is divided by the number of treads. If it is found that the result is not in good proportion it will be necessary to work it out further by trying either one more or one less riser.

By referring to the sketch please note that the nosing (a) of the porch floor is the same as that of the treads. The projection of the tread (nosing) should equal the thickness of the tread.

The total run is the run of all the treads or the distance from the face of the first riser to that of the last (b).

The total rise is the distance from one floor level to that of the next (c).

Outside stairs should have treads pitched slightly to shed water. No attempt, however, should be made to show this on the layout. This can readily be obtained when cutting as explained in the last issue.
The Wide Spread Influence of Scandinavian Architecture

By V. L. SHERMAN,
Lewis Institute of Technology

It has been shown that each of the types so far noted have been affected by the hands of the Northmen. That the towns story of Scandinavian architecture as taken from my standpoint, but, to prevent misunderstanding, let me say that the abiding types come from those which take the heart rather than the eye. The appreciation of the Northern style is inborn in the Scandinavian. To define the beauties to him is merely to show him what he already knows. To propound it generally is somewhat difficult.

The early Danish kings were not only ardent Christians, but strong-arm militants. Their zeal would make a present day reformer look rather soft. And in their efforts they found it necessary to build towns by aggregation, to establish churches, schools, and most of all efficient trading centers. They did it to perfection. Those parts of trade are still on the increase of importance.

To study Scandinavian architecture for larger work it would be necessary to study the large and old time towns with their mixture of Gothic and Roman and farther East. It would seem sometimes that curves dominate to take away the eye strain when looking up. Possibly this is from the Greek and comes by way of Russia. But the house is the thing in which we are interested. In Fig. 1 we have the most important part of any home, and the part which really casts the type, the kitchen.

The grate has been replaced by stove, but the arrangements are as before, and, as I hope, they always will be, for a comfortable welcoming room which provides an appetite for the Northern home of the larger size has more height than the English or French type; or perhaps that is only my impression; but it does seem that the Northern home is set higher at the floor level and that steps and porches are used. The sites of the towns of Scandinavia are on more rugged ground. The entrance shown in Fig 4 again shows the use of wood. This doorway is an old one as the sketch, and are not apparent when looking at the wall itself, but they form the real wall above the foundation.

In Fig. 3 the timbering is shown. The beams are a decorative feature with mouldings, set-backs, and shoulders. It is heavier timbering than the English. Perhaps the Scandinavian home of the larger size has more height than the French type; or perhaps that is only my impression; but it does seem that the Northern home is set higher at the floor level and that steps and porches are used. The sites of the towns of Scandinavia are on more rugged ground. The entrance shown in Fig 4 again shows the use of wood. This doorway is an old one as the steps will attest. Stone and brick form the approach and railings except for a heavy post at either side. Such posts are usually well decorated with carvings. The heavy columns and beams about the door are set flush with the wall of the first story, but project above that for the inevitable projected second story wall. To the right is a plain brick wall, to the left a large leaded casement.

One feature the sketches do not show, one which has a good deal to do with this style is iron work. Forging, from bolts to delicate grilles, is all in the day's work for the Northern builder. Much of the timbering is bound by bolts, pinned snug in place.

In Fig. 8 are shown, the smaller homes of timber.
FIG. 1. THE KITCHEN IS GIVEN MUCH CONSIDERATION, AS IT SHOULD BE.

FIG. 2. GENEROUS USE OF WOOD IN PANELS AND BEAMS.

FIG. 3. HEAVY TIMBER FRAME.

FIG. 4. TIMBER & BRICK.

FIG. 5.

FIG. 6.

FIG. 7. THATCHED ROOF AND STUCCOED WALLS OF THE SOUTHERN FARMING COUNTRY.

FIG. 8. LONG DAYS AND LONG SHADOWS.

Some Characteristic Features of Scandinavian Architecture.
FURNACE HEATING

Correcting a Heating System

Changes in Design Necessary Before the Warm-Air Plant Installed in a Far-West Bungalow Could Give the Heating Comfort Intended

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

CONSIDERING the prevalence of accurate information on heating it is little short of amazing that so many heating systems fail in performance. One is forced to conclude, too, that the difficulty comes not from inadequacy of the plant, but because installers disregard cardinal principles, often with the abandon of backwoods-men who have never seen a well-heated home. The result is great inconvenience and needless expense to home owners, contractors and artisans alike. Take the Kitterage house, for example.

Out near Tacoma, Wash., there is a small but pridelful suburb of B—— where small homes, simple but beautiful, are going up in dozens these days as rapidly as time permits their erection. B—— is only one of the thousands of fairy-like settlements dotting the landscape of our country on every side. They might almost be called the sleeping quarters of fast growing, bustling cities, of which Tacoma is only one. To such places tired suburbanites speed each evening on completion of their business duties and from them the same group starts out each morning to catch the seven-eight or seven-fifteen.

Now it chances there lives in B—— one Frank Kitterage who has built his home and equipped it with the best to be had. He had heard of the advantages of warm-air heating and selected this method because of its flexibility, moisture giving, even temperature and economical characteristics. He asked the general contractor to include the heating in his contract and placed full responsibility in him. The contractor, anxious to justify the trust, placed it near the south wall and extended a pipe much too small to secure an air supply. The prevailing wind was on the north side, which always has the tendency to drive the heat out through the south side of the building. In this case only the south portion of the house, the bedroom, kitchen and bathroom, all of which are near the first location of the furnace, were warmed, but the

so that his profit would be correspondingly greater. Results of the failure, however, proved yet again the old adage that cheapest in the beginning is rarely cheapest in the end, as details here traced will reveal.

Before describing the revised heating arrangement shown in Fig. 2, and found necessary before the heating plant was accepted, let us glance at the original plan shown in Fig. 1. First note that the warm air registers were placed near the exposed walls, a feature which rarely brings success because here the cold winds of winter, driving their way through the tiny cracks around windows and even through the walls themselves, make it difficult for the slowly moving warm air current to reach the walls. It is for this reason that warm air leaders and their registers preferably are placed near inner walls and the heat supplied to the rooms at this point.

It will be observed, too, that carrying the heat leaders to the outside walls necessitates long pipes. In such ducts rubbing, or internal friction reduces the velocity of flow of the heat supply and the temperature becomes lowered by dissipation, or radiation, to the atmosphere through the metal. Thus cellars are often the warmest rooms in the house, and that is exactly what occurred in the Kitterage home. The heat radiated from the leaders kept the cellar warm, to be sure, but in so doing left the living room above uncomfortable.

The furnace was located incorrectly. To place it in a convenient and out of the way place the installer placed it near the south wall and extended a pipe much too small to the nearest wall to secure an air supply. The preceding wind was on the north side, which always has the tendency to drive the heat out through the south side of the building. In this case only the south portion of the house, the bedroom, kitchen and bathroom, all of which are near the first location of the furnace, were warmed, but the

Fig. 1—As Originally Installed, the Warm Air System of the Kitterage House Was Poorly Laid Out and Inefficient.
The modern trend in furnace practice is to reclaim some or all of the interior air for the furnace air supply. Had this been done here it might have been possible for the plant to perform satisfactorily in certain months with the aid of a mechanical fan. As it chanced the heating engineer—though he scarcely deserves the name—took the entire supply from outdoors, making no use of the heat already within the building which could well have been used with a saving of the coal pile and comfort for the occupants.

Attention likewise is directed to the small size of the warm air pipes. These, with the exception of those to the bathroom and kitchen, were too small and insufficient heat could not have been brought through them except with an oversized heater and a mechanical fan and then the register-air temperatures would have been well above 200 degrees Fahrenheit. This represents poor practice, for the present mode is to employ large volumes of warm air at moderate temperatures, say, between 150 and 190 degrees Fahrenheit, with the latter as a maximum.

The installer violated another rule, that is, the small size of the fresh air intake pipe in relation to the gross area of the warm air distributing pipes. It is now rather generally known that the fresh air intake should possess an area at least 80 per cent of the combined area of the heat leaders. In the original plan there were three 8-inch pipes and one 10-inch, making a total of 228 square inches, 80 per cent of which would have been 183 square inches, or the equivalent of at least a 15-inch pipe for air supply. It is doubtful if sufficient air could have been passed through the 10-inch supply inlet installed to provide sufficient volume of warmth to keep the leaders full. Circulation was indeed found to be extremely sluggish.

The Remedy and Revised Plan

To make a long story short, it was necessary to dismantle the entire system. The only part retained was the heater which, possibly by chance rather than intent, had been installed large enough to perform its expected duty had it been given the opportunity a good heater deserves.

In Fig. 2 is shown the revised layout. The heater was set on a level, cement foundation about in the center of the cellar and the fresh air intake extended to the western wall. The air-supply was supplemented by two 18-inch round ducts, one going to the north, where it took cool air from a corner of the living room, and the other to the dining room on the west, where a floor register was installed.

The two 18-inch ducts give a combined area of 508 square inches, whereas the combined area of the heat leaders is 486 square inches. Under the new air supply arrangement, therefore, the two recirculating ducts can be used or, if preferred, one recirculating and one 12-inch outside air duct, the combined area of the two being 367 square inches, which approximates 80 per cent of the gross area of the leaders.

The warm-air leaders and their registers were changed so that the heat supply now enters the rooms near the inside walls. This permits the use of short pipes having a minimum of frictional resistance and almost no loss in temperature in getting the heat from the furnace bonnet to the rooms. The leaders were enlarged in size so as to offer capacity for a fair volume of heat at a moderate temperature rather than a small supply of baked air, as was the case previously. The only warm air leaders of any considerable length are those extended to the bathroom and kitchen. As both are small rooms, they require little heat. The 10-inch pipe to the kitchen might have been made 8 inches, yet as all pipes have hand operated butterfly dampers their areas can be diminished or pipes entirely closed during hours when the rooms are not occupied.

Attention is called to the register sizes in the revised plan and the fact that these are adequate to admit the full quota of heat without serious obstruction to flow.

(Continued to page 180)
A Study of the Hip Roof
By JOHN T. NEUFELD

/rules are like leaves, and where they most abound, much fruit beyond is rarely found."
This may be said to be true, to a certain extent, of the rules in roof framing, especially if the rules are not clearly understood.

In order to get familiar with the hip rafter we have shown three different views of the hip roof, or parts of a hip roof.

The first is a “plan roof,” that is, a view as we would have if we looked directly down upon the roof.
The second is an “isometric view,” or what might be termed a picture.
The third is an isometric view of a part of a hip roof.

In view No. 1 we should especially notice the position of the hip rafters, as this will be discussed first. The hip rafter runs at an angle of 45 degrees with the plate, and also makes an angle of 45 degrees with the common and jack rafters, unless the roof is odd shaped. This is in regard to its horizontal position. The plan view does not show the angle that the hip rafter makes vertically.

The hip rafter therefore makes an angle with the plate both vertically and horizontally. The vertical angle changes with the pitch of the roof—while the horizontal angle remains the same on all roofs regardless of pitch. (This does not mean that the side cut is the same on all rafters.)

The run of the rafter is used as a basis for figuring the length. This has been discussed in the articles on common rafters. We should notice in Fig. 3 how the run of the hip compares with the run of the common rafter. Fig. 3 shows that the run of the hip is 16.97 inches for each foot run of the common rafter. This is the diagonal distance across a square whose sides are 1 foot each. This is so near 17 inches that it is very often taken as 17 inches.

The Length of the Hip Rafter
The methods used to find the length of hip rafters are similar to those used to find the length of common rafters. In order to understand any method it is necessary to remember the relation of the run of the hip to the run of the common rafter as described above.

In Fig. 3 dotted lines have been run parallel to the plate and 12 inches apart. The run of the hip also is shown or indicated by a dotted line. From the points where the dotted lines intersect the line indicating the run of the hip, vertical dotted lines are run, in order to show the relation of the length of the hip to the run of the common rafter. Another dotted line is shown called the “measuring line” or “working line.” The distance between the points where the vertical lines intersect the measuring line indicates the length of the hip for one foot run of common rafter. Note that this is not for one foot run of hip but for one foot run of common rafter. All calculations are usually made with the run of the common rafter as a basis.

The length of the hip rafter per foot run of the common rafter in this case is 17.69. The total run of the common rafter is 6 feet. The total length of the hip rafter is 6 × 17.69 inches = 106.14 inches. This is 8 feet 10½ inches.

The length per foot of the hip rafter varies with the pitch of the roof. The following short table serves to illustrate the variation and the comparison between the length per foot run of the common rafter and the length of hip per foot run of common.

<table>
<thead>
<tr>
<th>PITCH</th>
<th>Rise per Foot</th>
<th>Length per Foot Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/6</td>
<td>4&quot;</td>
<td>12.63&quot;</td>
</tr>
<tr>
<td>1/4</td>
<td>6&quot;</td>
<td>13.65&quot;</td>
</tr>
<tr>
<td>1/3</td>
<td>8&quot;</td>
<td>14.42&quot;</td>
</tr>
<tr>
<td>2/5</td>
<td>9&quot;</td>
<td>15.00&quot;</td>
</tr>
<tr>
<td>5/12</td>
<td>10.28&quot;</td>
<td>15.62&quot;</td>
</tr>
<tr>
<td>11/24</td>
<td>11.78&quot;</td>
<td>16.28&quot;</td>
</tr>
<tr>
<td>1/2</td>
<td>12.96&quot;</td>
<td>16.97&quot;</td>
</tr>
</tbody>
</table>

Problems
(1) What is meant by the run of the common rafter?
(2) What is meant by the run of the hip rafter?
(3) What relation in length has the run of the hip rafter to run of the common rafter?
(4) What is the length of the hip per foot run of common rafter for a ½ pitch roof? For a roof with a 10 inch rise per foot run?
(5) Find the length of the hip rafter for the following roof: Span of roof 20 feet. Rise per foot run 6 inches.

Answers
(1) The run of the common rafter is the horizontal distance that the common rafter covers. It is usually one half of the span of the roof.
(2) The run of the hip is the horizontal distance covered by the hip rafter. It is at an angle to the run of the common rafter.
(3) The length of the run of the hip is 16.97 inches for each foot run of the common rafter.
(4) For a ½ pitch roof the length of hip per foot run of common rafter is 19.21 inches. For a roof with a 10 inch rise per foot run the length of hip per foot run of common is 19.69.
(5) The length of hip per foot run of common rafter as given in the table is 18 inches. The length is 10 × 18 = 180 inches or 15 feet.
Plan View and Isometric Views of a Hip Roof and an Isometric View of a Part of a Hip Roof.
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 the 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.

### Rafter Cutting Pattern

The sketch shows a rafter pattern which I have used to good advantage. In most cases one rafter is laid out on a straight two by four or two by six, as the case may be, sawed to the required pitch and used for a pattern. This serves the purpose very well if all the scantlings are straight but, as they are generally more or less bowed, the cuts will vary. This I have overcome with the pattern shown.

I take a strip 3/4 by 1 1/2 inches, of the required length and nail a board on each end, as shown in the sketch, and saw these to the desired pitch. This readily bends if the scantling is bowed and the scantling can be accurately marked, as at "A" and "B" in the sketch. When the rafters are erected and the roof boards nailed in place it will draw the bow down and make an exact fit.

The pattern is shown without the "lookout" as that is sometimes on a different angle with the rest of the roof and spiked on separately. But if on the same line it can simply be marked with a gage to the desired width.

Joe C. Bovver, Park Falls, Wis.

### Taking Out Screws

Occasionally a carpenter finds a wood screw that will not come out, probably because it was driven in too far with a hammer, or received a few extra turns when it was inserted. Then again water may have gotten in to the threads of the screw, causing the wood around it to rot. Whatever the cause, such screws can easily be taken out with a screw-driver.

First locate the threaded part of the screw as nearly as possible; that done, drive a nail into the wood in such a manner that the point of the nail will strike the threaded part of the screw. Then turn the screw with a screw driver and, if the nail has been driven as described above, the screw will come right out. Any kind of wood screws can be lifted out in this way, even lag-screws. Of course, the size of the screw will have to govern the size of the nail to be used.

When it is not possible to drive the nail so it will hit the screw at a right-angle, then the nail should be driven at some other angle; keeping in mind that the more nearly the nail will strike the threaded part of the screw at a right-angle, the better will be the results.

H. H. Single, 222 S. Constitution St., Emporia, Kan.

### Using Corrugated Fasteners

If screen frames are mitered together at corners as at A, Fig. 1, the corrugated fasteners will hold more securely than if one piece of the frame abuts squarely against the other.

In fastening the center rail of frame, set the fasteners as at B, Fig. 2. If driven in as at C, the triangular piece of wood between them has a chance to split and pull out, thus loosening the joint.

The frames should be painted before putting the screen on. The screen moulding should also be painted before applying. This will save time in painting, as well as allow the whole surface of wood to be painted and prevent the screen wire from getting smeared up.

E. J. Wilson, Gen. Del., Portland, Ore.
Making a Straight Wall from Warped Studding.

For Setting Jambs the Level and Square Should Be Fastened to the Straight-Edge.

square and the level they can be screwed onto the straight-edge. By doing this the jambs can be plumbed, squared and straightened all in one operation, thus eliminating the troublesome part of handling these tools separately.

R. P. Patterson, 343 N. 7th St., Price, Utah.

Building Foundations

N digging for the foundation of a 150 K. W. unit for a power house of the West Kentucky Coal Co., at W天河craft, Ky., the engineer excavated to a depth of five feet as indicated on the plans but at this depth the excavation was still in soft stuff. A bar was forced through the muck a distance of four feet to an underlying shale formation. This was about three o'clock in the afternoon. The engineer got some post hole diggers put down a few holes with these to the shale, quickly filled them with concrete, tamped cinders into the muck between them and covered the entire bottom with a few inches of concrete. This was accomplished by quitting time. The next morning the brick foundation for the generator was started up. This seemed to me, at the time, like a "life saver" so I am sending it along for what it may be worth.


Using Warped Timbers

In setting studs it will often be found that a good many of them are warped or "bowed" out of shape. To make a straight wall with them, set alternately with the bow inside and outside of the building. Then when the sheathing or siding is nailed on it will draw the studs into line as shown by the arrows at B, B, in Fig. 2. Time and trouble can be saved, however, if only straight material is selected for wall plates. Sort out your framing stuff before cutting it up and save the good straight pieces for use where they are most needed. —E. J. Wilson, 52½ N. 2nd St., Portland, Ore.

For Window and Door Framing

There are two methods of framing door and window openings in use, as a rule. One is to frame the openings into the walls before they are raised into position. The other way is to raise the walls into position, leaving the framing of the openings to be done afterwards. Each of these methods has its advantages.

The method of framing the openings after the walls are up can be simplified by using a templet to mark the studs to be cut out. Take, for instance, a 2x4, and at a point 6½ inches higher than the height of your front door n ail a cleat, say a lath with a straight edge, keeping the straight edge up for marking. Let the cleat extend about 4 inches beyond either edge of the templet pole, thus making it possible to set the templet against a 2x4 from either edge and do the necessary marking. The 6½ inches allows 3½ inches for the double-header and 3 inches for clearance for setting the frame. The upper cleat will mark all the openings in line with the top of the front door.

Now establish the point where the studs are to be cut at the bottom of the window openings, in order to allow 1½ inches for the header and still leave the opening just right for the frame to go in. Should there be more than one size of windows, then nail an extra cleat for each extra size.
Tile Walls at Low Cost

A SUBSTITUTE for tile, recently placed on the market, offers a number of advantages in addition to its economy of first cost and of installation. This material is a hard, stiff, fibre board which is described as absolutely non-porous, non-warping, water and moisture-proof and an insulator. It can be sawed, planed and nailed the same as lumber and is easily installed by any carpenter.

The surface of this board is obtained by a process of glazing during manufacture. It is not a paint or varnish but a permanent and enduring finish which will not chip, crack, craze or warp, nor show cracks in the corners from the settling of the building. The mouldings used with it are guaranteed to take care of any settling. The smooth hard surface does not have a glassy glare. All that is necessary to keep it clean is to wipe it off with a damp, cloth, but it can be washed with any alkali soap or washing compound. The more it is washed the brighter the finish becomes, it is said.

This board is furnished in sizes 32 by 48 inches, 48 by 48 inches, 48 by 60 inches, 48 by 72 inches and 48 by 96 inches. All special panels are made in sizes up to 32 by 48 inches only. Five standard plain colors are available, green, blue, white, gray and cream, and four standard tint finishes, mulberry, green, blue and pink. It is also made in stipple and natural wood grain finishes for paneling in the 32 by 48-inch size.

This tile has recently been used with complete success in the bathrooms of a private yacht. The ceramic tile which it replaced had been dislodged by the vibration caused by reversing the propeller.

Folding Steel Window Sash

THE metal sash shown in the accompanying illustration has been developed by a leading manufacturer to meet the demand for a hollow steel sash to be used with its well-known folding window hardware. This sash is made of Armco, rust resisting steel. The sides and top and bottom members are of steel tubing, formed to standard sash details. The inside of the tubing is painted before assembling the members to make the sash. All of the hardware is of solid brass and is assembled to the sash in the factory.

The sash are fitted into a combination wood and steel frame at the factory with all hardware attached. This eliminates any possibility of incorrect installation and it is a simple matter to slip the unit into the rough opening and frame it in.

With these sash you are assured of a perfect installation and the cost of installation on the job is small. The sash open on the inside of the room or porch and slide and fold to the side leaving an unobstructed opening. The windows may be set at any desired angle for ventilating purposes if desired and when closed are weather-tight. The operation of the windows does not interfere with the screens or storm sash. They are furnished in units of two to 10 sash and in 10 different sizes of sash.

Glass Shower Cabinets

SHOWER doors and shower cabinets of glass and metal are being widely used in the most modern bathrooms and are features which add much both to the appearance of the well-appointed bathroom and to the comfort and convenience of its users. Both the doors and cabinets are made of heavy glass set in frames of nickel silver which are proof against rust. Either beveled or frosted glass can be furnished, it is stated, at an additional cost.

The shower doors, designed to be used with built-in, recessed showers, are made in standard sizes, two feet two inches by six feet or six feet six inches and can be swung on either the right or left-hand side. For stalls having no opening at the top they are furnished with a ventilating grill. For stalls already completed in other sizes than those mentioned, special sizes can be furnished to order at special prices.

The cabinets are used in five different models. Four of these are designed to be used with tubs and the other for bathrooms where limited space demands the greatest economy of space and does not permit the use of a recessed shower.

The same company also manufactures a medicine cabinet, in the same style as its shower cabinets and doors, to give an attractive and uniform appearance to the bathroom.
Levels for All Purposes

The making of leveling instruments is a fine art, a work for scientific craftsmen, but the instruments must be used by builders, contractors, engineers, highway contractors and farmers who are not specialists on optical instruments and who must use them under the roughest field conditions. For this reason leveling instruments, to give satisfactory service, must be accurate, simple and rugged.

Accuracy and simplicity are fundamentals of the policy long adhered to by a manufacturer who makes a line of such instruments, one model of which is illustrated. These instruments are of the latest type and, included in the line, the architect, contractor, builder, drainage engineer, highway contractor, millwright and farmer can each find a model particularly suited to his needs. With it he will receive complete instructions making its use simple and easy so that anyone can secure perfect results.

These levels and transits incorporate many exclusive refinements, it is said. In the finest builders' level the crossbar is drop centered and centered and cast integral with the standards, making inaccuracy impossible. The spirit level glass always rests safely below the telescope out of harm's way, whether used as a level or a transit.

Extra fine, powerful telescopes are used. Only ten seconds are required to make the change from level to transit position and there are no loose attachments to fasten by thumb screws, nothing to get out of order. The instrument is always accurate and dependable.

+ Trouble-Proof Doors

It opens out of the way and stays open. It will not blow shut in any wind and, in the same way, it stays closed. It does not take up any useful space and it is easily and quickly operated by anyone. It cannot scrape the floor and will not jamb in ice or snow regardless of the weather conditions. It fits snugly at top, bottom and sides and it will not twist, pull or sag out of shape. It can be locked and unlocked from either side. No change in the building is required for its installation.

That is the way in which a door is described which is primarily intended for garages, but which also serves for many other types of building, such as warehouses, where a wide doorway is required. This door is carried in stock to fit an opening 8 feet wide and either 7½ or 8 feet high, but prompt delivery is given on all orders for special sizes. It can also be furnished with an automatic electric opener with switches arranged at any number of places and 'operating by means of a push button.

The door proper is made up of panels hinged together with a special combination hinge. A door 8 feet high has four panels and as the height is increased more panels are added. It is mounted on ball bearing rollers, reducing friction to the minimum, and these rollers operate in a special steel track. It is impossible for the rollers to leave the track. Two coil springs perfectly counterbalance the door in all positions so that a woman or child can raise or lower it with ease. When raised it is overhead where it is entirely out of the way.

What's New?

A Yale lock is furnished in combination with a locking device which bolts both sides of the door by a quarter turn of the handle. It is unlocked automatically by a turn of the key. Hinges, lock and all hardware are on the inside, protected against weather and rust. The panels are hinged together at the rabbet joint and set horizontally across the opening, eliminating any tendency to bowing at pressure or opening of the joints when the door is closed.

Wide Nose Corner Bead

Since the introduction of corner bead with expanded metal wings, some years ago, there has been a demand for a similar corner bead with a wide nose, especially for use in hospitals, hotels, schools and other institutions where broad, heavy, curved corners are desired for sanitary reasons and for the protection of plastered walls against heavy furniture, carts, wheel chairs and other objects which must be moved frequently. Such a corner bead has recently been made available. This corner bead has been developed over the course of two years of experiment and can now be delivered from stocks. It possesses all the advantages of the narrow nose bead and is covered by the same patents. The wings are 2¾ inches wide and the nose is curved to a ½-inch radius with a 1-inch face. It is furnished in No. 24 or No. 26 gage galvanized steel or Armco ingot iron in standard lengths of 6, 7, 8, 9, 10 and 12 feet and is packed in crates, approximately 500 feet to the crate.
Compact Inexpensive Water System

HOME water system has just been announced which is a distinct departure in design and appearance from any other home water system on the market. The usual conventional design, consisting of an exposed pump with a tank placed alongside on an extended base, has not been followed. With the cover in place none of the pumping mechanism is visible, all being completely enclosed and protected. In addition to these features, this system, made by a company known for the quality of its pumps, is offered at a remarkably low price and on monthly installment terms.

The manufacturers point out four distinct features. First, it is exceedingly simple, having free water passages; a unique valve arrangement with four valves in one deck; a high grade "V" belt with no idler; and fresh water may be had without any external check valve being necessary.

Second, the plant has complete enclosure, including the entire mechanism; there is not a single exterior exposed moving part. This means more than merely protection to the equipment. It means safety for children or anyone who may be around the plant. This enclosure is also in line with the underwriters' recommendations everywhere.

Third, the plant is unusually accessible. To get at the pump, motor or switch, simply lift the hood. To get at the valves, simply remove one stud bolt and the entire water bonnet can be lifted off. To service the pump it is not necessary to break any pipe connections.

Fourth, appearance. The plant is covered by a hood of symmetrical lines and the entire outside is finished in delft-blue automobile lacquer.

What's New?

Economical Concrete Form Tie

Elimination of considerable labor in erection of concrete forms and the speeding up of such construction work at greatly reduced cost are claimed by the manufacturers of a new patented wall tie, which they have recently perfected and placed on the market.

Contractors who have seen and used the tie with success claim they have saved 60 per cent of the cost of wall construction under ordinary conditions. Use of the tie permits alternating of the studding thereby cutting the number of uprights needed under the old plan, in half. Cost of wire, cutting it to required lengths, shaping it around the studding and making and placing of wooden spreaders and the use of nails in the forms are but a portion of the extra labor which is eliminated by use of the ties. Lumber used with these ties may be used any number of times, by reason of the fact that no nails are used in employment of the wall ties. They consist only of a stout piece of wire, bent to fit about a stud at one end with flanges at the other end, which fit on the concrete wall form. When the wall has dried sufficiently the ends may be clipped and thrown away, leaving the boards available for further use.
Trucks Have Improved Engine

A NEW and greater performing, four-cylinder engine has replaced the older power unit in one of the best known trucks. More power, greater speed, quicker pick-up and smoother, quieter operation at all speeds, as well as greater gasoline economy are claimed for this engine. The chief reasons for this are said to be improved vaporization due to the design of the new intake and exhaust manifolds with a “hot-spot” and to the new combustion chamber with a sloped head.

This new engine is used in all this manufacturer's models including ¾, 1, 1½ and 2-ton models. It is fitted with a sturdy, heavy duty transmission and a large single plate clutch specially designed for truck service. The bore and stroke dimensions of the new engine are the same as for the old model. A large, chrome-vanadium crankshaft, with five main bearings is used.

The engine supports have increased rigidity which makes for smoother operation and reduces vibration to a minimum. The distributor is mounted on top of the engine eliminating the possibility of trouble from water and dirt and the water pump has been placed at the rear of the engine so that from the pump the water goes directly to the rear end of the cylinder block, which is the hottest part.

Something New in Concrete

FOR some time a concrete composition having a number of distinctive characteristics has been in use in England and it is now being introduced in this country. This material is a form of concrete consisting of a combination of chemically treated sawdust and portland cement. It can be placed by tamping, by mechanical pressure or by cement gun. It is handled and placed in the same general way as ordinary sand and gravel concrete.

The distinctive characteristics of this composition include light weight, about half that of ordinary concrete, a better wearing surface, high fire resistance, high sound insulation. It also may be sawed, nailed or screwed like hardwood and may be colored and polished as desired.

This material is successfully used for precast units for buildings, such as block, bricks, roofing tiles, shingles, floor tile and partition blocks; precast flat roofing slabs to which other roofing may be nailed; for sidewalks, roads, factory floors, railway platforms, freight cars and other places where high resistance to abrasion is demanded; in the form of lumber for making frame houses, garages, and other buildings, bridges, sheet piling, fence posts and similar construction.

The company which is licensing the manufacture of this material states that standard briquettes have a tensile strength of 300 to 400 pounds per square inch at seven days; a compression strength of about 1,800 pounds per square inch at 28 days; an abrasive resistance, with a Dorry Hardness testing machine, superior to ordinary sand and cement mixtures; discoloration and friability to a less depth than shown by gypsum block after a fire test; an absorption of only 4.6 to 7 per cent; a modulus of rupture, at 28 days, of over 500 pounds per square inch, in a transverse bending test on slabs of various thicknesses; contraction and warping less than sand and cement mixtures; a holding resistance of 187 to 240 pounds per square inch, as compared with 164 pounds for pine, with 10 gauge nails driven in 1½ inches.

These claims are based on tests made by Columbia University and by the company in its laboratories in this country and England.

Hoist-Compressor Combination

TO meet the requirements of a definite class of steel erection jobs, where heavy, permanent installations of equipment are not practical because of heavy moving charges, or where tonnage to be handled is too small to warrant a permanent installation, a leading manufacturer has developed a combination hoist and air compressor unit.

The use of this combination eliminates the necessity of having a separate air compressor unit for running the air tools essential in steel construction work and requires only one engine to run both the hoist and compressor. The machines are mounted on a common frame, the engine being placed between the hoist on one end, and the compressor on the other end of the frame. The units are furnished either truck or skid mounted, either single or double drum type and with or without air compressor receiver.

Reduction of initial and operating costs was a prime motive in the development of this combination hoist and compressor, it is stated.
Steel Casements for Residences

The steel casement shown in the illustration is a specially designed window which is made in standard shapes and sizes for use in small and medium sized houses, or even in larger buildings where the windows are of the usual standard shapes and sizes. It is in no sense a make-shift or cheap commercial window adapted to domestic work but a well built casement, the moderate cost of which is due to the fact that it is a standardized window.

This casement is of the two point weathering contact type, built of steel with sections 50 per cent heavier than the standard cottage casement, it is stated. When properly set, it is absolutely weathertight in the most exposed locations, even against air infiltration in extremely cold weather.

Simple Measuring Tank for Mixer

A manufacturer of a well-known line of single opening, tilting mixers has recently brought out a new water measuring tank which is designed to solve the problem of water requirements for concrete mixing. It puts the correct amount of water in the mixing drum, when it is needed and in the shortest possible time. It has no three-way valve to leak and no complicated mechanism to get out of order, no tilting or moving of the tank to wear out a hose connection.

This tank is simple in design and easy to operate. It discharges the water into the mixer at the rate of two gallons per second and measures accurately. One lever controls the entire operation. When this lever is pushed down the outlet is closed and the tank fills for discharge.

To discharge the water it is only necessary to push up the lever, pausing a moment at the half-way position to permit the water to discharge, then pushing it clear up, quickly returning it to the first position. This opens the outlet valve and then the inlet valve. The inlet valve is closed automatically when the proper amount of water has entered the tank.

To regulate the amount of water a thumb screw on the float is loosened and the float is moved up or down till the marker opposite the correct figure on the scale is level with the top of the tank.

A Safe Power Hand Saw

Like other power operated tools which have played such a large part in the development of building construction, the electric hand saw has been perfected to a point where it is a highly efficient, powerful and safe machine which increases the volume of work turned out by the carpenter to a tremendous degree. The saw shown in the illustration is one of the latest models with a universal motor which makes it usable on either alternating or direct current and any frequency. Maximum efficiency has been obtained by connecting the motor direct to the saw spindle.

The guard is locked in position and covers the blade at all points. When the operator wishes to cut, he releases the safety guard by means of a trigger placed near the grip. When the cut is finished and the saw is lifted from the work, the guard automatically drops and locks in position, covering the blade, and will not open until released by the trigger. This assures absolute safety.

This tool is compact and convenient with one handle of the type on a hand saw and the other like the handle for guiding a plane. A splitter follows the saw blade and drops into the cut, helping to guide the saw. A depth gauge can be set to cut accurately to any desired depth. A standard, 8-inch, round hole blade is used, and the ball bearings used throughout are of the same size and standard make. The gears run in grease, quietly and without overheating.
At the Price of Ordinary Cupboards

THE ITEMS listed here, or their "equivalent," must be available some place in every kitchen.

You will find all of them in Napanee Dutch Kitchens. And you will find them designed and arranged by those who have made a study of kitchen practices—to effect concentration of effort and lightening of the kitchen work.

These "extras" are offered to you in Napanee equipment, together with hardwood lumber construction throughout and superior cabinet work—at practically the same price you pay for ordinary cupboards. There is no question of the extra value which Napanee equipment adds to a kitchen, nor of the very real influence which Napanee equipped kitchens have upon the women of America in readier purchases of homes or steadier rentals of apartments.

COPPES BROS. & ZOOK, Nappanee, Indiana

NAPANEE DUTCH KITCHENET
Built Like Fine Furniture

O U R  G O L D E N  A N N I V E R S A R Y  Y E A R

THE NAPANEE LINE is complete and flexible. There is no line which offers a greater variety of practical units, styles and sizes than this—permitting combinations to fit exactly where, and as, you wish them.

Ask us for complete information on our Architectural Service Department which has been developed to aid you in planning your kitchen. Use the coupon.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
They asked for it by name!  
the new "Three 8's" sink

The quickness with which women grasp the significance of a new home convenience was demonstrated recently at the Chicago Better Homes Show. Visitors by the score asked for this new "Standard" sink by name.

Its under-the-window design and the enduring beauty and ease-of-cleaning of its Acid-Resisting Enamel caught their interest immediately.

Now, when they rent or buy homes and apartments they will look for the sink with these features: 8-inch low back that fits easily under a deep window . . . the 8-inch deep sink compartment that takes the deepest pan—the 8-inch deep front that beautifies the whole sink. They are going to ask if the enamel is Acid-Resisting Enamel which cannot be roughened or discolored by fruit or vegetable acids . . . if the swinging-spout faucet is finished in Chromard, which cannot tarnish or corrode. They will look for the directly attached garbage container.

This modern sink is an important factor in selling or renting homes or apartments—old and new. Visit a "Standard" Showroom to see the three styles and seven sizes—or write for interesting booklet today. Be sure to specify Acid-Resisting Enamel, as many other "Standard" models are also made in regular enamel.

The trademark "Standard"AR, identifying Acid-Resisting Enamel, is impressed in every "Three 8's" sink.

PITTSBURGH
This lavatory gives the home an extra dressing table

Even the best arranged homes or apartments rarely have adequate dressing facilities for the family and guests. The need for an extra dressing table is frequently felt—and often embarrassing.

With the new "Templeton" lavatory, by "Standard", the bathroom now becomes a dressing room. This design, of an original, distinctive beauty, provides dressing table convenience. There is ample space on the broad top and raised back shelf for toiletries or shaving things. The wide-set crystal legs permit the dressing bench to be drawn close with comfortable knee-room. In appearance too, the "Templeton" rivals a period dressing table. The flowing grace of line in the curved back and legs, the stately faucets of plain or hand-hammered metal that bring a new decorative note to the bathroom, make this lavatory outstanding in beauty.

It is the largest lavatory ever modeled and fired in one-piece of genuine vitreous china—an achievement of the master potters of "Standard". The top is 36x20 inches and the bowl, 19x12 inches.

The "Templeton" will add character and distinction to any home or apartment—and make it easier to sell or rent. See it at a "Standard" Showroom. Also look at the "Pemberton", another exclusive lavatory design. Write for illustrated booklet.

PITTSBURGH

The stately faucets of the "Templeton" are finished in Chromard all-over smooth, in Chromard with hammered panels, and in Chromard with hammered gold panels. The Chromard finish cannot tarnish or corrode.

"Standard"

PLUMBING FIXTURES
New Type Concrete Mixer

The growing tendency to require less water in the concrete mix and to keep the batch mixing for a longer period, the minute and a half mix, places new demands upon mixing equipment and has resulted in the design of two new mixers by one well-known manufacturer. These mixers enable the contractor to conform to the new type of mixing specifications without cutting down his daily yardage. They have been given rigid field tests before being placed on the market.

These two mixers are identical except for size. The smaller machine has a capacity of seven cubic feet of mixed material, or 10 cubic feet of unmixed material to the batch. The larger size has a capacity of 10 cubic feet mixed or 15 cubic feet of unmixed material. The longer mixing time requires a more rapid charge and discharge action to maintain the daily capacity. To accomplish this the drum diameter of the smaller mixer has been increased to 50 inches, permitting a 22½-inch opening on the charging side and a 20-inch opening on the discharge side.

The higher drum has made possible an increase in the size and number of mixing buckets. The increased drum opening permits the use of a semi-round discharge chute with a pitch of 50 degrees. This achieves speedy discharge, cutting the time of this operation with benefit to the mixing time and no detriment to the hourly capacity.

Bevel gears actuated by a hand wheel from either side of the mixer have been substituted for levers, making operation of the discharge chute easier. The discharge chute automatically locks in either the mixing or the discharge position and is automatically released.

The frame of the machine has been made heavier, being built up of seven-inch steel channels, arc-welded and reinforced with steel gussets. Field engineers have noted points of possible breakdown on the machines in the field and these have been strengthened and altered to make the replacement of worn parts a simple matter.

A Modern Laundry Tray

The old fashioned laundry tray had straight sides and back and a sharply sloping front, adapted to use with a wash board. The wash board has long since been replaced by the washing machine but in spite of this fact the laundry tray remained unchanged until the tray illustrated here recently made its appearance. This tray is thoroughly modern and has a number of features that recommend it. It is a four way tray which has slightly sloping sides all around and, being set out from the wall instead of against the wall, is equally accessible all around. There are no faucets in the sides of this tray so that there is nothing to catch and tear the clothing and it is easily kept clean. This latter point is aided by the fact that it is finished in a new acid resisting enamel which was recently perfected by this same manufacturer.

The faucet is placed above the tray, where it is out of the way. It has an entirely separate connection for the hose supplying water to the washing machine and a swinging spout so that water may be run into the washing machine and also into either side of the tray at the same time. The supporting legs are not only sturdily built but they are adjustable so that the tray may be adjusted to any height that is most comfortable for the woman using it. Because of the slope of the sides the clothes are easily removed and the capacity is greater than with the old style trays in which the bottom was cut away by the sharply sloping front.

Trolley Track Lock Joint

It is now possible to obtain a trolley track which is virtually a one-piece track, regardless of length, according to the announcement of a certain well-known manufacturer. This is made possible by means of a newly perfected lock joint which locks the lengths of track together permanently and so tightly that the hangers will always operate smoothly and without trouble. This lock joint is designed for use exclusively with this company’s trolley track and is obtainable only with their brand of track. Its construction is shown in the accompanying illustration.
The anchor holes act as guides

The anchor holes are accurately punched in every Johns-Manville Asbestos Shingle. The nail holes are already punched too. When the first row of shingles is laid the anchor holes point out the place for each successive shingle. The job's so simple and the instructions so clear there's no chance of a mistake. Any carpenter can do the job and do it right the first time.

There are a lot of re-roofing opportunities all around you. Easy work to get and easy work to do when it's done the Johns-Manville way.

JOHNS-MANVILLE CORPORATION, Madison Ave. at 41st St., New York
Branches in all large cities.
For Canada: CANADIAN JOHNS-MANVILLE CO., Ltd., Toronto

JOHNS-MANVILLE Asbestos Shingles

Public opinion is swinging to fire-safe roofs. Johns-Manville Asbestos Shingles are steadily climbing in popularity.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
New Hydraulic Oil Jack Line

A new line of hydraulic, oil-power jacks, ranging from a compact 1½-ton model to a mighty 60-ton industrial unit, to be produced and marketed by a well-known manufacturer of wrenches, grinders and pumps. Under another name these jacks have been made and distributed for the past five years on the Pacific Coast, meeting with consistent favor so that their dependability and freedom from trouble have been tested and proved. With the large facilities of the manufacturer now introducing these jacks, intensive, national distribution will be effected immediately.

The hydraulic principle has been further improved and standardized by the new manufacturer and includes a simplicity of mechanism with lifting power far beyond rated capacity and with exceptional ease and safety of operation, it is stated. An exclusive patented feature is a simple valve unit which plays a large part in giving practical utility to the hydraulic principle as applied to jacks. This valve is located below the pump, and in an instantly accessible position for cleaning or replacement. In the smaller sizes these jacks provide a positive, easy lifting tool, light and portable that can be placed and operated as a one-man job. Special low built models with double or telescopic, extra high lift are included. It is said that a child of five years can easily raise an ordinary automobile or light truck with the 1½-ton model.

The long bayonet grip handle holds and places the jack at long range. Short strokes raise the ram with positive lift and hold. Lowering is done automatically with controlled release valve, the speed governed by the operator. The handle is used to open the release valve for lowering, to control the drop and to withdraw the jack. Horizontal use is entirely practical.

The complete line of jacks consists of 10 models, in nine capacities, single and double lift, light and heavy duty, low and high built. The industrial models, ranging from 18 to 60 tons, handle vast tonnages without loss of time or danger.

Fireproof Lumber and Wallboard

Lumber and wallboard may now be fireproofed and dried by a new process for which very strong claims are made by the company which has developed it. This company has supplied its chemicals, which it says cannot be analyzed, to impregnating concerns which have tested them with the ordinary apparatus. In addition the company has constructed a special apparatus with which to treat lumber up to 20-foot lengths, as well as wallboard. Tests of lumber so treated, made by the engineering laboratories of Columbia University, report that the material meets the requirements of the New York City Bureau of Buildings for interiors of skyscrapers.

The company claims its process will dry lumber up to 1½-inch thickness in 24 to 48 hours; that varnish, shellac, enamel or paint does not scale off lumber so treated; that the treated lumber machines as readily as untreated lumber and without injury to tools, saws or cutters; that the compound is non-poisonous, does not hurt the hands, is healing to cuts, sores and burns, and if swallowed is not injurious; that it is not corrosive to nails and screws; that the lumber processed retains its natural color and will not warp or rot; that a six-room bungalow can be fireproofed from foundation to ridgepole for the same money that five years insurance would cost in any large city, affording safety at low cost.

The company also states that wallboards of all kinds can be more scientifically fireproofed and dried after being made than during manufacture and that any thickness of wallboard can be treated and dried in one hour, making it stand a higher electrical contact, adding 80 per cent to its tensile strength and improving its sound-deadening qualities and the adherence of paint to its surface.

New Fast Paver

A new fold back top, power take-off and six-cylinder motor in one unit and a governor booster are some of the important features on a new 1927 model paver manufactured by a company known for its mixers. The new paver is announced as the fastest ever built by this company. In addition to speed, new features have been added to synchronize the charging and discharging to keep two batches going through the paver all the time. All operating levers are bronze mounted to permit smooth easy operation and control and are so grouped as to permit two or more operations to take place at once. Charging, discharging and getting water into the drum are now done in the time ordinarily devoted to charging alone. To accomplish this it was necessary to time accurately all three operations and allow for variations on different jobs. The operator now has at his command a faster mixing cycle which can save as high as 40 paving minutes in a day’s work.

The new fold back is entirely power operated and may be raised or lowered in a few minutes’ time. The water system rests crosswise on the foldback top and the complete unit is lowered without dismantling the entire system. Water control is very rapid and accurate to the pint, requiring but seven seconds to discharge the correct quantity into the drum.
This Book Tells How to Buy For Bigger Profit

WHOLESALE PRICE LIST

Johnson's Interior Finishes
S. C. JOHNSON & SON, RACINE, WIS.

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Consider What Johnson Offers the Builder

1. A highly specialized line of the finest Interior Finishes possible to manufacture.
2. A long established nationally advertised name—"Johnson Finishes Used" has a world of meaning even to your women clients.

Johnson’s Interior Finishes
Varnishes Enamels Undercoats Wall Finishes Wood Dyes Waxes Fillers

Cut Your FLOOR Costs
Ask for the new Johnson Floor Book. It tells about all possible Floor treatments, WHEN and WHY to use them, covering capacities, proper methods of cleaning and refinishing. A gold mine of practical information for every Builder.

Are You Buying Right?

Buying Right means the difference between making Real Money and just breaking even. No builder ever made a permanent success using cheap materials. True Economy means getting the finest possible materials at the best possible prices. Getting all you can for your money—in Materials—in Advertising value—in Sales help—in Service.

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Main 6650

Des Moines
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Drake 8233

Detroit
3155 Grand River Ave.
Gibson 4780

Kansas City
2433 McAlroy Trafalgar
Gibson 5375

Los Angeles
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Westmore 8701

Louisville
115 South 6th St.
City 6045

Milwaukee
938 Third St.
Lincoln 911-912

New Orleans
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Main 5665

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Con 7800

Omaha
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Atlantic 1034

Philadelphia
410-412 Commerce St.
Lombard 6498

Pittsburgh
926 Duquesne Way
Atlantic 0638

San Francisco
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1590 St. Anthony Ave.
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314 Bell St.
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When writing advertisers please mention the American Builder.
It's the Double

The 7 products shown in this advertisement are those used in the famous "Genfire 7-point Houses" throughout the country. If you wish further information on all of these products write us and we will send complete literature.

This specially designed mesh of Herrinbone Doublemesh Metal Lath keeps fine plaster effects free from cracks and lath marks. Eight steel strands to the square inch guide the plaster around and through the lath, forming a lasting bond. Herrinbone also adds fire protection.

Herrin
Doublemesh

Galvanized or Painted Steel

GF 16, a Waterproof Foundation Coating for Waterproofing Basement Walls

Duplex Steel Bridging—stronger, cheaper and more rigid than wood bridging

For Advertisers' Index See Next To Last Page
CONCEALED from view—the lath behind the plaster is after all the deciding factor in the quality of construction. A good plastering job simply cannot be done except on a good base and the best base for plaster work is HERRINGBONE DOUBLEMESH METAL LATH. When the job is done on this lath you assure its high character at once. You build permanent freedom from cracks, definitely increase structural rigidity throughout the building, secure a high degree of fire resistance, and in addition employ a lath that saves time and plaster in application.

Confidence in this lath has already made it the favored lath among America's leading architects, contractors and builders. Write us and we will send you complete information and a sample of this product.

GENFIRE STEEL COMPANY
(The General Fireproofing Building Products)
YOUNGSTOWN, OHIO

Manufacturers of a Complete Line of Firesafe Building Products, also Waterproofings and Concrete Preservatives.

GENFIRE Steel Lintels—sturdy and reliable for use over door and window openings and at fireplaces

GENFIRE Casement Windows of Steel have double weathering контакs insuring weather-tightness

GENFIRE Expanded Metal Corner Bead prevents damage to exposed plaster corners

METAL LATH
Furnace Heating
(Continued from page 161)

Recommendations were based on the fact that only about 50 per cent, or somewhat more, of the gross area of register faces can be taken as free area, the grill work occupying the remainder.

In installing side wall registers in halls it might be well here to offer a word of caution as it is not uncommon, especially when there are upper floors, to restrict the area of the pipes immediately behind the registers, usually known as register boxes. Fig. 4 is a much better design. The same considerations apply whether registers are intended for admission of warm air or as outlets for cold air.

Pipes connecting to side wall registers should always be as full as possible and it is upon the fullness of area that successful supply or exhaust of air depends. Unfortunately it is not the largest portion of the free area of a duct or opening that determines the volume of air passed through but the most restricted section. Were a full 90-degree elbow or its equivalent to be installed, as shown in Fig. 4, little resistance to flow would be interposed, but when the area is cramped at the outlet bellying out of the pipe further along does not serve to increase the flow to any marked extent and in the manner some artisans expect.

The volume of air passed through a pipe or register is the result of velocity times the area of the opening. In warm air heating systems when no mechanical fan is used the air flow is almost negligible, only a fraction of an inch as measured on the water gage, sometimes barely enough to move the fluid in the gage. Thus when the area of the throat of the pipe or register box is clamped, as in Fig. 3, so little air passes through that it amounts to little more than that of a human breath blown down the pipe at its largest area.

Yet, to return to the unfortunate case of the Kitterage house, its misheating and revised layout, the cost and inconvenience caused was, it is needless to state here, out of all proportion of the value of the work had it been done properly at the start. The monetary loss to the contractor under such circumstances cannot always be measured in terms of dollars and cents. The owner made the contractor responsible for the success of the entire job. Although the heating contractor admitted his fault and made the revisions without charge the prestige of the general contractor suffered along with that of the installer.

Plan Contest Announced

Through the U. S. Department of Commerce an announcement has been made of a plan competition for the proposed Free Port of Barcelona, Spain. This competition will be open to all competent persons whatever their residence or nationality and plans may be drawn in either Spanish, French, English, Italian, German or Portuguese. The competition will close at 12 p.m. December 9, 1927, and final decision will be in the hands of a jury composed of representatives of the engineering and building professions of Spain and of government officials.

All plans awarded prizes will become the exclusive property of the Consortium which may modify them in any manner it sees fit. Those not awarded prizes may be withdrawn. The jury will be empowered to declare the competition void if it sees fit. Should the jury decide several plans contain ideas and dispositions available for the purposes of the free port, it may award each of the offers a prize of 10,000 pesetas. Prizes of 100,000 pesetas, about $19,000, and 25,000 pesetas will be awarded to those offering the plans chosen.

According to the press statements, the cost of the project is estimated at more than 200,000,000 pesetas or $38,500,000. YOU can depend on Bradley-Miller Michigan White Pine Frames to give the home owner the most frame service it is possible to get anywhere at any price.

They are made of Michigan White Pine, a wood that withstands rotting, warping, cracking and splitting, that takes paint well and holds it. This remarkable wood, correct design and accurate construction make a wind and water proof frame. Ten, twenty or thirty years from the time you install them, these frames will still be in good condition.

Your dealer can supply you with Bradley-Millers for any opening without delay. Try them on your next job. You’ll like them.
Profit begins when the house is SOLD

Speed up selling with the
G-E Wiring System

A G-E Wiring System gives you selling points in every room.

Merchandise Department
General Electric Company
Bridgeport, Connecticut

Here is a selling idea that builders have put to the proof everywhere. Install a G-E Wiring System in every house you build—and you have one of the strongest selling appeals a modern house can have.

General Electric advertising has stirred up a demand for better wiring. Hundreds of model homes with G-E Wiring Systems are drawing crowds of men and women. And wise builders everywhere are using this same G-E Wiring System—to draw customers—and make them buy.
Standardized Steel Roof Trusses

Practically all orders for Massillon Trusses are shipped from stock. Immediate shipment when required. Standardization makes this possible.

With Massillon Roof Trusses, long spans are laid out and designed as readily as short spans with simple beams. No waiting for a structural engineer to detail and estimate the trusses. You can layout and design your own jobs from the printed loading tables or send us full data and have our engineers prepare them. Standardization makes this possible, speeds up the job.

You get the best in structural steel trusses in the Massillon Product. All members are made from heavy hot rolled sections. Even the struts are made with \( \frac{3}{4} \) inch minimum thickness of metal. Modern structural arc welding is used for shop connections. The shorter trusses are shipped in one piece ready for placing. The longer trusses are shipped in sections for ease in handling and erecting. All field connections are fitted with threaded bolts. Standardization lets you build with Massillon Roof Trusses at a cost approaching that of the cheapest truss construction.

The “Massillon Roof Truss Pamphlet” with loading tables and designing data on curved chord and “A” type trusses mailed on request. Send us a sketch in asking for quotation.

Inspect Buffington Harbor

On August 17, the Western Society of Engineers conducted an inspection trip to visit the Buffington Harbor of the Universal Portland Cement Company. Over a thousand architects, engineers, contractors, dealers and public officials made up the party with the Engineers’ Society of Milwaukee, the American Society of Civil Engineers, the American Institute of Architects and other leading organizations in the construction field represented.

This new deep-water harbor of the Chicago plant of the Universal Portland Cement Company is the first private harbor to be built on Lake Michigan in twenty years and one of only three such harbors on all the Great Lakes, the others being at Gary, Ind., and Calcite, Mich. It will permit this company to receive and store large quantities of raw material, insuring continuous production, and to ship cement by water as well as by rail to ports on all the Great Lakes.

Humiston Heads H. B. Ives Co.

An announcement from the H. B. Ives Company, of New Haven, Conn., manufacturers of builders’ hardware, states that at a recent meeting, held at the company’s offices, Mr. Lauren A. Humiston was unanimously elected president to succeed Mr. Hobart Ives, who died in June, 1926, and who founded the firm 51 years ago.

New Plant in Operation

A NEW plant has recently been completed and occupied by the Minneapolis Heat Regulator Company, 402 E. 28th Street, Minneapolis, Minn. The unit at the left of the tower in the accompanying illustration has not yet been built, but will be erected when the demand for more space warrants it. The present plant starts at the tower and includes the old plant, at the extreme right. The new unit contains about 68,000 square feet, bringing the total plant area up to about 128,000 square feet. Ten years ago this company’s entire plant contained only 20,000 square feet.
"THEY started wrecking the brickwork from the roof with chisels and hammers. The mortar was so tough and hard, and adhered to the brick so well, that they had to resort to air drills as the only way to make speed. No brick could be saved on account of the mortar still adhering to the brick."

So said Thos. Henritze when he was talking about wrecking a ten year old Carney laid wall for the purpose of tying-in the Cleveland Hotel with the new Cleveland Union Station.

Mr. Henritze continues: "I also used Carney Cement on the ten million dollar Union Trust Building, Cleveland, the six and a half million dollar American Insurance Union Building at Columbus, and the twelve to fifteen million dollar Union Station, built at Cleveland, with excellent results as to economy, quality and durability."

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DISTRICT SALES OFFICES: CLEVELAND, CHICAGO, DETROIT, ST. LOUIS, MINNEAPOLIS

Cement Makers Since 1883

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

CARNEY CEMENT
for Brick and Tile Mortar

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
Inland Steel Appointments

THE Inland Steel Company, Chicago, announces that Mr. Frank R. Meyer, Jr., has been appointed assistant vice-president in charge of sheet steel sales. He will succeed Mr. Walter C. Carroll, who resigned August 1 to become president of the National Association of Sheet and Tin Plate Manufacturers. Mr. Walter F. Brumm, who has been in the company's St. Louis and Kansas City office for several years, will take over Mr. Meyer's position as district sales manager. It is also stated that Mr. H. H. Straus, who has been in charge of the Chicago Heights, Ill., plant for the past five years, has been appointed vice-president.

Takes Name Genfire Steel Company

THE name of the General Fireproofing Building Products, Youngstown, Ohio, manufacturers of metal lath, steel joists, concrete reinforcing, steel sash, waterproofing compounds and similar products, has been changed to the Genfire Steel Company. This change affects the name only and has been made to avoid possible confusion with the General Fireproofing Company, also of Youngstown, which manufacturers steel office furniture and equipment. The officers, personnel, policies, products and everything connected with General Fireproofing Building Products becomes a part of the Genfire Steel Company.

Inso Board Now in Production

THE Stewart Inso Board Company, of St. Joseph, Mo., recently announced that it would start shipping Inso Board by August 15. The construction of the company's mill has been completed and final details for production worked out. The first year's output has been contracted for and plans are already being discussed for increased production.

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 Joint, 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.

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Large fleets of trucks and private switch tracks help provide service unequalled by any other source of supply.

All types of jobs are figured and lump sum or pound price quotations prepared.

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BUFFALO DETROIT CLEVELAND

RYERSON REINFORCING-SERVICE

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
The "FOR SALE" Sign Comes Down Quickly

Houses built of Brick—Walls of Brick all the way through and all the way 'round—sell rings around houses of less substantial construction. America believes in Brick.

There is a decided swing to Brick among long-experienced builders who build to sell because there is a decided swing to Brick among home-buyers. To the builder it's simply a case of quick sales, rapid turn-over of capital and bigger profit. To the buyer it's simply a case of wanting a better home.

Beauty recommends Brick. So does strength. So does the fact that Walls of Brick are fire-proof, gale-proof, flood-proof, time-proof. Build with Brick and you'll make more money and earn an unassailable reputation for sound, lasting construction. Send for the literature listed below.

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The Common Brick Manufacturers' Association of America
2131 Guarantee Title Building
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Brick Books for Your Use
- "Your Next Home"—(New Edition) Photos and Plans of 57 homes, 10c
- "The Home You Can Afford"—63 homes, 10c
- "Brick, How to Build and Estimate"—25c
- "Hollow Walls of Brick"—15c
- "Multiple Dwellings of Brick"—10c
- "Homes of Lasting Charm"—25c

Check above, and send for any or all of these books.
**News of the Field**

**Big Merger Effected**

A NEW coalition in the heating industry has just been effected in the merging of six concerns to form the National Radiator Corporation, chartered in Delaware and capitalized at an amount in excess of $25,000,000. John H. Waters, formerly President of the National Radiator Company, becomes Chairman of the Board and Edward Norris, formerly President of the Utica Heater Company, becomes President of the consolidation. Other officers will be appointed from those who have successfully administered the affairs of the constituent companies.

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**Milcor Building in Chicago**

ABOUT October 1 the Milwaukee Corrugating Company, of Milwaukee, Wis., will move its Chicago quarters from the building it has occupied for the past 2½ years to a new and larger location in a fine modern fireproof structure at the corner of Western Avenue and West Forty-third Street. This move has been made necessary by the rapid expansion of this company’s business. The new building is a three story and basement structure of reinforced concrete occupying a space 90 by 200 feet and containing 75,000 square feet of floor space. The exterior is of face brick with terra cotta trim and the construction is such that three additional stories may be added when required. There is also sufficient vacant land in the lot for further expansion.

---

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That Has Doubled Pay in 2 or 3 Months!

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

YOU MEN who work with your tools in the building trades make good money. But you don’t get one penny more than you’re entitled to. Every boss on the job—every foreman, every superintendent—is making plenty more than just your wage scale—you can figure pretty well for yourself what a lot of real money the contractor and the builder clean up. Why do these men get more money for their work than you do?

Why do they clean up $5,000 to $15,000 a year or more? It’s simply because they’re trained in the “head-work” side of Building and Contracting work. They can read Blue-Print Plans. They know how to lay out and run jobs.


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Consider this quick, practical Chicago Tech. training, has done for others. Woodside, in less than three months, rises from journeyman carpenter to foreman, then makes big money in contracting business for himself. In a few months McAvoy goes from bricklayer on the wall to foreman, in charge at a big increase in pay. Marchand says, “Ten days after completing course, my pay was raised 100%.” Hundreds—you, perhaps, thousands of others say the same. Chicago Tech. has helped them to bigger jobs or a business of their own. It is ready right now to help you.

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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
New Johns-Manville President

THE Johns-Manville Corporation announces the election of Theodore F. Merseles as president. H. E. Manville, who has served as president since the death of his brother, T. F. Manville, in 1925, has been elected chairman of the board of directors. Mr. Merseles, who retires from the presidency of Montgomery Ward & Co., will continue as a director of that company and as chairman of its executive committee.

New David White Company Building

THE David White Company, Inc., of Milwaukee, Wis., has now completed and is occupying its new and larger building at 315 Court Street, Milwaukee. The construction of this building was made necessary by the rapid expansion of the company's business during the past three years. The new building is of brick and affords a spacious display space, executive offices and salesroom in addition to the manufacturing space for turning out leveling instruments and maintaining blueprint, photostat and photo reproduction service.

Cordery Products Issues Licenses

PATENTS obtained by Frank Cordery, of Toledo, Ohio, for the manufacture of building units using cement, cinders or slag and acidulated water are now held by Cordery Cinder Products, Inc., Passaic, N. J., which is disposing of licenses and territorial rights.

Paramount Buys Building

THE Paramount Electric Company, formerly located at 251-251-Z Market St. Philadelphia, Pa., has purchased a building of its own and moved into new and larger quarters at 930-Z Arch Street, Philadelphia.

Open Branch Office

IN order to provide better sales and service facilities for its customers in northern New Jersey and certain adjacent counties of New York State, the Ingersoll-Rand Company, of New York City, has opened a branch office at 236 High Street, Newark, N. J., formerly connected with the company's New York sales branch, has been appointed manager.

The Youngstown Pressed Steel Company, Warren, Ohio, presents its 1927 booklet of metal fireproofing products including illustrations and specifications.


This 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

Travertine fabric imitating Italian Travertine Stone, made in any color or design satisfying every taste.

Non-repeating pattern of blocks removes the usual mechanical effect. Duplication of line on both sides of sheet saves labor and worry in application.

Travertine-Wal-Ton-Tone on all walls assures permanency and beauty. Suitable for any room in the home, public halls, apartment houses, stores, corridors, etc. Contractors and Builders investigate Travertine.

Send us the name of your nearest dealer. Also send at once for sample and literature

Lincrusta-Walton Co.
Division Tait Paper and Color Industries, Inc.
HACKENSACK NEW JERSEY

Spanish Pound Stipple

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
The eleven mills of the International System operate under an "open-door" policy. Architects, engineers, contractors and other users of cement are invited to visit the most convenient mill of the International System and inspect the famous International Wet-Blending Process, in order to see for themselves the reasons for the super-quality and uniformity of Lone Star Cement.

International Cement Corporation, New York

One of the world’s largest cement producers — 11 mills, annual capacity 14,700,000 barrels.

These ten subsidiary companies operate the eleven mills which comprise the International System:

Alabama Portland Cement Company, Birmingham, Ala.
Argentine Portland Cement Co., Buenos Aires, Argentina
The Cuban Portland Cement Corporation, Havana, Cuba
Indiana Portland Cement Company, Indianapolis, Ind.
The Kansas Portland Cement Company, Kansas City, Mo.
Knickerbocker Portland Cement Co., Inc., Albany, N. Y.
Texas Portland Cement Co., Dallas and Houston, Tex.
Uruguay Portland Cement Co., Montevideo, Uruguay
Virginia Portland Cement Corporation, Norfolk, Va.

When writing advertisers please mention the American Builder.
Books, Bulletins and Catalogs for You

The literature and publications listed here are available to the readers of American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

The Stover Manufacturing & Engine Co., 16 East St., Freeport, Ill., has prepared a pamphlet catalog 2440, of its complete line of fireplace fixtures.

Hunt-Helm-Ferris & Co., Inc., Harvard, Ill., covers in its latest catalog No. 90, the complete line of barn equipment which it manufactures.

"Everything for the Fireplace" is the title of catalog 16-26 of the Colonial Fireplace Company, 4604 Roosevelt Road, Chicago, covering its complete line as indicated.


"Fenestra Horizontally Pivoted Windows" is a new pamphlet published by the Detroit Steel Products Company, 2250 East Grand Boulevard, Detroit, Mich., and containing specifications, types and sizes and installation details.

The International Steel & Iron Company, Dept. 18, Evansville, Ind., has published its supplement 22, under the title "International Service," for the use of designers, manufacturers and engineers of structural steel and iron.

The Franz Manufacturing Company, Dept. A-8, Sterling, Ill., has published a new catalog No. 14, covering its complete line of builders' hardware.

The J. E. Porter Corporation, Ottawa, Ill., offers two large circulars illustrating and describing its haying tools, door track and hangers, garage door sets, and barn equipment.

The Donley Brothers Co., 13910 Miles Ave., Cleveland, Ohio, offers the twelfth edition of its catalog dated 1927, covering the Donley Devices for completely equipping the home.

The Kewanee Manufacturing Co., 307 Tremont, St., Kewanee, Ill., offers an architects' catalog covering its non-breakable coal chutes and a small pamphlet on the same subject.

"Alemite Industrial Lubricator," published by the Alemite Lubricator Company, 2646 N. Crawford Ave., Chicago, contains a number of interesting and informative articles on the use of Alemite lubrication.

The H. W. Covert Company, 243 East 44th St., New York City, offers its catalog No. 8 under the title "Covert Fireplace Construction."

The Armstrong Cork & Insulation Company, 24th St. and Allegheny River, Pittsburgh, Pa., offers a pamphlet under the title "Armstrong's Corkboard for the Insulation of Roofs—Insulating Efficiency," which is number one of a series.

The McCabe Hanger Mfg. Company, New York City, in its catalog No. 24, presents its line of door hangers and track, overhead carrying devices, expansion bolts, ball bearing wheels and rolling ladders.

The Wagner Manufacturing Co., Cedar Falls, Iowa, offers its general catalog No. 25, covering door hangers and tracks, overhead carrying systems, fire door fixtures and hardware specialties.

The Century Electric Co., 1806 Pine St., St. Louis, Mo., offers a pamphlet on its repulsion start induction single phase motors.

"Willis Products," is the title of catalog No. 8 of the Willis Manufacturing Co., Dept. 128, Galesburg, Ill., presenting its sheet metal products.

---

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Users of Cabot's Quilt find that they save at least this much in first cost in a $10,000 residence, by reduced size of heating system and less plaster. And the men who buy "Quilted" houses report annual savings of fully $50.00 in coal or oil. These figures are backed up by official scientific tests at Massachusetts Institute of Technology. Cabot's Quilt shuts out the most cold, at the least cost.

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Whether you need a truck for fast, economical delivery over city streets—
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—or whether you need a truck for any sort of special purpose—
— you can secure a Chevrolet Truck, with a type of body to meet your particular needs, that will give you the world's lowest ton-mile cost.*

Go to the salesroom of the nearest Chevrolet dealer and see for yourself how the sturdy, powerful Chevrolet chassis is designed and built to reduce operating and maintenance costs. Observe the deep channel steel frame, heavy banjo-type rear axle, and long extra-leaved, semi-elliptic springs—all constructed to operate under the severest usage. Note the powerful valve-in-head motor—dependable, efficient and long-lived.

Here, in every feature, is a type of construction once undreamed-of in a low-priced commercial car—
— ruggedness, strength and modern design which assure you the long-time, over-all operating efficiency that has made Chevrolet the world's most popular gear-shift truck!

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* Ton-mile cost is the cost of transporting a ton of material one mile—or its equivalent.

The world's largest builder of gear-shift trucks

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Where water is limited—

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It is now an obligation to protect home and family against the dangers of typhoid and other infectious diseases by providing a safe and up-to-date method of sewage disposal wherever the water supply is limited or difficult to secure.

Chemical Treatment of Sewage

The sewage is liquefied and sterilized by contact with a powerful solvent and deodorant—disposal is thus made safer and easier. The method is so perfected as to require only a simple arrangement for storage and for discharge after treatment.

San-Equip Self-Drain Waterless toilets do not require emptying or handling of sewage. There are no valves or other machinery to repair.

Only a small amount of sterilized liquid is discharged daily and is thus safer and easier to care for than would be a full tank of sewage at one time.

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Chemists' analysis of mineral enamel: "Not appreciably affected by organic acids or moisture."

Ask for further information.

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Books, Bulletins and Catalogs for You

The literature and publications listed here are available to the readers of American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

"Cinder Concrete Building Units" is the title of a new booklet which has been published by the National Building Units Corporation, 1600 Arch Street, Philadelphia, Pa. It is a comprehensive treatment of this subject, including specifications, diagrams and a list of the plants licensed to manufacture cinder concrete units under the Straub and Bo patents.

The Milwaukee Corrugating Company, Milwaukee, Wis., has issued a new catalog, No. 20-D, devoted exclusively to its Milcor 34-inch Stay-Rib reinforcing lath. This is a supplement to the 1927 edition of the Milcor Manual and is a technical data book for architects, engineers and contractors.

The Larimer Company, Aurora, Ill., offers a catalog pamphlet illustrating its line of door checks for various types of doors.

The Universal Form Clamp Company, 972 Montana Street, Chicago, has issued a catalog, No. 206, on its various concrete building accessories for forming and centering and for reinforcing as well as inserts, anchors, etc., and also four pamphlets on its form clamps, T and L heads and shores.

The Incandescent Supply Company, 468-472 W. Broadway, New York City, offers its catalog No. 115 of luminants for residential, commercial and institutional purposes.

The Blackhawk Manufacturing Co., 148 Broadway, Milwaukee, Wis., has published a booklet announcing its line of "Big Lift" jacks.

The American Concrete Institute, 2970 West Grand Boulevard, Detroit, Mich., has published, in book form, the proceedings of its Twenty-third Annual Convention, 1927. Price to non-members, $10.

The Milwaukee Corrugating Company, Milwaukee, Wis., has issued a new catalog, No. 20-D, devoted exclusively to its Milcor 34-inch Stay-Rib reinforcing lath.

The A. L. Sayre Company, Newark, N. J., offers an illustrated catalog No. 9 of its line of hardware specialties and mechanics' tools.

The Pelton Water Wheel Company, 100 Broadway, New York City, offers its Bulletin No. 19, a new catalog of Pelton water wheels for all types of installation.

The Rhinelander Refrigerator Company, Rhinelander, Wis., publishes a handsome bound volume under the title "Rhinelander Handbook of Refrigeration" by Forrest O. Riek, which is, in addition to being a catalog of this company's refrigerators, a very complete treatise on the subject of refrigeration.

The Asbestos Shingle, Slate & Sheathing Company, Ambler, Pa., offers a trade priced list of its roofing slates, shingles and sheathing, revised to July 1, 1927.

The Link-Belt Company, 910 S. Michigan Ave., Chicago, has published a "Link-Belt Conveyor Data Book 615," containing very complete information and a catalog of its conveyor equipment.

The Fiwale Equipment Mfg. Co., Inc., 64 Reade St., New York City, offers its catalog No. 26 of Fiwale screen hardware.

"Builders' Hardware" is the name of catalog No. 20 of the National Manufacturing Company, Sterling, Ill., with which is included a supplement.

The Holland Furnace Company, Holland, Mich., offers a pamphlet describing its improved window chute.

The Akron Barrow Company, 310 E. 65th St., Cleveland, Ohio, offers a pamphlet describing the new Akron coal chute.
Quality never before achieved in ROLLING screens

For sheer, downright quality—in design, materials and workmanship—Superior Rolling Screens are in a class by themselves. They are far ahead of the field—setting a new vogue in beauty, strength and utility. There is no screen on the market comparable to them.

Superior Rolling Screens give relief from the annual annoyance of screen installing, repairing, repainting and removing. They serve as a permanent part of the home—are instantly and easily raised or lowered as needed—and when not in use they allow a full quota of light to add brightness and cheeriness to the room.

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Books, Bulletins and Catalogs for You

The literature and publications listed here are available to the readers of American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

"The Mechanical Properties of Timbers," by C. J. Hogue, is a booklet published by the West Coast Lumber Trade Extension Bureau, 560 T Stuart Bldg., Seattle, Wash.

The Associated Tile Manufacturers, 220 Graybar Bldg., New York City, offer a pamphlet, in colors which is their regular monthly pamphlet on ceramic mosaic.

The Frank Adam Electric Company, St. Louis, Mo., offers its Catalog No. 41 of fuse blocks, knife switches and flush range switches.

Albert Pick & Company, 208-224 West Randolph Street, Chicago, has prepared a booklet on the subject "Some Thoughts About Hospital Food Service Equipment" which should prove valuable to anyone designing a hospital or planning its equipment.

The Engineering and Construction Publishing Company, 221 East 20th Street, Chicago, has published a "Road and Street Catalog," which is a consolidation of manufacturer's catalogs of highway, road and street materials, construction plant and maintenance equipment for 1927, together with a data section of engineering information and economic methods on the design, construction and maintenance of highways, roads and streets, compiled by Halbert P. Gillette, and also a geographical index of dealers and distributors. It is sent free to anyone having buying and specifying power in this field.

"American Appliances and Novelties of Construction," by Gardner D. Hiscox, M. E., published by The Norman W. Henley Publishing Company, 2 West 45th Street, New York City, is described as a complete work and a continuation, as a second volume, of the author's book entitled "Mechanical Movements, Powers and Devices." Being more special in scope than the first volume, inasmuch as it deals with the peculiar requirements of the various arts and manufactures, and more detailed in its explanations because of the greater complexity of the machinery selected for illustration. Price $4.00.

The Faultless Sash Holder Company, Inc., Indianapolis, Ind., offers a small pamphlet describing its automatic sash holder, designed to replace weights, pulleys and cords.

The National Steel Fabric Company, 706 Union Trust Bldg., Pittsburgh, Pa., offers an illustrated descriptive pamphlet on the subject of its reinforcing plaster base.

The Barber Asphalt Company, Philadelphia, Pa., has prepared a small booklet on the manufacture and use of its Genasco Sealbac shingles.

"Georgia Marble" is the handsome new catalog of the Georgia Marble Company, Tate, Ga., which contains 68 pages of useful agricultural data, pencil delineations, and details and color plates reproducing its line of marbles. It will be sent upon request to any architect who desires to receive a copy.

The Forest City Bit & Tool Company, Rockford, Ill., offers its 1927 catalog, No. 21, covering its hollow mortising and wood-boring tools.

The United Hardware & Tool Corporation, 74 Reade St., New York City, offers its catalog No. 30 of tools, hardware and abrasives.

The Norton Door Closer Company, 2900 N. Western Ave., Chicago, publish a catalog No. 17 covering its very complete line of door closers and an accompanying booklet of instructions for installing and repairing them.

The Crouse-Hinds Company, Syracuse, N. Y., offers a catalog booklet, Bulletin No. 1G, of its panel boards and cabinets.

"QUIET ZONE" Folding Walls

"QUIET ZONE" Folding Walls are built for temporarily dividing a room into several smaller rooms. They are made of strong wood folding frames covered with a special fabric of desired texture and beauty harmonizing with furnishing of rooms in which they are installed and are folded into a neat permanent cabinet when not in use.

"QUIET ZONE" $60.00. These Walls are not a curtain or partition but a WALL with a 3½ inch enclosed air space that absorbs sound. Write for A. I. A. booklet.

"QUIET ZONE" Folding Wall Co.

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FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
Wall-Tex offers these definite advantages of beauty and economy

The decorative value of Wall-Tex is well illustrated in this modern bedroom by John H. Whitwell, Interior Decorator, of Philadelphia. The 1928 designs include many handsome patterns meeting the requirements of any decorative scheme. Glossy finishes for kitchen and bath. Dull decorative designs for every other room in the house. Plain patterns to be painted, stenciled, frescoed or finished with rough-cast plaster.

Wall-Tex offers more than beauty and decoration. It can be wiped clean with a damp cloth, and it will stand up under frequent washings. A strong and flexible fabric, it hides the cracks in old walls and ceilings. Keeps new plaster from cracking. And it is hung just like wall-paper. Wall-Tex is carefully made of finest materials—only the best oils and pigments are used.

Architects, builders, decorators should write for full information concerning their particular requirements. The Columbus-Union Oil Cloth Co., Columbus, Ohio.

Wall-Tex
PERMANENT WALL COVERING

With the name that's easy to say and hard to forget

MULTIPLEX
Single Power Press STRIPPER

Here's the machine you have been waiting to buy—the all-purpose machine designed to fill your every demand. To own this stripper is to have a decided advantage over all previous competition. And you don't have to tie up a small fortune to get on a real production basis.

Here you have a production machine for any unit with a few changes of the mould box. With the material mixed two men can make about 1200 perfect 8x8x16 plain blocks per day. Face blocks of the identical size can be made without change of the mould box which is filled in the same manner by means of our special filling attachment. By removing cores from the mould box and replacing tampers, 4x8x16 solid blocks can be produced two at an operation.

Blocks pressed to uniform density from top and bottom

Simple in Operation

Further Particulars and Price List on Request

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Rolls Anywhere
Contractors and Builders keep pace with the times—plan your rooms with this modern system. Let our engineers help you plan more economical and efficient houses and apartments.

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ROLL-A-WAY BED CORP.
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For full particulars about the New LAKEL SURFACE FINISHER equipped with both disc and drum.

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BEAVER
COMBINATION WOODWORKER

Does the Work of At Least Five Men
Cuts Cutting Costs 80%

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MAIN OFFICE AND FACTORY, NORRISTOWN, PA.
Want To Try Something?
Send Us Some Saws
To File By Machine!

With The
FOLEY
Automatic
SAW
FILER

Special Demonstration Offer!
You can see for yourself what perfect filing the Foley does, and how much cleaner and truer it will make your saws cut.

For the following small service charges, we will file your saws on the Foley and reship them to you within a week:

- Hand saw filed and set: $0.50
- Hand saw retoothed and set: $1.25
- Circular saw filed and set: $1.00
- Band saw filed and set, per foot: $0.07

Send us any kind of hand saws—cross-cut circular saws 3 inches to 24 inches in diameter—band saws 3/4" to 4 1/2" wide. The Foley files them all, 3 points per inch and up. If you wish, we will give you the exact time it took to file each saw you send.

Files and Joints in One Operation
The Foley brings teeth to uniform size as it files. Pitches and bevels are precisely the same. Saws cut faster, truer, cleaner. They last longer. Old hand saws can be retoothed. Hand saws filed in an average of 10 minutes. Other saws in far less time than by hand.

Take advantage of this special demonstration offer to see what perfect cutting saws the Foley will give you and the time and money it will save. Send us some saws to file, or mail the coupon for complete illustrated description of the Foley. (When sending saws to be filed, please include return postage with service fee, or, if you wish, we will return saws C.O.D. for service fee and postage.)

Mail This Coupon

FOLEY SAW TOOL CO., Inc., 121 Foley Bldg.
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Address: __________________________

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SELF-BALANCED
STAIRS

$35 complete
F. O. B. Pittsburgh, Pa.

No Ropes
No Springs
No Pulleys

Absolutely Self-Balancing

Compare the Frazier Stairs with any other

Ready to install—no assembling needed. Simple installation, only one-half hour's work by anybody. Rough opening space 26"x52" affords 6' head clearance on stairs. Overhead clearance. 8' 6" floor to floor operates on 67" radius from floor level. No mechanical controlling features to get out of order at any time.

Guaranteed against mechanical defect. Shipped complete as illustrated, all parts assembled on jambs—ceiling panel door, stairs and hardware ready to install. Price $35.00. Write for full particulars.

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Gentlemen:—I am an Architect [ ] Builder [ ] Dealer [ ]
Please send me full details on the Frazier Self-Balanced Stair.

Name: ____________________________
Address: __________________________
City: __________________ State: _________
Leaky Concrete Made Waterproof with an "ANTI-HYDRO" Plaster Coat in this Post Office

The concrete pits and walls of the pipe tunnels in this post office leaked badly.

A cement plaster coat mixed with "ANTI-HYDRO" was applied to the inside of the walls and pits and now they are absolutely and permanently waterproof.

There is not a single concrete waterproofing or hardening problem that cannot be successfully overcome by the use of "ANTI-HYDRO." It is an easy-to-use liquid integral agent that mixes readily with the gauging water. Results are guaranteed permanent.

"ANTI-HYDRO" has been repeatedly specified and used by leading architects, engineers and contractors for 23 years. Use it on your next job.

ANTI-HYDRO WATERPROOFING CO.
265 Badger Ave. Newark, New Jersey

POST OFFICE AUGUSTA, GA.
OSCAR WENDEROTH, SUPERVISING ARCHITECT

WM. H. FISSELL & CO.
CONTRACTORS

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Insulating, Sheathing and Building Papers

Send for FREE Samples

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The Genuine Jaeger costs you less than most of the imitations. It costs less to operate because of its patented features like famous Flat Spot Drum with Thoro-"Re"mix action—Fast Semi-Automatic Dump—"Skip Shaker" used on Loaders vibrate load out of skip without pounding—Accurate Measure Water Tank. Outfits that stand up under heavy continuous pouring without troublesome breakdowns. Why be satisfied with anything less than the original Jaeger Mixer?

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Built for Fast Hauls Over Bad Roads

Write for Catalog. Trailers run from $166 up, with Engine.

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5-10-14-21-28 foot sizes. Low Chargers or Loaders. Ask about one bag Speed King for $299 less.

TILTERS
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Gold Medal Collapsible Horse Legs, by their extraordinary usefulness and convenience, are saving labor and cutting costs for thousands of contractors the country over. The ease with which they are put up in a few seconds' time, their light weight and the small amount of space in which they fold for transportation make for economy.

Steel jaws with vise-like grip are made of heavy rolled steel, and legs, of rigidly selected scaffold lumber, automatically lock tight when closed. They are made in standard sizes. Will last a lifetime.

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Made of heavy rolled steel sections riveted to secure safety. Do not swing loosely when opened. Close compactly. Sheeting, studding, or stucco connections are interchangeable.

Mail the coupon for complete information on these and other Gold Medal Products.

The Patent Scaffolding Company
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Mail to nearest office. Without obligation, send me complete information on:

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☐ Mason's Horses
☐ Gold Medal Catalog
☐ Gold Medal Swinging Scaffolds
☐ Bar Jaws
☐ Gold Medal Junior Safety
☐ Swinging Scaffolds
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☐ Swinging Scaffolds
☐ Swinging Scaffolds

Mail: A.B. 9-27

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Send this slip today for new price

THE JAEGER MACHINE CO.,
521 Dublin Ave., Columbus, O. AD 79

Date

Please send catalog, prices and terms on:

☐ Non-Tilt Mixers ☐ Tilting Mixers ☐ Plaster Mixers

Size wanted:

Name

Address

City State

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The Windows in the new buildings of the Harvard Graduate School of Business Administration are hung with dependable SAMSON SPOT SASH CORD

DEPENDABLE in every sense of the word. Samson Spot Sash Cord is solid braided, of extra quality cotton yarn spun in our own mills. It is firm and even, hugs the pulley faces, and operates without noise or friction. Guaranteed to be free from imperfection of braid or finish. Contains no adulterants. This cord will outwear substitutes many times over. No waste—easy to install—and no costly replacements for years to come.

"There IS a Difference in SASH CORD"

SAMSON CORDAGE WORKS, 88 BROAD STREET, BOSTON

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We are manufacturers of many Builders Supplies, a few we illustrate on this page. Ask for our catalog which will fully describe our full line.

We also make special work from your blueprints, such as post caps and sockets, manhole frames and covers, stair treads, ventilator grates, porch column bases, stable fittings, garage traps and other fixtures.

Send for our Catalog. Consult our Engineering Department or ask your dealer about Swett’s Products.

A. L. SWETT IRON WORKS
151 Glenwood Avenue
MEDINA, N. Y.
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And it should be a sharpening stone that you can depend upon to give a better edge—quicker.

The Carborundum Combination Stone is what you need. Made from Carborundum, the manufactured abrasive—harder, sharper, faster cutting than any other material.

A two-grit stone, one side coarse for taking out the nicks and bringing the tool to an edge. The other side fine for producing the smooth finished edge.

Every stone uniform in grit and grade—wears uniformly. Use with oil or dry.

FROM YOUR Hardware Dealer
Send for catalog C-6 for complete list of Carborundum Products

Attic Ventilator

Gableouvre—open in summer—closed in winter

A "GABELOUVRE"

in the Gable ends of English Cottages, Colonial Homes, Bungalows, etc., assures a constant flow of fresh air through the attic. Admits light but excludes rain, snow, birds, etc. Simple in operation, the Gableouvre can be opened or closed as desired by means of a small bar and chain control. Is made entirely of metal. Will last a lifetime. Furnished complete—ready to install.

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Gableouvre are so constructed that they may be easily attached with four wood screws to a wood frame. The entire unit can then be installed in wood, brick or stucco construction.

The mechanical perfection of the Gableouvre assures adequate ventilation as well as snug protection from the elements—all available by the handy chain for control.

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BRIDGEPORT, CONN.

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

Architect  Contractor  Dealer
WHEN WINTER COMES!

UNBELIEVABLE STRENGTH

SISALKRAFT

ABSOLUTEELY WATERPROOF

WIND BREAKS

CLOSING IN

FOR OUTDOOR COVERING

(IN PLACE OF EXPENSIVE TARPALINS)

AT $1/2$ THE COST

THE SISALKRAFT COMPANY

916-20 Builders Building

CHICAGO ILL.

There's more profit in a

HUTHER SAW

Thin High Speed Steel Knife

Grinding Attachment

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Backed by fifty years experience in the making of highest grade saws, each Huther Saw has a quality built into it that insures maximum length of service.


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Makers of Better Saws for More Than Fifty Years

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
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“Floors are of finest oak,” The Book-Ludt organization of Youngstown, Ohio, has demonstrated in Fairlawns that good construction, artistic exterior, and the best interior appointments may be embodied in homes of moderate cost. And here again, their choice of oak flooring is evidence of the permanence, beauty, and economy inherent in Nature’s everlasting product. OAK displays Nature’s beauty in grain and coloration, blending over the entire lustrous floor expanse.

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GAS-O-MATIC

Enjoy the Convenience of Gas in Your Home—Any Time—Anywhere
Announcing

OHIO Dome Damper

No. 900

EASY TO INSTALL
EASY TO OPERATE
SIMPLE CONSTRUCTION
FOOL PROOF
RIGHT PRICE

FOR eighty years we have been manufacturing fireplace equipment exclusively. From our long experience with architects and builders, we have learned their wants and in building our new No. 900 series of dome dampers we have met their demands.

This damper is scientifically correct in construction, complying with all requirements as to measurements of the best known architects in the country; is made in ten sizes; and is easy to install and operate.

Manufactured by
The Ohio Foundry & Mfg. Co.
Steubenville, Ohio

For Sale By Numerous Dealers
If your fireplace man does not have OHIO Dampers write us, giving his name. We will send literature.

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Starrett Tools mean more to a man!

Read the letter reproduced below. It contains a more powerful and sincere argument in favor of a full kit of Starrett Tools than anything we can say.

The catalog which Mr. Hannah requests is the Starrett Catalog No. 23-6. It contains illustrations, descriptions and prices of more than 2500 fine tools. We will gladly mail you a copy on request.

THE L. S. STARRETT CO.
World's Greatest Toolmakers
Manufacturers of Hackawake Unexcelled Steel Tapes—Standard for Accuracy
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The L. S. Starrett Co.

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I work in a local shop with a pal who has a complete range of tools bearing your name. It is disappointing when the boss seeks him out on special jobs remarking that he can make a better job with the tools of his than I can, when I feel confident of doing the work myself.

I saw one of your ads and took the liberty of writing you.

Yours truly,

George J. Hannah

Use Starrett Tools

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
A few points on the wonder-saw

Kwickaw—easily operated by one hand, allowing the other hand to support the work. One stroke and the board is sawed neatly in two, with a smooth edge.

The famous Simonds “60” saw furnished as standard equipment.

A few exclusive and important features

The lightest, simplest of all electric saws. Perfectly balanced, most compact. Adjustable depth of sawing. “Splitter” holds the wood apart and insures straight sawing. Wide supporting shoe stands for steadiness and perfectly square cuts. Low center of gravity.

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Direct drive eliminates gears, saves power, saves repairs. 10,000 R.P.M. means smooth cutting. All parts of aluminum or alloy aluminum.

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Kwickaw is worth its weight in gold to electricians, carpenters, contractors, plumbers, pattern makers, shipping rooms, etc.

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PORTER-CABLE MACHINE CO.
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Also manufacturers of the 13-pound portable

TAKE-OUT Sander

—the only hand belt surfacing machine.

It buys and pays for itself every few days on any kind of wood working. Bench stand converts it into edger sander or tool grinder. 1861 uses for hard-to-get-at places. Flexible pads. Easy, quick change of belts for every purpose. Carries you over the rough spots and gets your jobs out on time profitably.

A

LEADCLAD Spanish Roof Is Permanently Beautiful—

Small Upkeep Costs and High Resale Values Are Assured Where This Time Tested Roofing Is Used

Leadclad possesses all the graceful beauty of Old Spanish Earthen Tile without its excessive weight and cost. It is light in weight, being sheet steel thickly coated with weather-resisting lead. Thus Leadclad gives the maximum protection of long life, the utmost resistance to decay and depreciation while retaining the beauty of the original architectural effect. In a home these advantages mean small upkeep cost and high re-sale values.

Then, too, Leadclad Spanish Tile is easily and quickly erected to form a weatherproof, fireproof and lightning-proof roof. And its initial cost is remarkably low.

The complete story of Leadclad is told in “Defying Age and Time,” a brochure which is yours for the asking. Further information is contained in “Spanish Tile in Leadclad” while “How to Get Longer Service from Your Eaves Trough and Spouting” tells about other Leadclad products. Use the coupon.

Wheeling Metal & Mfg. Co.
WHEELING, W. VA.
The profits in floor surfacing aren’t any too large now-a-days, even with the most efficient materials. You can’t afford to disregard the most important item in your equipment—the abrasive paper for your drums.

*Speed-grits Durundum* is the surfacer for hardwood floors. Faster cutting, longer lasting, Speed-grits Durundum will help you maintain your normal profit even if the price for your work drops.

**MANNING ABRASIVE CO., Inc.**
**TROY, N. Y.**

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**BUY PANAMA CONCRETE EQUIPMENT**

**PRICE** should not be the governing factor in the purchase of concrete equipment. But if you can obtain the best for less, do it!

That's why we say “Buy Panama Equipment.”

Have you received your copy of the Panama Catalog? If not, send for it today.

**The J. B. Foote Foundry Co.**
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The Dahlquist Patented Aquatherm Copper Range Boiler represents the latest step forward in scientific water heating progress.

The Patented Dahlquist Aquatherm, using an entirely new water circulation principle, converts the boiler into a quick hot water supply and storage system in one. It has revolutionized hot water supply equipment, for at no extra cost it more than doubles the service rendered by the range boiler.

Dahlquist Copper Range Boilers contain in addition to the Aquatherm, many other points of superiority:—

They are made entirely of heavy Lake copper and hence last indefinitely even under the most severe water conditions. They are guaranteed in writing for 25 years.

They are made in all standard capacities from 25 gallons upward, and in test pressures to meet any condition. They operate equally well with heaters using gas, electricity, kerosene oil or coal, and therefore are not dependent upon fuel supply conditions.

They are made by the largest manufacturers of copper boilers in the United States with facilities enabling the lowest prices.

Typical List Prices

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 gal. 200 lb. Aquatherm Copper Boiler, without heater</td>
<td>$42.50</td>
</tr>
<tr>
<td>25 gal. 200 lb. Copper Boiler with gas heater, non-automatic</td>
<td>$63.00</td>
</tr>
<tr>
<td>25 gal. 200 lb. Aquatherm Copper Boiler with gas heater, automatic</td>
<td>$113.00</td>
</tr>
<tr>
<td>25 gal. 200 lb. Copper Boiler with electric heater</td>
<td>$103.00</td>
</tr>
<tr>
<td>25 gal. 200 lb. Copper Boiler with kerosene or coal heater</td>
<td>$76.00</td>
</tr>
</tbody>
</table>

Full information including specifications of Dahlquist Patented Aquatherm Copper Range Boilers with or without heating units are embodied in the Data Book sent free on request.

Dahlquist Manufacturing Company
A. 2nd & 3rd Streets Dept. 55 South Boston, Mass.

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Let us show you how you can make money with the DeWalt. We'll demonstrate without obligation in any part of U.S.A.

The DeWALT Wonder Worker
The Ideal Saw for Builders

Flexibility Plus!

Motor can be tilted to any bevel. Crane swings to any miter and moves up and down. Yoke slides forward and back and swivels. No tilting table. Any cut can be made with work lying flat and layout marks in full view.

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Individual Firm

Address

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TRU-LAY Brand
cuts and handles
like a single wire

When time means money!
Tru-Lay Brand Preformed wire rope does more than cut cost per day of rope service—
It keeps machinery on the job
It reduces the number of shutdowns
It shortens repair time
—and it is easier for your workmen to handle.
Let us show you why Tru-Lay Brand out-performs because it’s preformed. Interesting literature and a sample will be mailed on request.

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The Dominion Wire Rope Company,
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Solo Canadian Licensed Manufacturers

PREFORMED WIRE ROPE
TRADE TRU-LAY MARK
(REG. U. S. PAT. OFF.)

That’s CEL-O-GLASS
It Won’t Break
Tough. Flexible. Light in weight. Highly translucent. Durable. Economical. Unbreakable! Imagine a material with all of these remarkable qualities—a material that is used wherever glass is used. That’s CEL-O-GLASS!

Does What Glass Cannot Do
CEL-O-GLASS lets through the health giving Ultra-Violet rays of the sun in abundance. These rays cannot pass through glass.

When used for enclosing sun and sleeping porches and for glazing windows, CEL-O-GLASS brings the stimulating Ultra-Violet rays indoors. Provide a “health room” in every house you build—simply by installing a CEL-O-GLASS window.

CEL-O-GLASS is the most practical material for glazing windows and doors in tool houses, field offices, garages, factories and other buildings. No breakage. Easy and economical to use. Comes in rolls. Fine for temporary and emergency enclosures. Try it!

If your supply dealer does not carry CEL-O-GLASS, write us for sample, prices and descriptive Folder No. 95
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21 Spruce St., New York, N. Y.
© 1927 ACETOL PRODUCTS, INC.
"I have paid as much as $1000.00 for many of my tools that have not saved me the money your Syntron Hammer has"

This is one of the thousands of unsolicited letters we receive from Syntron users. Taken as a whole, they all say the same thing and that is this—"For drilling, chipping or channeling in concrete stone or masonry, Syntron is an indispensable tool." Let Syntron save for you on those jobs that crop up daily in your work. It has a hundred or more different uses and saves 90% in time and costs wherever used.

SYNTRON
Motorless Electric Hammer

A portable electric hammer that drills 3 inches in the hardest concrete a minute. Operates from any light socket. Has only one moving part. Pays for itself in the first 40 hours' use. After that it returns a 100% dividend on the investment every 40 hours.

Also Syntron Heavy Duty Hammer Powered by Syntron Gas-electric Power Plant.

New Syntron Electric Hand Saw
Rips 2" oak 420 sq. in. per minute. Cross cuts 3" oak 300 sq. in. per minute. 99% safe. Write for details.

Making old buildings look new!

Bondex makes Marks Isaac's Department Store bright and clean

There are hundreds of buildings in your city just like the Marks Isaac's building in New Orleans which need a coat of Bondex to make them new again. Nice, profitable jobs waiting for somebody!

Builders, contractors and painters are enthusiastic about this waterproof cement paint. It is just the thing for old as well as new buildings. Brick, stone or stucco walls all take Bondex. It produces a permanent, waterproof finish in any of 16 attractive colors or white.

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Bondex is not a new product. It has been thoroughly tested in all parts of the country on thousands of buildings. Year after year a Bondex waterproof surface withstands all kinds of weather. Each rain serves but to freshen it. It's fine for basement walls and damp exteriors, too. Let us send you a liberal sample for you to try.

THE REARDON COMPANY, ST. LOUIS, CHICAGO

BONDEX
WATERPROOF
CEMENT PAINT

When writing advertisers please mention The American Builder
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The Ransome 10-S Standard Building Mixer—with power loader and automatic water tank—is built to meet the most exacting requirements for speed and durability. Before buying a 10-S, study the outstanding features of the Ransome 10-S.


And controlled with one set of levers located at the drum end of mixer. Just the mixer you’ve wanted!

Write for bulletin today.

RANSOME CONCRETE MACHINERY CO.
1850—SERVICE FOR 77 YEARS—1927
DUNELLEN — NEW JERSEY
The difference between today and yesterday in the building supply field is the difference between handling materials and keeping materials. Speed, service, turnover are the watchwords of the modern dealer.

The Bostwick Dealer is a selected dealer. His service on Metal Lath and Metal Lath Accessories—on plastering and masonry materials and building specialties is prompt, complete and gratifying.

THE BOSTWICK STEEL LATH CO.
2109 Griswold Drive
Niles, Ohio

Quarry-Cleft-Slate
The Roof of Old World Charm
AT LOW COST

Possessing all the well known qualities of genuine natural slate and with the added attraction of being "something different" which gives your entire building an up-to-date and permanent appearance.

Keep abreast of the general movement for permanent construction. Send for our illustrated literature.

VENDOR SLATE CO., Inc.
EASTON, PA.
Destined to be the World's Most Popular Interior Latch!

DEXTER INTERIOR—TUBULAR

With LOCKING ROSETTE

For bathroom, bedroom and all other doors where locking from only one side is required, the new Dexter tubular latch with locking rosette possesses unequaled advantages for both the builder and owner.

Saves 4/5 of Installation Costs
Just one unit to install, requiring no mortising. Just bore two holes, slip in the parts and the job is done perfectly at 1/5 the ordinary installation cost.

Locking Rosette Offers Perfect Security and Convenience
Just a finger touch on the slide locks the door securely. There are no keys to lose.

Trouble Proof
Like all Dexter tubular latches this latch is simple in construction, positive in action and trouble proof. Working parts are practically indestructible.

Beautifully Harmonious
Procurable in any finish of brass, with plain glass, cut glass or brass knobs in any combination, these latches will grace any interior.

Advantageously Priced
Write for name of dealer where you can inspect them.

NATIONAL BRASS CO.
Compare the value of **WEATHERBEST** Stained Shingle Sidewalls with other materials

Note on the old house at the right the ordinary effect of clapboards compared to the character expressed in this house with **WEATHERBEST** Stained Shingle Sidewalls.

When you add to this more attractive effect, the extra value of the soft-color tones in these 100% straight grain red cedar **WEATHERBEST** Stained Shingles, you will appreciate the growing practice of using **WEATHERBEST** Stained Shingles on sidewalls as well as roofs. Their superior quality is such that they should not be compared to ordinary stained shingles.

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Send coupon with 10c in stamps or coin for valuable information on remodeling and new building. **WEATHERBEST** Stained Shingle Co., Inc., 130 Main St., North Tonawanda, N. Y. Western Plant—St. Paul, Minn. Distributing Warehouses in Leading Centers.

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Enclosed is 10c (stamps or coin). Please send □ **WEATHERBEST** Color Chart, □ Portfolio of Photogravures showing **WEATHERBEST** Homes in Colors, □ Book on Modernizing and Reshingling.

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Address: ...........................................

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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 three 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.

Where Do You Place the Damper?

Some masons place the fireplace damper on a level with the fireplace opening. Others say six to eight inches above the opening. Some put it at the front, others at the rear.

The position of the Damper often determines the success of the fireplace. Also the selection of the right type of damper is important.

We don't know where you place your dampers but if you are having fireplace troubles, we suggest that you place the damper according to instructions given in the Donley Fireplace Plans. These Plans are to be found in the new Donley Book of Successful Fireplaces—a book that should be read by every fireplace builder. It contains construction photographs, 59 fireplace designs, many of brick easy to duplicate, also complete description of equipment necessary to a successful fireplace. Send 25 cents, stamps or coin, for your copy.

The Donley Brothers Co.
13910 Miles Avenue Cleveland, Ohio
Learn Plumbing and Heating at Home

Former Apprentice Now Earning $360 to $400 a Month

“When I enrolled with the I. C. S.,” writes H. D. Dunn, “I was an apprentice. At the time I took the course the boss laughed at me, but in less than two months I could tell him things once in a while. And a few months later he decided to take up an I. C. S. course himself!

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Just mark and mail the coupon and we will gladly send you free booklets describing the I. C. S. Plumbing, Heating and Ventilation courses or any other course in which you are interested.

BURNHAM BOILERS

Like A Goat
Burnhams Eat Anything

Eat anything from low grade soft to high grade hard. Anything from fuel oil to furnace oil. Right on up the line to gas!

Eats 'em all, and digests 'em all in a perfectly painless way. In fact they take the pains out of coal bills. Take 'em out by making long coal bills short.

We can prove it. Want the proofs?
EXCUSE ME—but I just wanted to remind you to keep your WILLIS Catalog No. 8 always handy—it's chuck full of valuable reference data, illustrated with two hundred pictures—the authoritative reference book on architectural sheet metal goods for any man who draws a pen over paper or a saw through pine—your best guide for plain and ventilated skylights; wire glass; skylight and window guards; marquise; ventilators; vanes; cupolas; metal batten strips; gutters; troughs; conductor pipe; elbows; shoes; ridge rolls; caps; rolled valley; metal lath; roofing; ceiling; finials; coal chutes; garbage receivers; tinsmith tools—if some smart architect or builder has borrowed your copy, and won't bring it back, write us for another—the pleasure's all ours—and you really need it handy all the time.

WILLIS MFG. CO.
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No wall looks complete without Clay Wall Coping. No wall is complete without it.

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Not only that, but Trouble Savers may be obtained at a cost no greater than it takes to wood-scaffold a single job—and Trouble Savers outlast countless sets of wooden scaffolding.

Trouble Saver Steel Scaffolding Products: Adjustable Steel Trestles, Carpenter Brackets, Wood and Asphalt Shinglers, Stucco Brackets, "One Man" Ladder Jacks, Sectional Steel Scaffolding, Bolt Brackets, Mortar Board Stands.

Write for prices, full information and details of our 30-Day Trial Offer.

THE STEEL SCAFFOLDING COMPANY
1101 Governor Street
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Sell Homes Easier Rent Them Faster
CARDBNAL TOGGERY RACKS give the space of two closets in one. They keep toggery smooth, hats in shape, shoes off floor—all in plain sight, within easy, instant reach. Cardinals lighten woman's work. No more stooping to move footwear when she sweeps. Housewives like Cardinals—because they add a finishing touch to homes and make them really modern.

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**Ideal Vertical Stripper**

Strong, dense, uniform size, plain blocks are economically made on this stripper-type outfit. Its output includes a range of sizes of blocks and wall tile. These are tamped thoroughly and stripped out of the mold box by a simple mechanical stripping device that is so compact as to keep the mold box low. The off-bearing height is exactly correct for efficient operation—28".

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*Ask for Block Machine Catalog*

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The Ideal Batch Mixer (of the open drum, paddle type) has come to be regarded the standard mixer for products plants because of its simplicity of operation and its long life. Made in 9, 14, 18 and 42 cu. ft. capacities. Ask for special mixer folder.

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FOR ADVERTISERS’ INDEX SEE NEXT TO LAST PAGE
Are You Overlooking This Improvement In Clothes Closets?

K-V

Clothes Closet Fixtures

Save Space—Save Money in
Construction Costs—Increase
Turnover of Homes You Build

Modern homes have modern closets. Modern space saving closets are ideally suited for K-V Fixtures. K-V Clothes Closet Fixtures are an added sales feature in any home. They attract the attention of the prospective buyer immediately. They help sell homes as hundreds of contractor-builders can state.

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GRAND RAPIDS, MICHIGAN

INFORMATION COUPON

KNAPE & VOOGT MFG. CO., Dept. 49, Grand Rapids, Michigan
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Address
Contractor ☐ Architect ☐ Builder ☐

A Profitable Line

Bayley-Springfield
Steel Windows

DEALERS are making money in handling Bayley-Springfield Steel Windows. Designed for all types of buildings. Bayley construction features make for great strength and economical installation. Carried in stock so that a dealer's turnover makes the Bayley line an attractive proposition.

RESIDENCE CASEMENTS

Bayley-Springfield residence casements meet the demand for steel windows in residences, apartments, and many other buildings.

Many units of standard sizes and layouts carried in stock. Send for catalog.

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For basements in residences, apartments and other buildings. Just the window for sidewalls in garages and other small buildings. Holes in steel jambs for screens. Made in four standard sizes. Special hinge construction permits ventilator to be easily and quickly removed and replaced. Not removable from outside.

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Send proposition on
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Address
CONTRACTOR ☐ DEALER ☐ OWNER ☐

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
A New Way to Mix PLASTER

A new machine, designed according to the directions of some of the most efficient plastering organizations in the country.

Large enough to handle a one-bag batch of gypsum plaster, small enough to travel on the ordinary material elevator.

Grill over drum to rest sacks upon—charge machine while it is running—discharge the batch on one side—tilt drum to opposite side to clean with water.

Write for special folder on plaster mixers, with hints on best methods for machine mixing.

The Knickerbocker Company, Jackson, Mich.
Manufacturers of saw-rigs, concrete, mortar and mastic mixers and
KNICKERBOCKER PLASTER MIXERS

BRIEF SPECIFICATIONS

Power—One cylinder, hopper-cooled LeRoi engine or 3 h.p. electric motor.
Dimensions—Length, 5 ft. 55 in. without tongue; 8 ft. 6 in. with tongue. Width, 42 in. Shoveling height, 46 in. Wheels, 30 in. diameter, 4 in. steel wheels or 30 in. diameter cushion tired wheels or Ford wheels with Timken bearings, 30 x 3 in. pneumatic tires.
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Bearings—All babbitted, lubricated by large compression grease cups.

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Write for illustrated bulletin.

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PERMANENT
ECONOMICAL
USE SLATE

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offers you this opportunity. It will give you a good steady income of $4.00 and more an hour for your time the year 'round. You will be free from bosses and irregular, unsteady work. You'll have a permanent business of your own.

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SUCH AS THESE
SELL HOMES

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Write for catalog No. 6, illustrating over twenty different models all finished in Miami Crystal Snow—

"The finish that won't retain a stain."

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE
"We have never had a breakdown on a job"

—OTTO A. THEURER, Watertown, Mass.

DURING the 27 years in which Smith Mixers have been built, every point of extreme wear has been long since determined—and made doubly strong.

Thus Smith Mixers, in any size from 2 1/2 to 112 cu. ft. capacity, give a dependable, trouble-free service that makes them the choice of successful contractors the world over.

No other mixer can approach a Smith for sustained speed—and long life. There are features of a Smith that you should know all about.

The T. L. SMITH COMPANY
1026 32nd St., Milwaukee, Wis.

Sales Offices and Service Stations
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Send for this Mixer
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WHEN you take a prospect into the cellar of a house you have built, you can point with pride to the Thatcher Round Boiler, because you know that it will measure up to his highest expectations of heating efficiency with minimum care and attention.

The "staggered" fire travel which spells fuel economy and high heating efficiency by utilizing the hot gases and smoke instead of allowing them to escape up the chimney; the sensitive and automatic drafts, checks and dampers; the large feed door and deep fire pot which make firing easy and less frequent are features that will impress your prospect and add selling value to the house.

Write for full information and descriptive literature about the new Thatcher Round Boiler and other Thatcher Products.
Increase clothes capacity of any closet

Size and shape of clothes closets no longer is a problem to the builder acquainted with DACOR clothes hooks. Each hook only eight inches long, stamped steel, lacquered brass, holds six or more garments more compactly and neatly than any other similar device. DACOR equipped closets offer a feature every woman appreciates.

WRITE FOR SAMPLE SET
A set of three DACOR hooks equips the average closet, or a dozen will equip the average house. Write for a set or a dozen today. Envelope $1 for set or $4 per dozen, or secure from your local dealer.

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Kuhls' Composition is elastic, never sets hard. Adheres strongly to wood, metal, glass, etc., and never cracks nor crumbles. Stands heat and cold and is not affected by moisture. Beds perfectly and makes an absolutely tight joint under all conditions.

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Has adjustable tongue—1½ H.P. Lansing Engine—Cushion Rubber Tires—Capacity 3 cubic feet—Weight 1080 lbs.

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We have much valuable information to mail you. Write today for the interesting details.

BINKS SPRAY EQUIPMENT CO.
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It Pays!

Bates-Truss Joists

THE expanded, one-piece Bates-Truss Joist has many advantages over either the assembled or the solid web types of joist. The expanded truss has no joints and therefore has no welds or rivets in shear or tension. The open web permits piping to be run through the joists at any desired point.

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BATES-TRUSS JOIST
A Sound Engineering Product

EAST CHICAGO, INDIANA

Crescent Universal Wood Workers satisfy particular users

The Crescent Universal Wood Worker makes it unnecessary for you to have big investments in woodworking equipment. This machine will enable you to work up waste ends into usable material such as cellar window frames, cupboard doors, small pieces of trim. Besides it will be a great help to you in getting out your regular stock for building operations.

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Ask for circular giving complete description.

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**CONVERTIBILITY.** The Reid-Way is quickly converted from bench sander to jointer by the use of a suitable base and is converted to an efficient floor sander by a long handle which is instantly attached to the machine without the use of bolts or screws.

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"The Steel Backbone for Concrete"

Every Concrete floor slab in the Salmon Tower, New York's new 31 story office building, is made permanent—absolutely safe with Wire Fabric Reinforcement.

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The Perfect Insulator

This indestructible vermin-proof and sound-proof material keeps heat indoors in Winter and outdoors in Summer.

Houses lined with it are many degrees cooler in Summer and the saving it effects in Winter fuel makes its use a positive economy.

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Western Connection

MAIL THIS COUPON TODAY!

FOR ADVERTISERS’ INDEX SEE NEXT TO LAST PAGE
POST’S
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The top is raised easily and maintained at any height by clamps at the sides; the angle desired is obtained by releasing clamp screws and moving the curved arches until the required position is reached.

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METAL WEATHER STRIPPING
SOME FINE TERRITORY STILL OPEN
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THE "QUALITY" KIND FOR USE IN BUILDINGS WHERE QUALITY, EFFICIENCY AND SERVICE ARE CONSIDERED FIRST
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Write today for our proposition and samples. We can make real money for you.

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The Glo-Hot Electric Grate heats without odor, smoke or fumes from practically indestructible Globar Unit.

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The casement operator endorsed by experts

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On Concrete Mixers
LET ME SHOW YOU how to easily own a Sheldon Concrete Mixer. What you SAVE pays the low cost. 20,000 users say it is the best value for the money. The light, rubber-tire trailer model, illustrated, moves 3 1/2 cubic feet per batch; discharges into wheelbarrow. Strong steel frame. Strong, compact and durable. Simplest design. Lowest cost. Eighteen other Sheldon models.
WRITE TODAY! Send your name for new low prices and complete specifications. We will send literature describing our 17 models priced from $14.25 to $197.50. A model to meet every need. Drop a note or letter TODAY.
The Sheldon Mfg. Co.,
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Genuine Franklin Tunnel
The Mark of Excellence in Slate Roofing
GUARANTEES to you the absolute uniformity in quality found only in this roofing of the ages. It assures you of more than a lifetime of uninterrupted satisfaction.
Unexcelled beauty and quiet dignity are at once apparent in homes roofed with genuine Franklin Tunnel Slate
Write to us for samples
SLATINGTON SLATE COMPANY
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(Patented)
Architects in official circles are using Lamella Roofs on Buildings where appearance and economy are sought. Unexcelled beauty and quiet dignity are at once apparent in the homes roofed therewith.
Lamella Roofs are safe, economical and attractive in appearance. Lamella construction eliminates interior columns and trusses. Write for folder and address of nearest agent.
LAMELLA ROOF SYNDICATE, Inc.
46 W. 40th St., New York, N. Y.

TRUSSLESS ARCH ROOFS

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER
This shows the effect of four years of weather exposure. The sill of the window frame, which is made of inferior material, rotted away and had to be replaced. The shutters, made of Louisiana Red Cypress, survived the same severe conditions, and are still good for many years' service. "The Wood Eternal" is better for the builder and better for the buyer.

People have been educated to the fact, by experience and by persistent national advertising, that the use of

**Louisiana Red Cypress**

"The Wood Eternal"

insures long-lived construction and low-cost maintenance. They instantly appreciate the increased worth of homes built of this enduring lumber.

When it is used for sills, siding, porch flooring, stepping, door and window frames, there will be no unsightly defects cropping out after a few years, such as shown in the above illustration.

It should be noted that there are different kinds of Cypress with varying degrees of durability.

The careful builder can protect the quality of his work and secure the lasting goodwill of his customers by constructing all exposed parts of Louisiana Red Cypress. This is the genuine tidewater growth, and the true "Wood Eternal"—a fact which should be advertised in selling the homes you build as it makes an effective talking point with prospective buyers.

Valuable information for builders is given in "Specification Data for Structural Uses of Tidewater Red Cypress (Coast type)." We will send copy on request.

Also ask us for literature on Louisiana Swamp Tupelo, the long-wear flooring lumber and economical trimwood for interiors.

**LOUISIANA RED CYPRESS BUREAU**

502 Carondelet St. - - - New Orleans, La.
COMBINATION BATH

SEAT BATH, FOOT BATH, SHOWER BATH, CHILD'S BATH.

Semi-Vitreous Porcelain and Enamelled Iron Ware.

Dr. Herman M. Bundesen, 7414 Oglesby Ave., Chicago, Ill., installed one of these fixtures in his new residence several years ago, and remarks as follows:

"It is the best fixture I ever saw, and I would not be without it for anything. It is most economical in the use of hot water, and this is a decided advantage where instantaneous water heaters are used. Furthermore, it is an ideal tub where there are children, as it can be used to great advantage as a foot bath when the children come in dirty from playing. The shower feature is also an advantage which I greatly enjoy. In fact this tub is most acceptable in every way, and I most thoroughly recommend the fixture."

Mrs. Bundesen is equally as enthusiastic as the Doctor, and states—"It is a wonderful bath."

Ask any jobber or plumber for complete details, and write us for descriptive circular.

Wheeling Sanitary Mfg. Co.
Wheeling, W. Va.
"We’ll Use PLASTA-SAVER in These 506 Houses"

... said the L. F. Crane Corporation, one of Detroit's representative builders. The L. F. Crane Corporation admittedly knows materials. And their decision to use PLASTA-SAVER Metal Lath in these two “streets” of houses was made only after they had thoroly convinced themselves of the greater economy and general superiority of this North Western ½” flat rib plastering lath.

Remember that there is practically no waste of mortar with PLASTA-SAVER. It is erected and plastered with astonishing ease and rapidity. When permissible it can be used with ½” grounds and the plasterer can double back without moving the scaffolding. Sooner or later you will find it necessary to use this money-saving steel plastering base and reinforcing. But —

Be Sure to Get The Genuine

There are many imitations of PLASTA-SAVER. To avoid disappointment, therefore, specify North Western PLASTA-SAVER (which weighs full 3.4 lb. per sq. yd.), and request your dealer to give you Plasta-Saver Certification Stamps as an assurance that you are getting the real stuff.

Samples and Circulars Gladly Sent

NORTH WESTERN EXPANDED METAL CO.
1203 Old Colony Building
CHICAGO
NOTICE TO ADVERTISERS

Forms for the October number of the American Builder will close promptly on September 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
STOP them! Fire and his henchmen pick the unprotected homes and buildings. There lies their strength—in the weakness of shoddy construction. Indifferent plastering on unsafe plastering-bases never did and never will represent anything but danger and undue expense, eventually—and sometimes before there is time to move in!

Last winter, in Milwaukee, on the eve of the day the owner was preparing to move into a supposedly high grade new home, FIRE stalked in and gutted the entire interior! The plastering had been done on a base of wooden lath. The heating plant had been started, to help dry out the building. Overheated flues started the trouble. FIRE had another feast—nothing to stop it! Plenty of encouragement. Thousands of dollars lost. And deep chagrin, instead of happiness, for all concerned. "Fi-1", the ded metal wings of same; "Netmesh Metal Lath. Plastering on metal lath prevents such losses. It saves lives. It keeps out FIRE, Cracks and Dust Streaks, permanently. It insures lasting beauty for plastered walls and ceilings inside and for stucco outside. The cost is so little and the value so great that the common sense of building this way for safety and permanent beauty is plainly evident.

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MILCOR METAL LATH for SAFETY

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Send for this Manual—new edition now ready.

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